Empowering student researchers:

Critical contributions by emerging 21st Century scholars

2021 CEDER yearbook

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We deeply appreciate their efforts.

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Introduction

Bethanie Pletcher
Faye Bruun
Rosie Banda

This yearbook is a project of the Consortium for Educational Development, Evaluation and Research (CEDER), the research and development arm of the College of Education and Human Development at Texas A&M University–Corpus Christi. With this edition of the *CEDER Yearbook*, the editors wished to support student researchers as emerging scholars.

The call for proposals asked for empirical, conceptual and theoretical contributions to the area of research conducted by students. Personal Perspectives and Research Focus of students include the following categories: Culture, International Students, Men of Color, Teaching, Doctoral Students, Latino/a Culture, STEM, LBGTQ, Policy and Administration, Student Faculty, and Curriculum.

The intended audience for this yearbook includes educators, decision-makers, policymakers, and leaders within faculty and student development programs as well as international student departments. We would like to thank our colleagues: David Scott, Dean of the College Education and Human Development, for his support and entrusting the *CEDER Yearbook* to us; Alissa Mejia, our associate editor, for her patience, continued encouragement, eye for detail, and guidance; our editorial advisory board; the thoughtful comments and recommendations offered by our peer reviewers, which are essential to the quality of the *CEDER Yearbook*; and to all wonderful contributors for their persistence, effort, and extraordinary ability to write. Without your experiences and research, this yearbook would not exist.

A call for proposals was issued to a variety of universities and professional organizations. Two hundred and sixty-four articles from a

total of 217 authors representing 72 different universities were submitted for the yearbook. Those blinded articles were distributed to a panel of reviewers. Each article was seen by two reviewers and the editors of the yearbook. The editorial team selected 21 articles for inclusion in this yearbook.

The *2021 CEDER Yearbook* is a peer-reviewed publication indexed in EBSCO, the Library of Congress, and the TAMU–CC research repository, which is widely available to university libraries and the general public.

Foreword

Bethanie Pletcher

I have come to the point in my career in higher education in which I
rarely complete a research project without an undergraduate or graduate
student's assistance. I feel it is my duty as an educator, especially an
educator of teachers, to provide these experiences for my students, not
only so I can get some research help (an added perk, of course!), but
to also share experiences in research that will help educators see the
need to conduct research in their own contexts. It is also an exercise in
teaching and mentoring, a primary reason I chose to become a professor
in the first place.

Much of the research I undertake with my students can be classified
as action research. This model entails several key components,
including:

- Locating an issue that is to be puzzled over in a systematic way
  (Ball & Forzani, 2007; Hine, 2013; Schutz, & Hoffman, 2017);
- Using a small sample of convenience (Gerlach, 2009);
- Carefully observing an issue (Schutz & Hoffman, 2017);
- Collaborating with others to problem-solve (Warren et al., 2008);
  and
- "Plan[ning], implement[ing], and evaluat[ing] change"
  (Warren et al., 2008, p. 261).

Take, for example, an action research project I initiated with one of my
doctoral students. Leslie (pseudonym) worked on a study with me in
which we utilized her fourth-grade writing class. She had been frustrated
with the fourth-grade state writing test and was searching for ways in
which she might better scaffold some of the strategies and skills she was
trying to teach. Through our study of interactive writing in the upper
grades, Leslie approached an issue by researching it and implementing
strategies she had not previously tried. This helped her improve

her instruction and understand how the power of research could be harnessed by a classroom teacher. It also empowered her by giving her control of what instructional strategies to implement in her classroom.

Why faculty should engage students in research

Engaging in action research can help educators merge practice and scholarship so that, eventually, research becomes part of everyday classroom practices. Evans et al. (2000) discussed the connectedness of practice and scholarship as a chain: "from university to school, from teacher to student, from knowledge creation to publication, from publication to the practice and policy of teacher education and back" (p. 407). Schutz and Hoffman (2017) echoed this by asserting how educational research should not be divorced from the school setting. Teacher education programs need to train students as scholars so that, early on, they will realize the benefits of research in their classrooms (Ball & Forzani, 2007) and see classroom challenges as "puzzles that might look less perplexing if they took the time to gather careful, systematic information about them – to develop the habits of mind as a classroom researcher" (Carboni et al., 2007, p. 55).

Educators expand their teaching philosophies and reflect in a focused manner when researching a topic about which they are passionate. Reading and writing about instruction affords students with opportunities to apply theories to their instructional contexts and make adjustments according to their findings (Fenn et al., 2010). Schutz and Hoffman (2017) emphasized the importance of discussion among student researchers to further refine "personal theories" of teaching (p. 8). Research activity encourages students to become reflective practitioners through reading and writing about ways they can evolve their instructional practices (Cochran-Smith & Lytle, 1999; Honigsfeld et al., 2013; Schutz & Hoffman, 2017).

Yet another purpose of action research is to empower educators to have more ownership of their instructional settings. Teachers often do not have time to engage in thorough reading of research related to their discipline and they are often "passive recipients of research" (Johnson & Button, 2000, p. 108). Students who are new to research

initially fear it based on past experiences, thinking it is not for them (Johnson & Button, 2000). As Cochran-Smith & Lytele (1999), Schutz and Hoffman (2017), and Vauhan and Burnaford (2016) explain, instructors work as researchers every day through their practice as they assess students' performance, analyze the data from these assessments, and plan instruction. When presented to students this way, research becomes less daunting. Until more educators begin owning this idea and finding solutions to educational issues (Schutz & Hoffman, 2017), other scholars will "propose solutions" for them (Ball & Forzani, 2007, p. 530). Warren and colleagues (2008) advocate for educators to engage in research in order to both understand it when they read it and use their findings to become leaders on their campuses.

Researching with students benefits everyone

Investing time and energy into student involvement in research projects yields benefits for faculty members (Razzaghi, 2017). First, it is an opportunity to mentor and teach. While Morales and colleagues (2017) call for mentorship to be more formally accounted for in faculty workloads for promotion, tenure, and annual review purposes, teaching is the main reason many enter academia in the first place, and it should be a priority. Second, inviting students to assist in research projects and assisting them with theirs means that research productivity may increase for faculty members (Bassett, 2012), resulting in a larger number of publications and presentations (Fenn et al., 2010). Also, the more research faculty do, the more they are able to "keep [their] discipline fresh and exciting…and that excitement translates into how material is presented to [their] classes" (Bassett, 2012, p. 301). Third, some universities offer incentives, such as grant money and awards to encourage faculty members to work with students. Finally, the experience can be pleasant and fun (Fenn et al., 2010)!

Participating in research projects entails many benefits for students. Teachers who complete research projects add to their content knowledge, are open to new ideas, and are better equipped to solve problems on their own (Hine, 2013; Warren et al., 2008). Honigsfeld and colleagues (2013) realized how much of a difference teachers made

in their classrooms as they used what they were discovering through their research and observed the positive outcomes in student learning. Teachers who conduct their own research or assist faculty members in research studies are engaging in a highly effective professional development model (Hine, 2013; Ries & Gray, 2018). They begin to see the study of literature related to their field as valuable and understand how it can transform their teaching (Johnson & Button, 2000). Warren and colleagues (2008) found that action research helped educators see professional development as a "personal journey" and self-assess in more meaningful ways than before (p. 269). Another benefit that is largely mentioned in the research is that students begin to view themselves as researchers (Johnson & Button, 2000). They move from a definition of "researcher" as one that does not include them to one that does. Johnson and Button (2000) found that students begin to take "more of a questioning stance toward their work" (p. 114) and realize how pertinent research is to their daily work with students. Not only does their confidence as researchers increase (Russell et al., 2007; Turner, 2010); their abilities to conduct research also increases (Russell).

Working together with the right student research partner
Carboni and colleagues (2007) reported that there may not be enough planned collaboration occurring between instructors, students, and peers. Brew (2013), Gerlach (2009) and Levin and Merrit (2006) assert that collaboration is instrumental to the research process, especially where it concerns working with students. In fact, Levin and Merrit state, "… without support from peers, from a collaborator, or from a facilitator, it is unlikely that action research projects would be started or completed" (p. 4). Students need support and feedback at all stages of their research.

Collaboration between faculty members and students is critical (Brew, 2013; Johnson & Button, 2000; Ries & Gray, 2018). Strickland (1988) posits that teacher researchers need to be engaged in every step of the research process and allowed to take ownership of the work. It should be thought of as helping to create lifelong researchers, for "if students are properly trained, prepared, and supervised, the student-faculty collaboration can be a memorable and successful experience.

It may even inspire the career goal of a future professor or two" (Fenn et al., 2010, p. 259).

Faculty members search for students with certain qualities to engage in collaborative research. Time is limited for mentoring and teaching, so there are some attributes that are simply non-negotiable at the outset of this working relationship. Razzaghi (2017) mentions several that faculty may want to look for: courage to accept responsibility for and take ownership of projects; punctuality in adhering to project deadlines; commitment to the fact that research takes time; goal-oriented and focused attitude; eagerness; and the ability to work independently at times. To this list, Russell and colleagues (2007) add the following qualities: hardworking, flexible, friendly, courteous, willing to interact with new people, and enjoys learning.

Students also appreciate certain qualities in faculty members with whom they work. Availability, open communication, consistent meetings, frequent learning opportunities that interest them and relate to their courses, and the presentation of research ideas will most likely be important to students. Russell and colleagues (2007) assert that mentors who "combine enthusiasm with interpersonal, organizational, and research skills play a large role in facilitating positive outcomes" (p. 549). Graduate students have told me on several occasions how working in an authentic research context helped them make sense of what they were learning in their research methods courses. Also not to be forgotten are attributes such as being approachable, friendly, and above all, patient, as researching with students involves taking time out to teach.

Disseminating research

While disseminating findings is certainly not the end-goal of the research work faculty do with our students, it should be stressed as an essential part of the research process. Razzaghi (2017) emphasizes its importance, and Schutz and Hoffman (2017) assert that teachers need to "go public" with their practices (p. 11). This equates to professors allowing students to be "full partners" in research projects (Fenn et al., 2010, p. 272).

Faculty should publish with students often. This may present challenges, hence the reason it should fall under the categories of both teaching and scholarship. Sometimes it entails helping a student take their own research project and subsequent report, usually written as a thesis or capstone, and shape it into a manuscript suitable for publication as an article. Students can also take on the responsibilities of collecting data for and writing a manuscript related to a faculty mentor's research. It is important to set expectations from the very beginning (i.e., order of authorship, timelines, and deadlines). The fruits of this labor can be rewarding, as often students' studies are interesting and insightful and have sparked further inquiry projects.

Working through research challenges with students

Novice student researchers will inevitably encounter challenges during their studies and "…we owe it to our students to talk explicitly about the potential difficulties they may encounter" (Johnson & Button, 2000, p. 271). Among these challenges are that students may have little control over their research context, as the instructional contexts under study will have their own ways of working (Price, 2001). Students might enter the research process thinking that they have solutions to the problem they are trying to solve, which is counterproductive to the research process (Hine, 2013). Case in point, I usually have a master's capstone student who identifies a strategy they want to implement first and then they try to locate an issue in their classroom to go with it!

Time is at a premium for educators, especially when they are implementing a formal action research project. Having a helping hand with research is always beneficial, usually where the literature review and data collection are concerned. However, the supervision of a student researcher during these endeavors is a significant time commitment on the part of faculty (Carboni et al., 2007; Fenn et al., 2010). Some might think, "Why should I take on a student coauthor when I can get the work done more quickly on my own?" Frequent research study meetings, an established timeline, and communication can help projects go smoothly, according to Razzaghi (2017). Time also needs to be allotted to student researchers taking on their own projects, including time for peer

discussions (Carboni et al., 2007), individual meetings with a faculty mentor, and reflection upon their studies (Price, 2001).

So, how do faculty members locate students who have these prerequisite attributes and either possess research skills or have the desire and aptitude to learn them? Fenn and colleagues (2010) suggest that faculty seek out students with "raw ability and self-discipline rather than existing research skills…because they are easier to teach" (p. 272). Additionally, a search for students who have performed well in their courses in the discipline, therefore demonstrating that they have the background knowledge for projects, might be in order, as well as seeking out students who show enthusiasm for the project under consideration (Razzaghi, 2017).

Questions and possible answers for the future

In what ways might we create more action research opportunities for students at all levels – undergraduate, master's, and doctoral?
Currently, what some institutions have to offer are formal research opportunities that are part of master's and doctoral programs. Informally, faculty seek out students with whom to conduct research, which hastens the research process and benefits students because they thrive on faculty guidance (Evans et al., 2000; Levin & Merrit, 2006; Russell et al., 2007). Faculty might consider spreading out the research process over several courses in master's programs, rather than confining it to one culminating course (Shosh & Zales, 2017; Vauhan & Burnaford, 2016; Winicki, 2006). Faculty are moving toward seeking out talented undergraduate teacher candidates as well; however, this is where we are neglecting untapped resources. We want to encourage undergraduate students to engage in action research early in order to help them understand that this is a practice in which effective teachers engage (Carboni et al., 2007) and that the benefits of conducting action research are numerous (see Hine, 2013; Johnson & Button, 2000; Ries & Gray, 2018; Russell et al., 2007).

How might we enhance our capstone courses in ways that help students understand that the action research project is not "just another assignment"?

The literature is clear that action research can be a valuable tool when it becomes a natural part of classroom assessment and instruction (Ball & Forzani, 2007; Carboni et al., 2007; Cochran-Smith & Lytle, 1999; Johnson & Button, 2000). Perhaps faculty can build in a collaborative piece where students work with a colleague in their school, as well as with another faculty member at the university who has knowledge of the student's content, as this can help motivate students to complete this important work (Brew, 2013; Evans et al., 2000; Gerlach, 2009; Levin & Merrit, 2006). The faculty member could serve as a mentor to the teacher researcher and eventually publish and present with them as appropriate.

How might we engage online students in research opportunities?

Setting up frequent virtual meetings between the faculty member and student for "check-in" dates for key assignments would help to keep all parties "in the loop." Creating a virtual platform within the university's learning management system for students to chat with peers about research processes and progress could also be helpful.

In what ways might universities build stronger partnerships with schools so they support students and faculty members and encourage teachers to try out new practices?

After all, action research is best completed when teacher researchers have the support of their schools (Schutz & Hoffman, 2017; Vauhan & Burnaford, 2016). As faculty members are usually involved in this work, especially when it concerns dissemination of the findings, they also require school support. I have found it works well to embark upon a reciprocal relationship where the faculty member might provide pro bono professional development for teachers in return for being able to conduct research in the school. These initiatives help overcome challenges such as schools' unwillingness to take on new strategies that are not included in their core academic programming (Price, 2001).

Conclusion

It is evident that there are benefits for both students and faculty, and it is worth investing in students so that they implement research into their instructional settings. Faculty are encouraged to model the research process and integrate it into their instruction by blending teaching, scholarship, and service. Researching with students requires mentoring, and, in turn, there can be an increase of the faculty member's knowledge of not only the research process, but also their content knowledge related to their field. After all, "research with … students is in itself the purest form of teaching" (Gentile, 2000, as cited in National Research Council Committee, 2003, n.p.).

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Personal perspectives: Culture

1

Building our story bundles: Braiding Indigenous knowledges and orality cognizance through student-faculty collaborations

Darcy Courtland
Sharla Msko-kii Peltier
Brina Aucoin
Candi Cook
Caitlin Oberhofer
Jessica Sykes

This collaborative work brings forward graduate student narratives illustrating visions for transformative educational praxis and relational philosophy in response to an Indigenous knowledge and pedagogy course, taught by a faculty of education, Anishinaabe scholar. The course drew upon a pedagogy of Land within an urban educational context and was centred around intimate experiences with Land and story. Contextualized within Canadian post-Truth and Reconciliation, first wave of COVID-19, and raw, anti-racism socio-political contexts, the teachers and educational scholars engaged in an intensive three-week inquiry journey. Critical examination of the colonial hegemony of schools and consideration of the Indigenous scholarship of resurgent epistemological and ontological ways inspired group commitment to Land Experiences and reclamation of relationship with Place and the more-than-human world.

Journeying

Journeying symbolizes the passage from one place to another; is initiated by questioning, meanings, interpretations, and identity; is begun by making a conscious decision to move into unfamiliar territory while maintaining an observing and reflective frame of mind ... Journeying is a place where spirituality is infused into the mind, body, and emotional states of our being; where our stories intersect and become interconnected with other stories.

—Sandra Styres, Dawn Zinga, Sheila Bennett, and Michelle Bomberry, 2008, p. 25

Darcy's story

I listen as Sharla begins to share a story. The tone and cadence of her voice begs me to draw in closely. I imagine the rest of us listening in a circle like I have experienced as her teaching assistant many times over the past two years. For some time leading up to my participation with Sharla's new online graduate Indigenous knowledge and pedagogy course, I have wondered how purposeful teaching and learning might transpire virtually and how such themes of relationality and the intimacy of listening and sharing may emerge in these unique circumstances. Building on my emerging understandings of "literacy as life lived" (Courtland, 2020), I entered the course with a hope that our graduate students would fully engage with the experiential process, so different from many education courses offered in academic institutions. As Sharla and I critically considered experiences for deep learning, we reflected together how a safe space must be created to invite learners to come as they are mind, body, and spirit.

Introduction

This collaborative work brings forward graduate student narratives illustrating visions for transformative educational praxis and relational philosophy in response to an Indigenous knowledge and pedagogy course, taught by a Faculty of Education, Anishinaabe scholar. The course was centred around intimate experiences with Land and story.

The exploration of self, relationship to others, and connection to the more-than-human world were foundational to each individual's learning.

Contextualized within Canadian post-Truth and Reconciliation Commission (TRC, 2015), first wave of COVID-19, and raw, anti-racism socio-political contexts, fourteen graduate students/teachers, a non-Indigenous doctoral student/teaching assistant, and a Faculty of Education, Anishinaabe scholar/course instructor engaged in an inquiry journey around Indigenous Knowledges and orality cognizance through a course titled *Kiskinohamakewin: Passing on the knowledge*. Critical examination of the colonial hegemony of schools and consideration of the Indigenous scholarship of resurgent epistemological and ontological ways inspired group commitment to Land Experiences and reclamation of relationship with Place, self, and the more-than-human world. The classroom community of co-researchers included Indigenous and non-Indigenous educators and reflected an ongoing consideration of fellow-ship and understanding on these lands we now share.

Together the course instructor, doctoral student teaching assistant, and graduate student teachers were inspired by Indigenous relational theory. Informed by land as first teacher (Styres, 2011), and inspired by Indigenous Education scholars, Styres et al. (2013), the course drew upon a pedagogy of land within an urban educational context. Graduate students engaged in three independent Land Experiences entitled *Finding, Deepening, and Respecting*. With a focus on the depth of relation-ships and stories of place, we "peer[ed] down through the layers of the earth to see the footprints of all those who preceded us on this land… Our stories are layered on theirs just as the footprints are layered on one another." (Styres et al. 2013, p. 45).

The course

In response to the Truth and Reconciliation Commission of Canada's documentation of the truths and impacts of the Residential School era and *Calls to Action* (TRC, 2015), Canadian universities are indigeniz-ing their institutions. Every student can learn about Indigenous peoples, histories, contributions, and ways of knowing with course offerings that explore Indigenous worldviews, experiences, and perspectives.

Building our story bundles: Braiding indigenous knowledges and orality cognizance through student-faculty collaborations

Academic indigenization processes support movement toward a more just Canadian academy, a contemporary society where diverse stories can be told and heard, and culturally responsive pedagogy to meet the needs of an increasingly diverse student body. Indigenous scholars embed Indigenous practices, ideas, and principles into academic work, incorporating Indigenous traditions of teaching and learning.

This paper illustrates student responses to a University of Alberta elementary education learning process seminar, *Kiskinohamakewin: Passing on the Knowledge*, designed and taught by Anishinaabe Assistant Professor, Dr. Sharla *Mskokii* Peltier. The instructor's course design and pedagogical approaches are inspired by Peltier's own cultural lived experiences within an Indigenous learning community and academic research using oral story methodology with Indigenous and non-Indigenous school children exploring family and land experiences, reflective practice, and ecological relational knowledge. The background education theory, curriculum, and pedagogy for this course are rooted in lived socio-cultural experiences, Indigenous languages, oral stories, and Teachings. Indigenous philosophers (Battiste & Henderson, 2000; Dumont, 2006; Ermine, 1995; Little Bear, 2000) illuminate Indigenous Knowledge and wholistic, relational worldview. Indigenous education scholars and allies contribute culturally responsive practices and curricula for Indigenous student success and teacher education programs (Battiste, 1998, 2010; Dion, 2007; Goulet, 2001; Simpson, 2011; Styres, 2011; Styres et al., 2013) advancing Indigenous education Land/place curriculum. The course took place in a condensed spring semester and spanned 6 weeks, for 12 hours a week. The course drew heavily on Indigenous ways of coming to know and orality cognizance.

Oral story is a valuable educational literacy. Indigenous scholars describe Indigenous Knowledge transmission through pedagogy of story and Story Circle processes (Archibald, 2008; Graveline 1998, Hart, 1995; Peltier, 2014, 2017, in press; Stairs, 1994; Wilson, 2008). Archibald's (2008) research into learning through oral storytelling situates the listener within a 'making-meaning' process for learning and developing relationships. Piquemal (2000) discusses the differences between orality and literacy in how narratives are read, heard, and understood in

that Western literacy consciousness usually requires an analysis and deconstruction of texts, whereas orality consciousness implies that meanings arise from the story in a holistic context. Kulneiks et al. (2010) center the oral tradition and stories in schools and present a shifting of values by conceptualizing the literary tradition as part of the oral tradition. Burkhart (2004) highlights symbolic representations in storytelling for learning and Lanigan (1998) associates creativity in thinking processes with participation in Story Circles. Further, the First Nation's Education Steering Committee (FNESC), First Peoples' Principles of Learning (2008) align closely with intentions for the *Kiskinohamakewin* graduate course. FNESC (2008) emphasizes "learning is holistic, reflexive, reflective, experiential and relational, focused on connectedness, on reciprocal relationships, and a sense of place".

The syllabus for *Kiskinohamakewin: Passing on The Knowledge*, written by S. M. Peltier (personal communication, April 23, 2020) provides a description of the course purpose and learning goals:

> Applications of Indigenous Knowledges and ways of coming to know in teacher praxis support educational transformation towards a relational curriculum and wholistic pedagogical approach. Appreciation for different perspectives and honoring the stories that learners bring to the classroom are not only touchstones in Aboriginal education but are key for mutual respect across cultures within school communities. Equity and inclusiveness in schools lends support to the reconciliation and social justice movements underway in Canadian society.

> This course provides graduate students with opportunity to explore the centrality of an orality and to reflect on Indigenous Knowledge as a learning process. Within the Indigenous oral tradition, stories are re-told, awakening new perspectives for the listener each time. In a story circle, the listener engages in inner dialogue, listening, sharing, and the process of meaning-making. Stories are carried forward in new experiences for deeper knowing and further story-sharing.

In this course, students will experience learning from Land/*Aki* and enhanced awareness of Place. Course guest speakers, videos/readings/stories, group discussions, and personal Land Experiences will examine specific Indigenous cultural contexts/values, bringing forward notions of self, personhood, place, history, culture, and belongingness to community to stimulate our reflection, story sharing, and collective coming to know.

Situated within Indigenous knowledges, languages, and perspectives embedded within cultural traditions of orality and wholistic pedagogy and alongside scholarship attentive to an Indigenous paradigm (historical, linguistic, social, and political), the course shapes opportunities for graduate student educators to:

1. Examine beliefs and values regarding Indigenous and Western philosophies/knowledges: What counts as knowledge? What knowledge is of most worth? What forms of knowing are most valued?
2. Expand understanding of Indigenous Knowledges and orality.
3. Engage with Land and Self-in-relation to appreciate the power of story for equity and inclusiveness in a learning environment.

Connections to provincial teaching standards, with reference to First Nations, Metis, and Inuit foundational knowledge, in particular, are detailed in the above learning goals.

Each class encompassed sharing learning and experiences within a Story Circle. The narratives shared throughout this chapter initially arose within Indigenous oral storytelling and holistic pedagogical models developed by Peltier (2014; 2017; in press). Following each reading and Land Experience, a Story Circle brought everyone together to talk about their thinking and experiences with the opportunity to share, listen, and learn from each other and to inform ongoing critical thinking, investigation and inquiry. The circular structure centrally situated the teller and listeners in the storying process, as new knowledge

continuously radiated outward in a three-dimensional, interconnected spiral (Peltier, 2014). The Story Circles and Land Experiences created space for personal silent reflection and inner processing of the stories and responses from peers for holistic learning engaging the mental, physical, emotional, visioning, and intuitive aspects of the individual. An Indigenous learning process honoured orality—something that is not typically valued in a Western-centered pedagogy.

At the end of the course, as a culminating activity, students participated in a Bundle Making/Sphering process and Story Circle. Each student independently created a sphere or Story Bundle by braiding together: new understandings from Indigenous stories and Indigenous scholarly publications; embodied learnings (spiritual/intuitive seeing, making/doing, feeling/resonating, reflecting/thinking/knowing) from weekly individual Land experiences that deepened relationship with Land and waters; and wonders/issues and challenges noticed, and connections to an educational praxis based on respectful and inclusive classrooms and positive social and educational transformation. Each student's generative enfolding process attended to the seen and unseen and relational way of being within complex, dynamic, responsive, situated contexts.

Each student's braiding of strips together was a 'doing of knowing' or axiology enactment. The creative work immersed each student in reflections along with forward-thinking reflexivity for teaching praxis. The Story Bundle served as a tangible support for professional and personal learner/teacher work. The shared personal Sphering Stories illustrated deep thinking and creativity and the spheres/tangible Story Bundles represented the unique and intimate learning journeys throughout the course. In our final Story Circle, stories shared from the sphere-creation process and course reflections exemplified student responses to the research inquiry: How might Indigenous Knowledges and holistic pedagogical approaches based in relationship with Land and waters change education into the future?

Participants

The course participants included both Indigenous and non-Indigenous primary and secondary teachers. Many made connections to place that dated back many generations, whereas some were recent immigrants to Alberta and Canada. The majority of participants actively worked in K–12 schools throughout the duration of the course. All identified as female. The voices shared throughout this chapter reflect similar demographics.

Through continual conversation and a commitment to further collaborating, the students were invited to join in on a co-composed writing process that, in part, became the foundation for this chapter. The writing that emerged from the process represents a reflection upon and an appreciation for our ongoing Story Bundle building process.

Our Story Bundles

Bundles as data are represented in the academic literature. Indigenous scholars describe Indigenous contexts where a Knowledge Bundle encompasses a process of gathering, accumulating, carrying, and using knowledge, information, and sacred items for various purposes in life such as poetry, stories, oral history, and songs, power, gifts, and teachings (Benton-Banai, 1988; Debassige, 2013; McLeod, 2007). "In research, the term Knowledge Bundle encapsulates collected information, including facts and statistics as in the conventional use of the term "data," and privileges the way information, knowledge, and items are gathered. Therefore, how something is collected, carried, and used is just as important, perhaps more so, than what is collected" (Debassige, 2013, p. 6).

The narratives in this chapter are offered for the reader to consider the opportunities of slowing down and turning inward whilst engaging with Land, story, and local Indigenous Knowledges. As we consider the *CEDER yearbook*'s theme of empowering student researchers, we agree that what was most "memorable and successful" (Fenn, 2010, p. 259) about our experiences in this course were the opportunities to intimately consider and connect with knowledges that are all too often beyond the scope of university experiences. The deep impact of this course called

us to share our own stories and the influence they may have on teaching and learning.

The reflective stories that co-compose this paper illustrate the inward turn four graduate students made, and the intimate complexity and teaching transformation that transpired throughout the course. Each of the learning experiences were underpinned by Dr. Sharla Peltier's (2017) belief that:

Supporting all learners to gain deep understanding of Indigenous perspectives and knowledge is facilitated by socially responsible teachers and educational practitioners utilizing an approach that: values family and community members and keepers-of-the- language and their perceptions of what is relevant; invites Elders, family and community members to lead culture-based and land-based learning and stories; and presents opportunities to engage in a wholistic Indigenous pedagogical process based on the oral tradition inclusive of thinking, intuitive reflecting, experiencing and doing, relating and feeling (p. 15)

The mentorship that encompasses these experiences intimately speaks to honouring story, relationship, and authenticity in academia and is continuously brought forth in the writing.

In a public blog, Deleeuw (2020) provides encouragement for reaching out to Elders and knowledge keepers to ask for help to engage in a process of building a personal Bundle for self-care during challenging times such as COVID-19 pandemic, engaging in transformative work, and/or experiencing loss, hardship, or violence. Deleeuw describes her Bundle as containing teachings from people she loves and who generously shared with her, representing comfort, connection, and security. "It is both tangible and metaphorical, and it provides a sort of practical self-care rooted in Indigenous wisdom" (2020, para. 14). She asserts that Bundles are personal sources of strength and are laden with many teachings. Acknowledging that our Bundles, comprised of stories of experience and teachings shared through story, readings, and the Land, are our own sacred sources of strength and hope, our shared stories braid Indigenous knowledges and orality cognizance alongside our own awareness and awakenings. We invite readers of this chapter to think with our stories and be inspired toward personal possibilities of praxis

for educational transformation honouring the spirit of Land experience and relationship with the more-than-human world, oral story and reflection, and query.

Findings

The truth about stories is, that's all we are.

—Thomas King, 2003, p. 2

Candi's story

I come from a family of storytellers. Stories of my ancestors told around the fire or over a cup of coffee kept me connected with family members I did not get the chance to meet but who still shaped the person I am today. These stories filled me with laughter and taught me valuable lessons. They connected me to places I hadn't yet travelled and created a deeper sense of belonging to these lands.

Due to traumas that are too known by many Indigenous peoples on this land, I heard these stories in English and, although I am thankful for

Photo taken by Candi

the stories we hold close, I wonder about those stories that have stopped being told. Where did those stories go? Many Elders whom I have had the opportunity to listen to have shared that our stories, languages, and teachings are embedded within the land, and so they will always be with us as long as we remember to go back to the land and engage with that knowledge. Styres (2011) touches on this as well, stating, "when land informs reflective practice, pedagogy and storying, everything starts with and returns to the land, self is not/cannot be set apart from the interconnected and interdependent relationships embodied in land" (p. 718). My experiences with the land have helped me to begin this journey of reconnection, although I recognize that there is much more work to be done.

Throughout the course, my land experiences shifted from place to place; reflecting upon this at the end of the course I have realized that these places all had something in common. These were places that held some of the stories I grew up with. The first place, one of the many creeks near Swan Hills, is the land my mother grew up on as my Grandfather worked on the rigs in that area. Their stories taught me about the importance of being in good relations with others, as that is vital in remote areas, and how to work with the land and to see myself as a part of the natural world. My great-great-grandfather and his brothers would also travel these areas freighting various goods. Their stories taught me lessons such as they need to work together and to listen to and respect the land and the natural world. I am reminded of their stories where they would happen upon settlers, travelling north towards the Peace Country, lost and half starving in the rough terrain surrounding Swan Hills. They would go out of their way to help these groups return to Edmonton and the safety of western comforts. Another story was about the men riding horses travelling late in the year and a storm hitting before they were home. They couldn't see where they were going and becoming lost would mean a struggle to survive. Instead of trying to take control and find the way back they let go of the reins and trusted their horses to know the way home, in this way they made it safely back. These stories, situated within my family's land base were shared with me as a form of passing down knowledge and it remains my responsibility as a listener

to not only listen with my ears but to really engage and live with these stories to engage with the transformative and journeying process stories can take me through (Styres, 2011). This form of learning is connected to our Indigenous ways of knowing. "All Indigenous peoples have, then, a land base and ecology from which they have learned, and it is there that they honour the spirit of that land in ceremonies, traditions, prayers, customs, and beliefs. These, then, are the core foundations of Indigenous knowledge, learned within a language and culture." (Battiste, 2010, p. 14) Indigenous learning is, therefore, complex and diverse, tied to many cultural practices and embedded within the land and reinforced by the language.

My second land experience was near the North Saskatchewan river near Edmonton. Being near this river reminded me of the stories my family shared of my ancestors, who travelled through this area. In this place many changes can be seen as development impacted the land and other stories covered over the ones that had been here for many generations before. I feel in this place that there are many stories waiting to be told again. Perhaps this is what drew me to my last land experience, where we were tasked to give back to the land. For this experience I went to the Sturgeon River near St. Albert where great grandmother Mariah Cunningham was born. Her family had a Metis river lot on this land. As a way to give back I told the stories I carry about her. Stories of when Mariah moved herself and her children from Slave Lake to Drumheller to avoid sending the children to the residential schools. Stories of the times she would participate in foot races to win a prize to help provide for her family. These stories show her strength, humility and love. I wondered if the land remembered these stories, if it missed them being told.

I wonder what the impacts could be if education and learning took place on and with the land? Simpson (2011) reminds us, "[l]ike governance, leadership and every other aspect of reciprocated life, education comes from the roots up. It comes from being enveloped by the land." (2014, p. 9) Many of the students I work with have expressed feelings of disconnection and disengagement as their learning in school does not seem to align with their lived experiences. In my community and

within my work there also seems to be increased feelings of disconnection among youth as they search for places of belonging. I wonder if allowing students to learn with and on the land could help to foster that connection and sense of belonging while situating learning within the context of place. Could the land benefit from this experience as well?

Deepening

The garden becomes not only a place to watch plants grow but a direct way for young people to participate in a greater circle of life. As young people work the soil, plant seeds, pull weeds, nurture seedlings, and harvest crops they experience the fuller development of their "natural connections" and participate in an age-old indigenous way of becoming related to place

— *Gregory Cajete, 1999, p. 199*

Photo taken by Caitlin

Caitlin's story

It was no surprise that the idea of land experience as an assigned activity sparked a yearning in me, but it was through these experiences that I began to connect what that yearning was born from. In the middle of a global pandemic and with isolation a new key feature of my lifestyle, I leaned into this responsibility to turn inward and seek knowledge there instead of solely from scholarly articles. Each land experience was approached from a different context and brought me to reflect on academia, of relationships with the world, and my connection to the land that hosted my learning sessions.

Sitting near the trickling water, I remember the first time that I went hunting with my Dad. I was ten, and we drove out early in the darkness before dawn to await sunrise on a search for white-tailed deer and grouse. My eyes hadn't yet learned to distinguish their still shapes in the trees and my feet fumbled over the camouflage of birch and aspen. I was aware of the crunch of snow under my feet, so loud compared to my father's, and the brush of snowpants between my legs as I walked -- not quite graduated to wool pants, which would come next season when I proved I would still want to come out. The still silence of the forest in winter took my breath away, with only the eerie creak of trees punctuating the silence as they breathed and sighed. My heart was in my throat as we tracked, watched, and waited. My Dad called to me to attend to the deer and my feet froze in place, as I felt called to take off my gloves to touch a tree and the snow-patched ground to thank something—God, Mother Nature, the Earth—for that deer's life. This experience embodies my young, innate connection to land, and I wonder when this connection shifted from being outward and overt, to being an almost subconscious, unspoken part of me that I rarely openly acknowledged until now.

Cajete (1999) asserts that biophilia is an intrinsic relational quality that exists naturally in all humans and is a vital part of early childhood development. He suggests that the education system must shift from a "consumer consciousness" (p. 193) model which portrays environment, land, and place as manipulatives in a formula to a model of nurturing biophilia and using it as a pathway to environmental education. Not only

environmental education, but as a way of understanding ourselves and an entity with which we can relate, learn from, and engage with.

Why aren't we fostering this natural affinity for relationship with land, instead of weaning students off it to sit in desks and become objective? "The Western secular system of education appears to be blind to the spirituality that infuses or underlies Aboriginal epistemology" (Curwen Doige, 2003, p. 144) and sometimes fixates on using a scientific lens through which students are encouraged to examine the world. The scientific lens is intended to be free of bias and encourages the skills of unbiased observation. It also succeeds in valuing above all else the measurable and observable, suppressing the ability to be vulnerable and connected within oneself—a highly immeasurable act, but one vital in the development and nurturing of a spiritual self. "This fact creates an ethical antithesis in the classroom because the Aboriginal knowledge paradigm is deeply spiritual whereas the Western knowledge paradigm is secular" (Curwen Doige, 2003, p. 148).

I would always have told you that I am connected to nature. I love to hike, camp, climb, and explore in the outdoors. But until I sat by myself, far away from other humans, I realized that these experiences have been one-sided. Through the process of quiet reflection, I came to enter a mutual relationship with land, a living entity with its own needs and desires. Sitting, open, listening to the land I felt intensely vulnerable in realizing that I had begun to listen again, the way I did when I was ten years old.

Respecting

Life is a journey of spirit… Learning then, as Aboriginal people have come to know it, is holistic, lifelong, purposeful, experiential, communal, spiritual, and learned within a language and culture.

—Marie Battiste, 2010, pp. 14–15

Brina's story

I was born and raised in the city, but I've always had a connection with nature. I love walks in the park, gardening with my mom and dipping my feet in moving water. Styres et. al. (2013) addresses the idea of

Photo taken by Brina

bringing a pedagogy of Land into classrooms and communities, even within the city. They acknowledge Land as a living being and our first teacher. Although we may not be listening, Land is still all encompassing, even in our cities, weaving through all of the concrete and glass. As far away from nature the busyness of life and the city may take me, returning to Land always makes me feel most at home.

I entered the first land experience, *Finding*, with an anxious but open mind. As an ambitious student wanting to do well, I came prepared with a blanket to sit on and my notebook. I was not prepared for the vulnerability I felt the moment I left that paved path. Every windblown branch startled me and the mud from the melt of winter was not exactly comfortable to settle in. But I sat there, as I was encouraged to, listening and observing. When I eventually stood up to leave, I noticed a duck was floating silently only a couple of meters from where I was sitting. My anxiety eased slightly but I still felt like an intruder. I was relieved to hear others had similar experiences to mine when we shared in Circle that week. I was not alone.

My second land experience, *Deepening*, could not have been better named. I arrived much calmer and quickly felt a deeper relationship with the land. Green grass and buds on trees were beginning to appear and a log had exposed itself as the land dried, seeming to welcome me to sit. Since I settled much quicker, I was able to notice loose sticks, waiting to be collected to create a piece of art. Just when I thought I was done with my creation, a large flock of birds swarmed way above me, making quite a racket. When I eventually stood up, they flew north so I wandered in that direction. I found tin cans that had clearly been left there many seasons ago and plenty of sticks to add to my art piece. I collected the cans, placing them aside to throw away later, completed the heart made of sticks I created and went home. Through the readings and conversation that week, another message became clear: it is not just about me or us as human beings that walk these lands currently. The picture is much, much bigger.

I went into my third land experience, *Respecting*, with so much gratitude. Although the course was only a couple of weeks and was limited to an online platform, I felt an incredible connection to the others in Circle, to Land and to my voice within. I felt more connected and grounded than I had in a long time and it happened to be in the middle of a pandemic and various social outcries. Walking to the space this third time, while still on the paved path, I noticed small birds landing on fences and trees along the way, almost as if they were following me. Once there, I read a poem of appreciation aloud. It was a rainy day but as I read, the sun appeared from behind a cloud, shining on my face. I could not bring myself to leave that day without collecting trash left behind by others. I had a hard time leaving at all.

Our world is so hectic, noisy and complex. Attempting to navigate life gracefully is not easy. There will always be noise and distraction. There will always be something trying to pull me away from my core, my intention and my intuition. It is argued that "modern urban landscapes often appear to be an attempt to erase history and deny our interdependence with Land" (Styres et. al., 2013, p. 45). However, no matter where we are or what we're doing, we can still look up to the sky. We can still feel the wind on our skin and the ground at our feet. And still,

"the stories remain, carried forward from beneath the concrete to inform urban landscapes for those who take the time to explore and listen" (p. 45). I recognize now that I always want to be someone who takes the time to explore and listen.

I have wondered how I could possibly share my experience so others understand, particularly my students. It's not something that can easily be turned into a slideshow or a worksheet. I think about the power of sharing stories in Circle and simply being outside. I have always incorporated story sharing and nature into my lessons but now I will do so with intention. Every day my students will have the opportunity to speak and be heard. They will practice vulnerability in both sharing and listening. My students will find their own spots outside where they can build and nourish their own relationship with Land. They will sit with the changing of the seasons in their personal life and in nature. Hopefully, like myself, they will learn to ground themselves in a world that's ever-changing.

Weaving awareness

Western secular system of education appears to be blind to...spirituality
— Lynda A. Curwen Doige, 2003, p. 148

Jessica's story

While my Story Bundle was bound by lump and fray, I was able to recognize the beauty in imperfection. Bound by imperfection, I was reminded however brash, the hardships and bluntness of life are woven together purposefully within the confines of life. Weaving together the strands of my Story Bundle- a cotton t-shirt, dandelions, and a stapled string of an academic article- I came to provoking realizations of my personal and collective existence.

Strand one: Cotton conscious. To let go can be a hard pill to swallow, yet it is an inevitable one. Nothing lives or stays together forever, and that which lasts or resists change or remains the same is often lifeless and/ or stagnant. I recognized my attachment to a worn cotton t-shirt as I began preparing it for the Bundle. Moreover, I contemplated society's consumption-based conditioning. Ingrained within our

economic structure, consumption foretells the story that, as citizens must continuously buy to keep the economy flowing. This fallacy has been written into the economics of today, hurting our environment and the all-around health of our society: mental, physical, and spiritual. Instead, cultivating a gratitude for people, objects, environments, experiences, and ephemerality into my teaching ethos offers my students and me greater receptivity of livelihood(s).

   Strand two: Woven dandelions. Foraging is a practice that I had wanted to become more comfortable with. The dandelions in the back-yard felt like a pragmatic place to begin. Picking these flowers formed the second strand of my Story Bundle, while their leaves provided me with greenery for a salad. Foraging catalyzes a connective relationship with our environment and invites awareness for plant life, and what we can learn from them. Plants are forever woven, aware, and communica-tive with their surroundings. Eternally present, plant consciousness is essential for their own (and human) survival. The hustle and bustle of

our society tends to overlook the quality of presence, and its necessity for our own survival and thriving.

As the weeds of the flower family, dandelions have long suffered negative connotations. Analogously, the 'weeds' of our lives- failure, tragedy, and turmoil- are often associated negatively. Letting go of ideals and recognizing these unforeseen moments of life from a different vantage and perceiving these 'weeds' as a part of the bigger picture of our non-linear path(s), is an essential life lesson, and invaluable teaching for our students. Life is inexorable meshed with change and hardship. King (2003) emphasizes stories being all that we are, repeatedly throughout his book, *The truth about stories*. While our lives are woven through narrative, cultivating a constructive, critical awareness, so not to allow our stories to be written for us by others is an essential teaching for our students. We can be in control of own paths if we wake up to the factors that and distractions that are attempting to dominate.

Strand three: Acquiring academia. Slicing Styres et al.'s (2013) academic article into strips, I formed the third strand of my Story Bundle. While cutting, I compiled found poetry; an artform that evokes the randomness of language to synchronistically and organically derive meaning. The following poem appeared:

> realized family
> accepting elder
> includes thunder
> stories matter
> conceptualize
> embodied thinking
> East teaches from within
> met alongside experience
> in the
> teacher milieu

Reverberating my longstanding commitment to academia, this poem helped me to realize the place of experiential learning within academia. Often, I questioned my place and purpose in academia because of the dominant objective-driven narrative that conjures images of quantifiable data, calculations, and immaculate reference lists. Researching the etymology, I learned that the 'of academia' originates from the Greek word academy, and refers to the sacred grove in which Plato taught in Athens (Britannica.com). Unearthing the roots of academia, echoed the connections of our academic coursework: attuning to the teachings of nature. Furthermore, this understanding helped to ground my own personal pedagogical praxis; just as Plato's intention was to educate, question and experience the world with his students, as educators, our teachings- experiential and quantifiable-undoubtedly reverberate outward impacting and inspiring our communal spheres.

Re-circling

The listener is expected to construct meaning over time, both during and after the storytelling event. Narratives are shaped by the interaction of the storyteller and the listeners and therefore are subject to change when being retold.
— *Sharla Msko-kii Peltier, 2017, p. 177*

Darcy's continued story

The leaves begin to fall outside, yet, through my writing I am brought back to the warm spring evenings I spent engaging in Story Circles and course preparations alongside my mentor. Like many of us engaged in the course, I continued to struggle with how to take up teaching and learning authentically. From my porch where I often worked, I recall telling Sharla about the warm sun and the cool breeze. I noted how the two called to me in different ways and reminded me of the complexities of classrooms and meaningful learning. Acknowledging the tensions within me, Sharla told me a story of the winter and spring spirits. *Paakwas* (Spirit of Winter) engages in a torrid love affair with Spirit of Spring. They meet briefly every year as the seasons change and when *Paakwas* has one more fleeting dance with her; a short-lived experience of chilly whirlwinds and snow is experienced by the people.

Photo taken by Candi

I imagined this affair as the earth danced in response to the cold wind. At the time, I had wished the wind away, wanting to bask in the warmth of the sun. But this story continued to work on me. That wind, brisk and unpredictable, also helped keep the clouds at bay. My awareness of it brought continual understandings of the intricacies of the Land and my own consciousness.

Conclusion

Journeying without intent is nothing more than aimless wandering. Purposeful journeying leads us to shift and transform the landscape of our previously held assumptions and paradigms.

Sandra Styres, Dawn Zinga, Sheila Bennett. and Michelle
— Bomberry, 2008, p. 25

Sharla's story

The stories from this course, and the ones before them, help illustrate a rich mentorship that draws on intuitive knowing and a strong vision for

education. The title of the course, "*Kiskinohamakewin*: The Passing on of Knowledge" describes the learning process we shared in the course, and it also relates to my faculty role as a mentor to support Darcy's doctoral work centered on Indigenous education. In addition to being a faculty member assuming doctoral student supervision responsibilities, I am an Anishinaabe auntie, passing on Teachings gained and lessons learned in my mentorship role with Darcy. I share my life experiences as an educator in schools and more broadly as a life-long learner.

As Darcy's doctoral work brought her alongside the teaching of this online graduate course that I designed for practicing teachers and doctoral students, our frequent, compelling conversations stimulated each of us to reflect, think critically, and inquire. I could appreciate a stretching of her attitudes and knowledge about Indigenous education that she was exploring in her doctoral autobiographical narrative inquiry work. At the same time, I learned, too. As Darcy and I collaborated with a writing group from the *Kiskinohamakewin* course, we engaged in deconstructing colonialism to create space for Indigenous ways of seeing, visioning, doing, relating and knowing in schools. Gaining knowledge about how Indigenous people learn and teach is fundamental for creating a classroom learning community that can nurture relationships, intercultural knowledge, and experiences, and build appreciation for Indigenous socio-cultural and ecological contributions to society.

Through this course and our collaborative writing group, it has become evident that Indigenous teachers, and non-Indigenous teachers as well, have the capacity to reclaim relationship with *Aki* (Land) and waters and to appreciate the more-than-human world. An important ingredient for the success of the Indigenous learning process in this particular course context was a willingness to commit to the Land Experiences and to participate in the Story Circles. As we storied together, we acquired new knowledge and put this into our stories shared in this chapter. The beautiful stories and poetry spoken and songs sung to the Land signify deep knowing of relationship with Land as a sentient being. This is powerfully healing as we reclaim our voices and honor who we are and where we come from.

Building our story bundles: Braiding indigenous knowledges and orality cognizance through student-faculty collaborations

The Story Bundles created by the teachers are tangible representations of new knowledge and ways of 'doing' education as we step forward into the future with confidence. We honour Indigenous languages and knowledges that come from the Land and ancient ways of storying these forward for future generations living in good and relational ways. Anishinaabe teaching-learning practice, research theory, and methodology described by Indigenous scholars honors the sacred objects of the Bundle Bag, and ceremonial and spiritual practice through the metaphor of a Bundle. Debassige (2013) utilized a "Knowledge Bundle" represented by his ceremonial and community engagement as an *oshkaabewis* (helper) and carving of a Turtle Shaker. Bell (2018) identifies sacred objects in a Bundle Bag that are brought to and used in Anishinaabe ceremony as a metaphor for concepts and interrelated definitions of Anishinaabe research theory (2018). Further, my own doctoral Indigenous research method incorporated a culturally relevant teaching tool, a "Grandmother Teaching Bundle", which was, and continues to be, brought into each Story Circle (Peltier, 2016). The Bundle facilitates comprehension of cultural principles and concepts of the Medicine Circle and Relational Wheel in Teaching Stories shared. The students experienced how tangible components of Grandmother's Teaching Bundle: *Mishomis* (Grandfather rock); *Odehwegan* (hand drum) and drum stick; *Nibi* (drinking water) and copper water vessel; *Asemaa*/tobacco; and candle (fire) are functional within the storywork Circle pedagogy. "[This] advanced their cultural sensitivity with new understanding and increased awareness within the cultural context and *Anishinaabe* world view" (Peltier, 2016, 186).

My heart is full as I reflect on the positive outcomes of this course and faculty-student relationships. I am reminded of Elder Reg Crowshoe's words in the TRC's Final Summary Report (2015):

> Indigenous peoples' worldviews, oral history traditions, and practices have much to teach us about how to establish respectful relationships among peoples and with Aki and all living things. Learning how to live together in a good way happens through sharing stories...reconciliation will never occur unless we are also reconciled with the earth. (pp. 17–18)

The mentorship that encompasses these experiences intimately speaks to honouring story, relationship, and authenticity in academia and is continuously brought forth in the writing. We envision lifelong learning and engagement in Indigenous learning processes and acknowledge the transformative energy that the work of graduate students/teachers and doctoral students alongside Indigenous faculty as mentors play.

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2

Latina immigrant undergraduate mujeres and the survival and prosperidad of their families

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Abstract

Drawing from a Chicana M(other)work framework, this qualitative research explores the experiences of 15 Latina undergraduate mujeres from immigrant families to understand how they negotiate their family contexts, roles, and responsibilities while in college. Through pláticas rooted in Chicana feminist epistemologies, this study found Latina undergraduates engage in Chicana M(other)work through four main ways, including carrying their familias' worries and concerns, serving as sister mothers, accessing and navigating opportunity structures for their families, and contributing to their family's conocimiento, or journey of knowledge. This study high- lights the interweaving of the familial and academic contexts in the lives of Latina undergraduate mujeres. Importantly, this study argues Latina undergraduates contribute to the daily survival, navigation, and resistance within their families, in response to their intersecting identities and systems of marginality their families experience in the United States as immigrants of color.

Latina immigrant undergraduate *mujeres* and the survival and *prosperidad* of their families

This qualitative research explores the experiences of 15 undergraduate Latina mujeres from immigrant families to understand how they navigate higher education and negotiate their family and community contexts, roles, and responsibilities. The importance of families in undergraduate mujer success is unquestionable (Sy & Romero, 2006; Zambrana & Zoppi, 2002). However, limited knowledge exists about how Latina students' roles within their familias help sustain themselves and their household while in college. University campuses prioritize individualistic achievements. However, college for Latina undergraduates is more than a series of individual accomplishments as the college journey intertwines with their familias. Few studies understand how Latina students negotiate their familial roles and responsibilities and how they draw their motivations and aspirations from familia.

Data indicates Latina college enrollment in higher education has increased throughout the United States, with Latina women enrollment surpassing their Latino male peers (National Center for Education Statistics, 2020). Yet, Latinas have the lowest college completion rates among women (Gándara, 2015). In 2017, 17.6% of Latinas between 25 and 29 had completed a degree, a rate lower than white women (33.7%), Asian women (51.8%), and Black women (23.8%) (U.S. Census Bureau, 2019). The increasing enrollment of Latinas and the continued inequities they face in higher education justifies critical and in-depth explorations of their particular experiences. A focus on the multi-contextual lives of undergraduate mujeres allows universities to support Latina retention and success.

Literature review

In this section, we review scholarship on Latina undergraduates and their familial experiences. This section is not intended to be comprehensive of all scholarship regarding Latinx students and family; it highlights central themes that inform our research. Latina students experience their familial and cultural contexts in connection to institutional contexts while navigating university practices as students with intersecting marginalized identities and roles. This section discusses how family

shapes Latina college aspirations and captures Latina students' roles and responsibilities while in college.

Family shapes college aspiration

Undoubtedly, family is central to Latina postsecondary aspirations. As students develop, plan, and pursue their college aspirations, family is present throughout this journey and shapes higher education planning and college choice (Perez & McDonough, 2008). Knowledge about educational opportunities in the United States within their household and community networks contributes to shaping their children's college aspirations and possibilities (Marquez Kiyama, 2010). Pursuing higher education is rooted in becoming financially stable to provide for their families (Martinez, 2013). This goal is not a burden as previous scholarship has suggested, but instead, mujeres strive to be consistent financial contributors as a cultural responsibility for their family (Gloria & Castellanos, 2012). The negotiation of school-family is present throughout college processes (Gloria & Castellanos, 2012; Hernández, 2015). Such negotiations include considering proximity to home when deciding where to apply, attend, and pursue higher education studies. Therefore, family is central to guiding and shaping Latina college opportunities and pathways (Hernández, 2015). Scholars find family is embedded in the college transition of their students and even argue families experience a transition to college through changes when a child enters higher education (Harper et al., 2020).

Familial roles and responsibilities while in college

Student academic persistence and constant negotiation of school-family life is present throughout the Latina students' educational experiences (Espinoza, 2010; Gloria & Castellanos, 2012). Latina undergraduates' familial roles in their transition to college include serving as a financial contributor to the home and "surrogate parent" with younger siblings (Sy & Romero, 2008). As "surrogate" parents, Sy and Romero make a clear distinction between filling the role of older siblings and taking on mothering responsibilities while also negotiating academics. Older first-generation, Latinx undergraduates are instrumental in supporting their

younger siblings in understanding and navigating educational contexts throughout the pipeline (Delgado, 2020). As first in their families to access higher education, older siblings possess critical knowledge about higher education as racialized students. Zambrana and MacDonald (2009) center marriage and motherhood responsibilities and roles Latina undergraduates experience. Chicana mujeres also negotiate with their ways of knowing and experiencing the world as Chicana mujeres straddling multiple cultures, duties, and norms when confronting challenges and contradictions within commitment academics, family, and community while navigating discriminatory and alienating higher education campuses (Delgado Bernal, 2001).

Current scholarship argues that Latina students must negotiate the familial with their academic context, which often includes various roles and responsibilities such as mothering and sistering. Higher education institutions do not recognize Latina roles and contributions by prioritizing individualistic academic success. Current paradigms require further research to capture the complexity and often contradictions regarding the Latinx family and Latina experiences. Latinas straddle and resist various identities within their families while also nourishing a supportive familial context for academic success. Therefore, further scholarship must theorize the centrality of family for Latina undergraduates that uncovers the structures mujeres experience in their daily lives. We contribute to filling this gap by applying Chicana M(other)work to Latina undergraduate experiences to understand the roles and responsibilities Latina undergraduates carry and negotiate while in higher education. Specifically, we address the research question: What roles and responsibilities do Latina undergraduates engage in while in college that are situated within their racialized, gendered, and immigrant identities?

Theoretical framework

To capture the roles and responsibilities Latina undergraduates carry while in college, this research draws on Chicana M(other)work framework and scholarship (Caballero et al., 2019; Tellez, 2011; Tellez, 2013). Chicana M(other)work affirms the importance of contributions these students have for their families. Chicana M(other)work situates Patricia

Hill Collins' (2000) motherwork and othermothering concepts within a Chicana feminist lens to understand mothering and othermotherwork within the Latinx immigrant community across intersections of identities, generations, spaces, and contexts. Othermothering makes space for Latina women's labor, beyond biological or adopted mothers, who contribute to the raising and survival of children and families in the Latinx community. M(other)ing is also central to teaching, modeling, and transmitting strategies, tools, and knowledge to navigate and resist social inequalities and marginalities (Oka, 2016).

Chicana m(other)work has identified the central role of mamas, grandmothers, tías, primas, sisters, and daughters in Latinx families (Caballero et al., 2019; Tellez, 2011; Tellez, 2013). Yet, research on m(other)work of mujeres beyond mothers and abuelas is not available. This research aims to fill this gap by centering how Latina undergraduate mujeres engage in m(other)work during college. In doing so, this research acknowledges various ways in which Latina undergraduates support their parents, siblings, and extended ties, in accessing and navigating life in the U.S. and higher education as racialized and gendered others. This chapter frames contributions of Latina undergraduate mujeres as pivotal to their families' survival, daily navigation, and success, often taking on m(other)ing responsibilities in their families and communities. Data collected virtually during the COVID-19 pandemic in the U.S. highlights how the responsibilities of undergraduate mujeres become exacerbated during heightened times of distress, fear, and anxiety.

Positionality

Throughout this research and chapter, the two authors center their positionalities as Chicanas in higher education. The first author is a Chicana doctoral candidate from a Mexican immigrant family currently navigating academia during a heightened racist nativist (Pérez Huber, 2009; 2010), as the first in her family to pursue a graduate education. The second author is a Chicana undergraduate in her senior year who is a first-generation college student and emigrated to the United States from Mexico at an early age. The authors unapologetically acknowledge that their lived realities and experiences are braided throughout their work,

as Gloria Anzaldúa states (1987) "I cannot separate my writing from any part of my life. It is all one" (Anzaldúa, 1987, pg. 95) [emphasis added]. Similarly, the data collected, analyzed, and constructed themes were shaped by their combined cultural intuitions (Delgado Bernal, 1998), which includes how the authors experience the world, their realities in higher education, their personal and familial histories in the United States and Mexico, their educational and research training, and how they approach and engage in research are all one.

Methods

The study's sample includes 15 students who self-identify as Latina, are immigrants to the U.S. or daughters of immigrants, and are enrolled as undergraduates at emerging Hispanic Serving Institutions (HSIs) in California. Participant recruitment for this study was conducted through purposeful and snowball sampling (Creswell & Creswell, 2017) after in-stitutional review board (IRB) approval was granted. To capture Latina undergraduates' experiences, this research draws from Chicana feminist methods through pláticas (Fierros & Delgado Bernal, 2016) conducted virtually. Pláticas provide space for a fluid discussion welcoming mujeres to bring their whole selves, histories, and experiences to data collection and provides a more holistic and complex understanding of their educational experiences (Fierros & Delgado Bernal, 2016). Pláticas capture the narratives and experiences of these undergraduate mujeres through a culturally, gendered, and ancestral way of knowing and com-municating. All pláticas were conducted via the Zoom web conference program due to remote learning during COVID-19. Each participant was also asked to provide demographic information regarding their home-town, migration history, family composition, and academics.

Data analysis

This study's data analysis is rooted in Chicana feminist epistemologies (Delgado Bernal, 1998), centering the researcher's cultural intuition in interpreting and giving meaning to the data. Cultural intuition argues that as Latina researchers, we possess a lived experience, educational training, and cultural knowledge that supports a rich, nuanced, and

complex understanding of the everyday lives of Latina mujeres (Delgado Bernal, 1998). Our cultural intuition guided the two-step data analysis process. The first stage of data analysis included line by line coding to identify emergent topics, ideas, patterns within each narrative, and differences across each student (Saldaña, 2015). The second stage of data collection followed after a collaborative plática between the two Chicana researchers centered on emergent codes. This second stage of analysis included narrowing down codes to identify themes (Saldaña, 2015) evident in how undergraduates contributed to their families. The four central themes identified in the data are discussed next.

Findings

Four central themes emerged from pláticas regarding Latina undergraduate roles and responsibilities within their families, including the following: 1) Mujeres carry their familia's worries, concerns, and aspirations, 2) Latina undergraduates as sister mothers, 3) Students access institutional and opportunity structures for their families, and 4) Contributions to family's conocimiento. As undergraduates who are daughters of immigrants or immigrants to the U.S. themselves, Latinas navigate U.S. institutions their families have never experienced before. Latina undergraduates utilize their knowledge from navigating higher education institutions to support siblings, parents, and extended family.

Mujeres carry their family's worries, concerns, and aspirations

One central way Latina undergraduates contribute to their familas and household is by carrying, holding, and responding to family concerns. This role was reflected in parents seeking support from their undergraduate daughters concerning financial strain, health issues, and housing insecurity. It was also evident that mujeres served as emotional confidants for their younger siblings. Latina undergraduates were their family's primary emotional support. Alicia, a first-generation college student in the California State University (CSU) system and a middle daughter in her mixed-status immigrant family, exemplifies this finding. Alicia is her parent's firstborn child in the U.S. and is the oldest in the family with

citizenship privileges. She shared the emotional support role she has with several family members:

> If my mom has any questions about health care, or documents she needs, or my mom's a diabetic, there's many complications with that. And then my dad's Parkinson's is a chronic disease. So it gets worse as time goes by. She's always just calling me like, I feel pain and my hip, what does that mean? Or is there something I can take, or even if you just need someone to talk, to vent, I'll be that person for her and same with my dad...And my sister too, I think I've always just kind of been there for her because we only have each other at some point. So I'm the oldest emotional support daughter.

Alicia describes herself as "the oldest emotional support daughter" who provides space and holds her family's worries, pains, and concerns, particularly regarding her parents' health. This is a significant responsibility Alicia has as she supports her family's physical and emotional well being. Latina undergraduates described how they listened and comforted their loved ones, while also exploring and developing a plan for addressing concerns.

Additionally, Latina undergraduates also serve as a pillar of their family when any problems or concerns arise, such as those related to COVID-19. Karen, a first-generation undocumented undergraduate in the University of California (UC) system studying psychology, demonstrates her familial responsibilities. As the oldest daughter in her mixed-status immigrant household in Los Angeles county, Karen discussed how she holds the responsibility of navigating her family's concerns and worries:

> making sure even with everything going on right now, my whole family is looking at me. So if I freaked out, my whole family freaks out. Yeah, oh, I have to stay calm. Where like, right now, my parents aren't working because of the pandemic. They'll come in the kitchen and sit down with me, and they're like, okay, we're running out of money. What do we do? And it's my responsibility to come up with a strategy of how we're going to do everything. It's my responsibility to come up with information and come up with resources.

Karen highlights how her family experienced exacerbated financial strain as a result of the COVID-19 pandemic. She described at another point in the plática that both her parents were laid off because of the pandemic. Karen's family takes cues from her for responding and navigating situations of concern and distress. Therefore, she must remain calm and informed during the pandemic because her family will follow her lead, as she is a central part of her household's daily survival and navigation. Both Alicia and Karen describe the types of concerns within their families, their role as confidants, listeners, and holders of their family's worries, and the labor they engage in to support their families in navigating these concerns.

Latina undergraduates as sister mothers

The second way in which Latina undergraduates contribute to their *familias* is through sistering. Sistering highlights forms of labor undergraduate *mujeres* engage in, including raising, nurturing, and guiding their siblings and extended family. Through sistering, *mujeres* helped raise and support their siblings in central ways. This often included sole or central responsibility for their younger siblings' educational pathways. One example comes from Luz, a third-year undergraduate studying political science. Luz is the oldest of two sisters and has played a central role in her family from a young age. Luz contributes to her household's income and takes care of her younger sister. Although Luz moved away from home when she began college, her connection with her younger sister remained. Drawing from her navigational experiences as a first-generation student, Luz was a primary resource when it came time for her younger sister to apply to college. During the *platica*, Luz shared:

> ...for anything she does, she's like 'Oh my god, I don't know how to do this. Can you help me?'...I was helping her-- so she SIRed to [California University], she's going to be starting their next fall and just throughout the entire process, I was helping her… And during that time I was going home more often just because I wanted to be there in person to guide her through it...I'll talk to her more often just because I feel she needs the most guidance and because I've

been through the process already. I want to give her insight into what I've struggled.

As Luz is the first in her family to go to college, supporting her sister with her college applications became her responsibility. Luz was willing to take on the responsibility of helping her sister through the college access process because she was invested in her younger sister's educational opportunities. This involved Luz making several train trips back home, between San Diego County and Los Angeles County, during her academic quarter to provide her sister better support in person.

Another *mujer*, Jasmine, a first-generation, undocumented college student, practices sistering in her *familia* as the oldest daughter in the family. Jasmine's sistering makes her a key member in the educational pathways of her younger siblings. Her younger sister, Dahlia, is also undocumented and was interested in pursuing higher education. For her younger sister, navigating the college application process, choosing programs, and applying for financial aid required someone with expertise on undocumented students. Jasmine paved the way for her siblings as the first to learn how to navigate these processes. When Dahlia applied for college, Jasmine took the lead in supporting her through this experience. Jasmine shared:

> When she was accepted, she got the [financial aid package] estimate, but she didn't get the award letter. So I had to go into financial aid [for her]...At that time, she was working and going to school. She was out of the house 24/7, and at that time, she didn't have a phone, so she had no way of calling...no access to phones until she got home, but the financial aid office was closed. And I told her to email them initially, and she emailed them but got no reply. Eventually, it was like, let me go in.. So one day, called on her behalf...Even (financial aid) is something I had to figure out on my own but was something I would pass on to her. I remember we filled out our Dream Act [application] during thanksgiving together. We put in the same information, so it was easy for her. I walked her through the application because our parents don't know how to do it, so we just did it independently.

Jasmine modeled the importance of advocating for oneself when navigating higher education as an undocumented Latina. She did so by advocating for her sister at the college financial aid office to ensure Dahlia's successfully transitioned to college. Undergraduate mujeres engage in sistering by taking on critical roles in their younger siblings' educational pathways as they model navigation, resistance, and advocacy and pass on essential knowledge to their siblings when they have the role as first in their *familias*.

Students access institutional and opportunity structures for their families

The third way undergraduate Latinas play vital roles within their households is through accessing institutional and opportunity structures for themselves and their families. One example of this is Renata's support for her family during the COVID-19 pandemic. Renata is a first-generation college student who grew up in Los Angeles in a working-class and mixed-status immigrant household. Renata is conscious of the struggles her parents face because of their socioeconomic and immigration status. As an undergraduate, Renata helped support her family members navigate employment applications and access resources for families impacted by COVID-19. Renata shared the following:

> Now I am the emotional support, the financial support system, the go-to person, the mediator, but before I was none of those things... over time, they [her parents] saw I was going to college. I was independent...my parents opened up about financial matters and stuff, before they would never tell me why. I knew we were struggling obviously, but they wouldn't tell me straight-up 'oh it's because I got fired' and oh 'cause this and that.' It was just 'things are hard right now.' But now they're open, and they ask for my advice in terms of, 'Hey I'm thinking of doing this, what do you think I should do?' and I'll be like, 'You can try applying for the agency or applying for unemployment, and here's how, and here's the link and here's the deadline.'

Renata plays a critical role in her family, as she is the go-to person when it comes to navigating new systems and opportunities. As a first-

generation undergraduate, she learned to navigate essential resources for college, such as financial aid and the grocery assistance program CalFresh. These programs were beneficial to Renata and her familia. Her knowledge from navigating these social services allowed her and her familia to have consistent support and access to necessities during the COVID-19 pandemic, which exacerbated inaccessibility to basic needs for her family.

Similarly, Elena, the only daughter of undocumented immigrant parents, learned how to navigate essential services in the U.S. Navigating services seem simple; however, for non-English speakers, English Language learners, immigrants, and People of Color, formal and informal policies create obstacles that result in inequitable access to public services. First-generation, Latina undergraduates are leaders in bridging the gap between their familias and social structures in the U.S. One example is Elena, who learned how to file taxes, build credit, and apply for apartment housing. Elena discussed:

> I've learned to do taxes and how to file for unemployment, and how to ask for a loan, how to build your credit...but because my parents-my dad is undocumented that was never an option for him, and he didn't know how to navigate that, and I didn't either. Because, I feel, growing up, if your parents don't do it, you kinda don't think about it or learn it but because I was away and I had to build up credit to qualify for an apartment and like other stuff. I've kinda had to learn on my own and like now, I can help my parents with that type of stuff. It's simple basic living things but not everybody gets to do those things, it can be harder for some people.

Elena understands that her parents' undocumented status and English dominance in the United States shaped her independent transition to adulthood in the United States, as immigration status bars undocumented families from qualifying for most social services. Since Elena is the only citizen in her family, now, as an adult, she accesses and navigates U.S. institutions on her family's behalf. Renata and Elena show Latina undergraduates from immigrant households support their familias in accessing, guiding, and obtaining basic needs and opportunities that promote wellbeing, safety, and possibilities to lead fuller lives.

Contributions to family's *conocimiento*

The fourth way in which Latina undergraduates contribute to their families and households is by cultivating learning, growth, and healing within their homes. As Latina undergraduates learn about topics relevant to their community and culture, they shared the knowledge with their families. They were central in encouraging their family to question, critique, and challenge problematic stereotypes and assumptions in society. In doing so, the undergraduates contribute to their family's *conocimiento*, or the journey of learning and knowing (Anzaldúa, 2013). Michelle, a first-generation, undocumented undergraduate in the UC system double majoring in education and public health, exemplifies this finding. Michelle has older siblings, yet she is the first to pursue higher education. She expressed:

> I want my parents to think about the things they know and question everything, and I want them to feel they're free, and they can do whatever they want and think differently. I know you shouldn't want to change people, but I want them to know sometimes what they're saying is not okay. When they're talking about sexuality, or gender, or women, my mom is more open to listening and reflecting now, like she tells me, you know what I think about our culture, and machismo. When people come and say oh my gosh, you should hear about what your cousin did, and I have to tell them, like why do we have to talk about women in that way? Why are we shaming women for things that should not even be considered shameful? I want them to be more open to these ideas.

Michelle described how she promotes questioning and critical thinking in her family to unlearn and disrupt norms, racism, and sexism that has been internalized by broader society. Michelle draws from this consciousness to support her family in being "more open" to diverse experiences and identities. As an education and public health major, Michelle has completed coursework that critically understands societal, educational, and health disparities in the United States.

Additionally, the Latina students shared how their undergraduate experiences supported their family in learning about their culture and other racial groups. Karen, an undocumented undergraduate in the UC system,

and the oldest daughter in her family, shared:

> My role in the family is to keep everyone okay...and it's important for me to teach them about different cultures, and teach them about our culture, and everything, I'm always like, hey mom, dad, Have you read this, you know, seen this in the news or whatever, and we sit down and we talk about it and we have a conversation or anything that happens within the Latino culture, I'm like let's have a conversation about this so we understand it or see why it's wrong or see how we can change our perceptions and thoughts we have on the subject. Like how we can change when it comes to gender roles or all these different things...I sit down with my family, and if I find documentaries, my poor parents, they sit down for many documentaries (laughs).

Karen described how she engages her family in conversations about current events, which at the time of the plática included the disproportionate impact of the COVID-19 pandemic on Black and Brown communities and Black Lives Matter activism due to state-sanctioned police brutality in the Black community. Karen ensures her family critically learns about issues that impact their community. This form of knowledge is structurally kept out of K–12 learning spaces and is minimally available in higher education, which are all contexts her family has not had the opportunity to access in the United States. Therefore, Karen, similar to Latina undergraduates in this research, bridge higher education learning to their families and transmit culturally relevant knowledge in their communities. In doing so, Latina mujeres are leaders in their family's conocimiento, by bringing their families along their journey of growth and consciousness.

Recommendations for future research

This research centers the experiences of Latina undergraduates and the roles and responsibilities that converge with their academics. In doing so, this research expands on the importance and centrality of family during their collegiate experiences. This research demonstrates how the mujeres' intersecting marginalized identities, such as how their experience of the university and family in the U.S., are marked by race, gender,

patriarchy, and immigration. This research shows the intersection of the familial, cultural, and academic contexts in their lives. It has four central contributions to higher education scholarship and analysis of the Latina college experience.

First, this research counters deficit and racist assumptions about the Latinx immigrant family by identifying how family is central to the collegiate experiences of Latina mujeres and by identifying how Latinas contribute to their family while in college. Research must continue to challenge the deficit narrative that has been reproduced about Latinx immigrant families and educational contributions and instead contribute to a counter narrative that highlights the centrality and importance of family in educational experiences and success. Second, this research situates Latina familial responsibilities within the embodied identities and intersecting systems of marginality that shape the experiences of Latinas and their families in the U.S., highlighting the necessity of labor and care Latina undergraduates engage in with their families. Future educational research should situate the experiences of Latina students among the different intersecting systems of marginality that they experience to ensure that a more holistic understanding of their realities is captured. Scholarship that continues to ignore the complexity of the Latinx experience without considering intersecting identities will reproduce the homogenous narrative of Latinx college experiences that ignores the nuances and complexities in student realities in the university.

Third, a Chicana m(other)work situates contributions of Latina students to their parents, siblings, and extended family as central to the wellbeing, survival, and everyday navigation and resistance of the Latinx family and community in the U.S. Acknowledging the contributions of Latina undergraduates to their families and communities from an asset and resistant perspective is important for understanding the complex lives students have and the intersecting and often contradicting responsibilities they carry across and between their academic and familial contexts. Chicana m(otherwork) was fruitful in recognizing and identifying particular ways in which students engage in different forms of familial labor, while situating this labor not as a burden, but a responsibility they have to their families' survival and success in the United

States. Research must continue to explore the intricacies of family in Latina students' lives that understand student contributions as meaningful and collective acts of love, survival, and resistance.

As Latina undergraduates from immigrant families are often the first to pursue higher education, they are also the first to access institutions and navigate processes within the United States that their families are structurally restricted from. The knowledge, expertise, and strategies mujeres have learned along their journeys are imperative for their families' survival and success in the United States. Undergraduate m(other) work labor and contributions are unrecognized by institutions of higher education. Yet, the academic experiences of Latina mujeres are intertwined with the aspirations and commitments to support their families in their daily navigation and resistance to U.S. institutions and inequities.

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Expanding diversity of supervision: Case study of international university supervisors' experience in the United States

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Abstract

This article discusses a research project on international doctoral students' perceptions and experiences of supervising pre-service teachers in the United States. Three international doctoral students at a large public university in the Southeastern United States participated in in-depth interviews and observations of their practicum seminars and of coaching conversations with pre-service teachers. Findings revealed international supervisors' perceived positive contributions that they made in addition to navigating common challenges as they simultaneously had to teach and learn in a new context. Implications include the importance of providing multiple levels of support for international doctoral students who supervise pre-service teachers.

Expanding diversity of supervision: Case study of international university supervisors' experience in the United States

Supervision is a component of the professional development of both pre- and in-service teachers. Sullivan and Glanz (2006) have defined supervision as "the process of engaging teachers in instructional dialogue for the purpose of improving teaching and increasing student achievement" (p. 4). Building on this idea, educational scholars have worked to construct principles and strategies of instructional supervision (Gordon, 2016; Klar, Huggins, & Roessler, 2016). Although these guidelines may be beneficial for the practice of supervision, we posit that research exploring the genuine experiences of supervisors can prove to create a more complete picture of the multiple layers of learning that occur as part of the dynamic process of supervision.

The paucity of studies on supervision in teacher education encourages increased empirical attention on the preparation of supervisors to work with pre-service teachers (Burns & Badiali, 2015; Burns, Jacobs, & Yendol-Hoppey, 2016). In contrast to previous traditions of either faculty members, adjunct educators, retired administrators, or teachers being hired as supervisors for pre-service teacher clinical experience, a visible trend in American universities is to employ doctoral students to supervise pre-service teachers' field experiences (NCATE, 2010; Slick, 1998; Zeichner, 2005). In addition, with around 16,786 international students specializing in education at American higher education institutions (Open Doors, 2019), more international doctoral students will gradually become a key force for supervision of field experiences for pre-service teachers. Since supervision in teacher education has become more culturally sensitive (Arnold, 2016), and many researchers have argued that university supervisors play a crucial role in pre-service teachers' learning experiences (Bates, Drits, & Ramirez, 2011; Darling-Hammond, 2014), the dearth of knowledge on the diversity of supervision as well as the experience of international university supervisors needs to be developed.

To foster a stronger literature base, this study reports on an exploration of the lived experiences of international university supervisors in the United States. As defined in this study, university supervisors are those individuals hired to guide and support the field-based practicum experiences of pre-service teacher education students. To explore data

across cases, the overarching question that guides this research effort is: How do international university supervisors perceive their experiences working in a Professional Development School (PDS) context?

To answer, we asked sub-questions that included:

1. How do international university supervisors perceive their role when working in a PDS context?
2. What are the challenges and benefits for the international university supervisors to work in a PDS context?

Relevant literature

Considering that this study relates to the experiences of university supervisors and pre-service teacher supervision in PDS contexts, this study draws upon the literature with regard to university supervision and PDS supervision.

University supervision in PDS contexts

Along with the call for the high-quality clinical experiences in teacher preparation programs and the systematic school-university collaboration (Burns et al., 2016; Darling-Hammond, 2014; NCATE, 2010), the work of university supervisors who aim to support pre-service teachers and school-based partners has been paid attention (Basmadjian, 2011; Beck & Kosnik, 2002; Hamel, 2012; Lee, 2011; Nguyen, 2009). Based on their meta-analysis of empirical research on pre-service teacher supervision in PDS contexts, Burns et al. (2016) argue that the critical role a university supervisor plays in teacher preparation needs to be reconceptualized. The recognized complexities of university supervision in a PDS context are exemplified by the various reactions and outcomes in working with diverse groups of people.

For example, Gimbert and Nolan (2003) focused on a university faculty member working as a supervisor in a PDS context. Findings showed that the university supervisor successfully built trusting, collaborative relationships with pre-service teachers and was dedicated to supporting the children's learning in schools. In contrast to the experienced supervisor in Gimbert and Nolan's study, Burns and Badiali (2015) explored

the supervisory practices of a novice university supervisor who once was an experienced classroom teacher in the PDS context. They pointed out that the novice supervisor conflated the functions of supervision and evaluation, revealing a hierarchical, evaluative, and standardized way of working with pre-service teachers. Miller and Carney (2009) examined the experience of someone similar to this novice supervisor who was a veteran practicing teacher at the end of her career: a retired teacher who was hired as a university supervisor, indicating her lack of holistic understanding to supervision in PDS contexts.

Although there are studies investigating the roles and practices of university supervisors who are university faculty and retired teachers in a PDS context, missing from the literature is an understanding of the experiences and perceptions of doctoral students as field supervisors traversing between universities and schools and working with different groups of people. Less mentioned is the group of international doctoral students being culturally, racially, and linguistically minoritized in United States teacher education programs and school systems. Therefore, this chapter describes research that illuminated the experiences of international doctoral students who were hired as university supervisors in a PDS context.

A conceptual paradigm for PDS supervision

A conceptual paradigm (see Figure 1) of PDS supervision proposed by Burns and Yendol-Hoppey (2016) undergirds the supervision framework utilized for this study. This paradigm disrupts an enduring divide, in which scholars have explored conceptual paradigms for understanding the developmental process of supervision either solely focused on in-service teachers (Glickman, Gordon, & Ross-Gordon, 2014) or pre-service teachers (Burns et al., 2016) rather than providing a holistic view of PDS supervision. To facilitate learning for all participants in PDS contexts, Burns and Yendol-Hoppey (2016) conducted a comparative analysis of previous literature on supervision paradigms and identified common understandings across the literature to develop an emerging PDS supervision paradigm that includes multiple layers of teaching and learning as outlined in Figure 1.

Figure 1
Adapted paradigm for PDS supervision
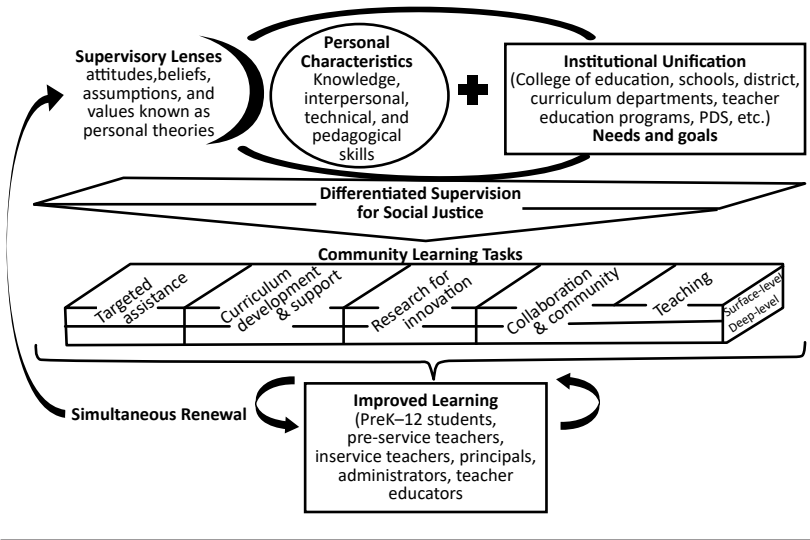
Burns and Yendol-Hoppey's (2016) paradigm argues that PDS supervision requires recognizing, respecting, and developing a complex set of knowledge and skills as well as a personal theory that includes adopting a lens of social justice. Echoing Sergoivanni and Starratt (2007) who point out that supervisors bring their individual beliefs and accumulated knowledge to their work, Burns and Yendol-Hoppey insist that it is necessary to support supervisors to unpack the values and attitudes that likely influence their supervision practices. Additionally, the authors posit that it is important to expand both the general and pedagogical content knowledge of teacher education supervisors. Since a PDS is a complex context, it also requires supervisors to master interpersonal skills to build relationships among various groups of people.

Given that a PDS model is founded on the intentional collaboration between schools and universities, it is essential for the partners to identify shared goals that lead to PreK-12 student learning. However, individuals working within a PDS often have unique goals. Therefore, it is critical that supervisors understand varying individual needs to work

through issues and tensions that often arise as part of this collaborative endeavor. In other words, supervision in a PDS context must be differentiated and requires a "sophisticated understanding of the cognitive, emotional, physical, and psychological dimensions of the various individuals" (Burns & Yendol-Hoppey, 2016, p.112) in a given school context. For supervisors who are not knowledgeable and experienced in both PreK-12 and university levels, this might be a challenge that produces greater tensions that must be negotiated and resolved to effectively work with pre- and in-service teachers.

Finally, Burns and Yendol-Hoppey's (2016) paradigm of PDS supervision indicates that supervisors should engage in the tasks of targeted assistance, curriculum support, research for innovation, and collaboration to build a professional learning community at school sites. These tasks of supervisors in the PDS can lead to simultaneous renewal for all stakeholders through shared professional learning and ultimately result in enhanced PreK-12 student learning. The emerging conceptual paradigm of supervision provided by Burns and Yendol-Hoppey (2016) presents a blueprint that aims to achieve the goals of PDS work in a U.S. context and can be used as a framework for examining the experiences of university supervisors.

Context for the study

This study took place in a large public university located in the Southeastern United States. The Elementary Teacher Education (ETE) program at this university is a five-year program with a dual emphasis in elementary education and working with children with mild disabilities. It is also designed to prepare teachers to support the learning needs of students who are English Language Learners (ELLs). Program themes that guide the development of all coursework and field placements are connected to cultivating values of equity and collaboration as well as fostering a commitment in pre-service teachers to accept responsibility for the learning of all students. Students who graduate from the program are eligible for certification in elementary education, an English to speakers of other languages (ESOL) endorsement, and a reading

endorsement. They have the option for dual certification in special education and elementary education in the fifth year.

Starting at the beginning of their junior year, students enrolled in the ETE program engage in a field placement every semester, gradually increasing their responsibilities and culminating with a yearlong internship during the graduate (fifth) year. This paper focuses on the last semester of students' senior year (Practicum 4) and their graduate year practicums. In both field experiences students are assigned to a K-6 classroom. During the Practicum 4 placement, students work in pairs with a mentor teacher for 16 hours per week over a 16-week semester. It is during this semester that the university uses a PDS model, partnering with local schools that serve high populations of lower socioeconomic, rural children. When students move into their graduate year, they work alone with a mentor teacher for two semesters, which gives them approximately a 32-week experience. The model for this placement does not follow a strict PDS pattern, however, the philosophy of the university is to maintain strong collaborative relationships with the schools where pre-service teachers are placed. In both field experiences, ETE students are integrated into the day-to-day work of the classroom and the school with the guidance of their mentor teacher (a K-6 classroom teacher) and a university supervisor, usually a doctoral student or an adjunct faculty. In both Practicum 4 and the graduate year internship, the university supervisor works as part of a team with the pre-service teacher(s), the mentor teacher, and school administrators to facilitate the professional growth and development of these novice educators.

Methodology

This study adopted a qualitative approach meant to be interpretive and descriptive in nature to study a social phenomenon and gain a stronger understanding of the meaning of the participants' experiences, actions, and relationships (Maxwell, 2013; Merriam & Tisdell, 2016). Since the aim of the study was to understand the lived experiences of international university supervisors working in a U.S.-based PDS context, case study is an ideal methodology because it generates in-depth description and analysis of a bounded phenomenon (Merriam & Tisdell, 2016).

Participant selection

Due to the clear research purpose of exploring the experience and perceptions of international university supervisors working with domestic pre- and in-service teachers, purposeful sampling (Patton, 2002) was used as a guideline to select the study participants. To solicit participants who could share relevant experiences that provided meaningful data and thoughtful insight into the research questions, two criteria for participation were created: 1) origin of home country was other than the United States; and 2) work experience as a university supervisor was longer than one semester.

When the study started in fall of 2017, the three participants – Lee, Su, and Tiffany (pseudonyms) – were university supervisors working with pre-service teachers in the ETE program. Lee was born and raised in China, had completed his master's degree in the United States, and was pursuing his doctoral degree in the College of Education at this university. Su was originally from Turkey and came to the United States to complete her master's and doctoral programs. Tiffany was Jamaican-Canadian, moving from Toronto to the United States for her doctoral studies at this university. While pursuing a doctoral degree in Curriculum and Instruction, all of the participants were hired as university supervisors to support pre-service teachers at site schools. Both Lee and Su worked with undergraduate students in Practicum 4 for more than three semesters, while Tiffany supervised interns at the graduate level for two semesters.

Data collection

To more deeply understand the international university supervisors' perspectives and experiences, interviews and field observations were employed. A semi-structured interview lasting 40-60 minutes was conducted, audio-recorded, and transcribed verbatim with each participant. The purpose of the interview was to generate a dialogue between researchers and participants and to give voice to their genuine experiences of supervising pre-service teachers. In addition to the interviews, two observations of each participants' practicum seminars and their coaching conversations with pre-service teachers were conducted. Field notes

were recorded in an effort to capture the outward, observed behavior of participants and functioned as a depository for detailed descriptions of the settings, interactions, participants' responses, reactions, and non-verbal communication in their work with the pre-service teachers.

Data analysis

Since this study was designed as a collective case study, each single case represented an opportunity for intensive, rich description and analysis (Merriam & Tisdell, 2016). Given the total number of three participants, within-case individual analysis was coupled with cross-case analysis to serve as the major stages of analysis for the study. After all data were transcribed verbatim, an inductive process of coding the interview transcripts and observation notes using guidelines set forth by Merriam and Tisdell (2016) was utilized to analyze each participant's case. Since data analysis is a complex procedure that includes moving back and forth between concrete bits of data and abstract concepts as well as between description and interpretation, numerous readings of the data occurred to identify codes and compose summaries for each participant. This process yielded a comprehensive understanding of each case, including contextual variables, and it allowed for the creation of a codebook that further helped to identify salient themes and build abstractions across cases.

To ensure the trustworthiness of this study, the data collected from in-depth interviews and observations were compiled, analyzed, and triangulated. After the initial process of analysis that identified codes and summarized each participant's experience, member-checking took place to support or refute tentative interpretations. Next, the two researchers re-read and cross-coded each participant's data to ensure the absence of disconfirming evidence and finalized a code book with salient themes. The multiple readings of the data, member checking, and triangulation added to the trustworthiness of the analysis process.

Findings

Based on the interview and observation data across the study participants, below we discuss two major themes that emerged from our

analyses. These included: differences create a double-edged sword, and going beyond compliance to support students.

Differences create a double-edged sword

Data demonstrate that when the international university supervisors in this study engaged with all participants in school contexts, they had to successfully navigate multiple layers of both teaching and learning. Their role was not solely to support pre-service teachers from their institution, but also to provide a platform for learning to faculty and students in local schools and to acquire new understandings that differed from their own cultural backgrounds. This created a situation where these university supervisors were simultaneously teaching and learning. This dichotomy produced a type of double-edged sword that led to the supervisors trying to figure out ways to make contributions to the learning of others while also navigating their own challenges.

Contributions

Since all the international supervisors came to their work from different educational backgrounds, they provided diverse cultural perspectives of teaching and learning during their supervision. For example, although the elementary classroom setting in Turkey is similar to that of the United States, the teachers there are still viewed as the authorities in a classroom. In contrast, in the United States, when confronted with a white mentor teacher working in a homogenous community who perceived a Chinese pre-service teacher's silence as laziness in practicum, Su deeply understood the students' behaviors as a product of the dominant Confucius culture in many Asian countries. As she put it,

> Even if the Chinese student had chances to teach in the classroom, she still saw it as her mentor teacher's classroom. There was some stuff that she was limited with. But the mentor teacher could not get it and she perceived this student as a passive, less-knowledgeable student. She did not see the respect showed from this Chinese student. She expected the Chinese student as an American, so we had the problem. But I could figure it out and then talked to the mentor teacher as well as the Chinese girl. So she later became

active day by day and her mentor teacher perceived her as a more knowledgeable pre-service teacher.

In addition to being able to act as a bridge to support both mentor and pre-service teachers who represented vastly different cultures, international supervisors from linguistically diverse backgrounds shared their personal experience of learning English as a second language and demonstrated more practical methods to teach ESOL students in a mainstream classroom. These actions helped pre- and in-service teachers to work in ways that appropriately met students' needs. As Su pointed out, "Most international students know how to learn a second language. So using their own prior knowledge or personal experience can help these domestic pre-service teachers to teach ESOL students."

International supervisors not only helped to expand the views of teaching and learning for pre- and in-service teachers, but they also provided a fresh vision to supervision when compared to their domestic colleagues who were predominantly white and monolingual. Echoing the research in language education that has shown limited preparation of pre- and in-service teachers to teach English language learners (ELLs) in K-12 settings, international supervisors, such as Lee, pointed out issues and proposed solutions in his supervision. In a specific example of this, Lee said,

> I could see our pre-service teachers do not make much accommodations for ELLs. They are still learning how to teach mainstream students so ELLs could be a burden for them. I could see they are not ready to teach ELLs. That's a problem. I think there should be more collaboration between field supervisors and course instructors. Supervisors should have communications with all the course instructors, like social studies, math, science, ESOL. If supervisors do not know what they learn, it is useless to expect them to do stuff. So supervisors should check the syllabus of all these courses.

Similar to ELLs as linguistic minority students, students of color can represent a racial minority in a mainstream classroom. Compared with a group of predominantly white university supervisors who might randomly talk about racial issues in classrooms as a teaching topic, Tiffany, as a Black supervisor from Canada, employed delicate strategies

to teach pre-service teachers to recognize and critically examine race in the classroom. She explained,

> Since I am a Black supervisor at this university, what I bring positively in my coaching is to help my students to be mindful whether an inclusive classroom is equitable. But I am also mindful how to present racial situations which would be raised properly. I don't want them to receive information about race from me just because I am Black, so it kind of affects my approaches to coach them.

In corresponding to their fresh vision to supervision, three international supervisors addressed criticality as the core of their work. Specifically, they pushed their domestic pre-service teachers to be critical, modeling either critical thinking or critical pedagogy in the process of their teaching. For example, Tiffany pressed her interns to have critical practicum experiences as they were placed in high-needs schools with large numbers of children of color. Specifically, she pointed out, "I would encourage my interns not only to do the things that their mentor teachers ask them to do but also to question why - 'why so many kids are upset every day' instead of just accepting the facts."

Likewise, Lee commented that most domestic pre-service teachers took numerous things in their site schools too much for granted to recognize some of the problems. He interpreted his role as an ethnographer who made key issues evident and as a facilitator for the domestic pre-service teachers to better comprehend these critical matters from local, national, and global perspectives. Lee presented an example of this when saying:

> I remember once, a student proposed a phenomenon that kindergarteners begin to have standardized tests. I did not know this test, but they all knew. So I asked them to explain the tests for me and to discuss implications for the students and the teachers. During the discussion, I also gave them an example of a kindergarten in my hometown, Xi'an, which also asked the students to have three tests before enrollment. This is a typical phenomenon of social reproduction in China. And these pre-service teachers also talked about the social reproduction phenomena in the U.S. schools. By giving them a new perspective and a discussion of international

educational comparison, they could learn more and better under-
stand critical pedagogy.

Rather than allowing them to take their mainstream knowledge for granted, international university supervisors realized the necessity to challenge domestic pre-service teachers' commonsense knowledge and ideologies, providing rich perspectives of the world for domestic pre-service teachers who would play a crucial role in educating the next generation.

Challenges

Along with feeling as if they had much to offer in support of their pre-service teachers, these international supervisors continually talked of challenges they had to navigate. For example, having received their K–12 and undergraduate education from their own countries, these international supervisors had limited knowledge and experience of the U.S. educational system. Despite having done some work in U.S. schools during a previous master's degree program, Lee expressed the concern that he did not know much about how an elementary school works in the United States: "Domestic people, no matter supervisors or pre-service teachers, they are all very familiar to American schools. They know what to do after recess or lunch, but I did not know. I am still learning new stuff about American schools."

In another example of how these international supervisors were challenged, Su talked of being worried about her inadequate knowledge of content that her pre-service teachers needed to learn in their teacher preparation program, since she got her bachelor's degree in teacher education in Turkey. She argued that it was necessary to know all the content knowledge of teaching when supervising domestic pre-service teachers. She described the following scenario as an example:

Like they (domestic pre-service teachers) are taking social studies course, and they use that knowledge into practice. I've got to check if they are doing right, what they are following, and what they are not following. I have to be careful when I suggest them strategies. So, if it does not match with what they expect, like I use what I

learned from Turkey which is a totally different curriculum than here, this is a problem.

Another challenge for these international supervisors was related to navigating difficulties of crossing cultural boundaries to build relationships with school personnel and communities. As an Asian, Lee pointed out the challenges to integrate into the homogenous white school community where he did his supervision. Specifically, he explained:

> You would be unfamiliar with their languages used, and have the school staff, including the administrators, teachers, and staff members, not extremely friendly. Being a part of the school community is hard because the community where the school is embedded is a pretty homogenous community of low-income, white, with not so much diversity. Maybe the students there have never seen an Asian teacher in their lives in the past. Building the relationship with the school staff, with teachers, to a very small degree with the students in the classrooms, is a long process.

Furthermore, these international supervisors felt incapable of helping pre-service teachers when faced with unfamiliar social issues. As Su mentioned the case above that a Chinese pre-service teacher was misunderstood by a white mentor teacher, she conveyed being upset, "When the Chinese girl faced with a racist mentor teacher, I realized I was insufficient in that. We do not have racism in Turkey. So, I need to get some help from my supervisor."

Even being familiar with racial issues, Tiffany, as a Black university supervisor, felt helpless when seeing segregation and the implicit racist behaviors displayed within a school due to the actions of white adults. She described the following incident as an example that was a challenge for her,

> At the beginning of last semester, it made me really sad that one of my interns treated Black students badly. It affected me emotionally. So, I guess it would be in a positive way for the Black students that it is cool to see me coaching interns in the school.

Even though the inherent racial issues in U.S. schools led to feelings of being incapable and helpless that these supervisors had to constantly negotiate, ultimately, it was their sense of having places where they

could contribute that helped to sustain them in the work they were doing with their pre-service teachers and school communities.

Beyond compliance: Devoted to supporting students

The official responsibilities of university supervisors in both Practicum 4 and the internships include conducting school visits, completing teaching observations and evaluations, and facilitating a support seminar for their pre-service students. In addition to being capable of describing their supervisory job in detail, these international supervisors talked of instances where they went beyond simple compliance with their responsibilities and specifically underscored their roles as key supporters of the pre-service teachers as well as the minority children in the classrooms.

Support pre-service teachers

In addition to supporting pre-service teachers' professional development, both Tiffany and Lee felt as if they treated the pre-service teachers as genuine friends and families. Tiffany claimed that it was crucial for her to truly understand her interns and for them to be honestly open with each other. She discussed an incident one semester when an intern of hers switched her placement classroom because something bad had happened. Tiffany insisted that her intern did not need to pretend that everything was fine; rather, she wanted her to know that she would stand up for her students whenever they need her. Specifically, she said,

> I know the relationship is complicated. But for me, trying to understand my interns and how we are able to be open with each other is what I am learning to do. Even if they tell me something bad, I just want them to know I am here to support them.

Similar to Tiffany, Lee emphasized the need to be a strong emotional and social supporter for his pre-service teachers. He pointed out that the ETE program was very demanding of the pre-service teachers in terms of workload:

> They take three courses as well as go to placement 16 hours a week. They have to wake up so early. I try to be their support when they need emotional and social support. For example, the post-observation conversation sometimes lasts for 2 hours. If it is only

> a job for someone, he or she might only take 15 minutes to half an
> hour. I value being a support for 2 hours for our pre-service
> teachers.

These international university supervisors saw the value of supporting pre-service teachers both emotionally and professionally and as a result demonstrated strong support in the ways that they best knew how. Abandoning the role of being authoritative, they chose to build relationships and trust with their students in a way that infinitely supported them in their learning as novice teachers. These supportive actions appeared to give the supervisors a sense of pride, as evidenced by their frequency of elaborating on the support they provided to their pre-service teachers.

Support minority students at schools

Data revealed that the international supervisors in our study did not solely view their work as being for the benefit of the university. Instead, they perceived themselves as a member of a PDS partnership and as such they tried to support all participants in the school communities as best as they could. One of the groups they felt responsible to support was the minority students in the classrooms where they supervised. Instead of ignoring ELLs and only focusing on teaching strategies for mainstream students, Su mentioned the importance of offering extra methods to monolingual English-speaking pre-service teachers that helped support ELLs. By the same token, Lee encouraged his pre-service teachers to try their best to support this group of students due to the mainstream negative attitudes towards them. He explained,

> This is their (ELLs) fifth grade. If we do not do enough, once they
> get into middle schools, fewer teachers believe that they have responsibilities of the language part, so lots of work needs to be done
> in this semester.

In addition to supporting linguistic minority students at site schools, Lee purposefully designed a seminar topic about homeless students. He shared his concern, "We rarely hear people talking about how to help homeless students. When I saw one of you mentioned this in the reflective journal, I knew it is necessary to talk about that." His goal in doing this was to generate deep conversations among his pre-service teachers

who were mainly from middle-upper class families to prepare them to support this specific group of students.

Discussion and implications

Based on Lee, Su, and Tiffany's experiences, it becomes apparent that the potential knowledge base of international supervisors can play an integral role in cross-cultural supervision. On the one hand, they engaged in efforts to make full use of their schooling experiences and the knowledge they acquired from their home countries to provide domestic pre- and in-service teachers with diverse cultural perspectives of teaching and learning. However, on the other hand, due to the specific knowledge accumulation underlying their distinct cultures, these international doctoral students who served as supervisors felt challenged to know detailed elements of the U.S.-based elementary educational system right away. Aligned with the ultimate goal of a PDS that creates the positive climate for supporting professional learning among all participants (Nolan & Hoover, 2011), all three international university supervisors helped pre- and in-service teachers expand their views of teaching and learning while they also worked on a personal level to learn more about the educational system and society in the U.S. context. Additionally, these international supervisors recognized the necessity of supporting racially, linguistically, and socioeconomically minoritized students. Specifically, sustaining to foster critical reflection (Burns et al., 2016), both Lee and Tiffany challenged the pre-service teachers' commonsense knowledge as well as beliefs, underscoring the importance of employing critical pedagogy and critical thinking during practicum experiences as well as all types of professional development for pre- and in-service teachers.

As Burns and Yendol-Hoppey (2016) point out, it should be a collective responsibility of each person to contribute as learning leaders in a PDS context. From this type of thinking it follows that there are implications that can be discerned from our study to better support international students' endeavors in university supervision. First and foremost, it is pivotal for education faculty in teacher education programs to recognize the valuable contributions of the international doctoral students who could make in the field of clinical supervision. In addition to

preparing international supervisors with a strong supervision knowledge base and skill set, coaching trainings and shadowing opportunities with experienced university supervisors prior to beginning solo endeavors in U.S. schools could also be provided. Furthermore, to help international supervisors better understand the national or state criteria of all subjects in elementary education, university faculty should initiate conversations between course instructors in their teacher education programs and those who they employ as university supervisors out in the schools. Such collegial conversations would support pre-service teachers to better connect content and classroom practice. Moreover, local schools that serve as a professional learning stage for all educators could provide school visits to international doctoral students before they begin their work. This will prepare them for their supervision work by helping to build relationships with school personnel and school community early. To help facilitate their integration into the school community, local schools can also hold regular meetings for international university supervisors and mentor teachers to reflect on their collaborative work. This could potentially be facilitated through university faculty who work with local elementary schools where pre-service teachers are placed for practicum experiences.

Conclusion

This paper endeavors to examine the lived experience and perceptions of international university supervisors working with domestic pre- and in-service teachers in a PDS context. While the distinct educational and teaching backgrounds of international university supervisors led to certain difficulties for them when working in United States-based elementary educational contexts, they also made enormous contributions to all participants in the university-school partnership. They accomplished this by providing diverse cultural perspectives of teaching and learning, going beyond compliance to deeply support pre-service teachers and minoritized students, and by constructing critical learning components that facilitated pre-service teachers' professional development. What was most striking about the work of these doctoral students was how they successfully navigated a line between teaching while at the same time learning. In the end, we posit that it is incumbent upon programs of

teacher education to work to effectively to support the learning of these international university supervisors to expand the diversity of supervision that truly supports a more multicultural education for their pre-service teachers.

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Personal perspectives: International students

"Today we're learning about planets": Language and literacy in a Brazilian immigrant child's tutorial videos

Mariana Lima Becker

Abstract

Drawing on a theoretical framework based on Cultural Modeling (Lee, 2001, 2006; Lee et al., 2003), this case study investigates the production of tutorial videos by a second-generation Brazilian immigrant child (7 years old) in the United States. These digital compositions were authored either independently or in collaboration with the child's mother, a first-generation Brazilian immigrant. The analysis of tutorial videos suggests that they opened spaces for the child to engage meaningfully with subject-area content taught at school and create multimodal, multilingual, and collaborative productions that tapped into her emergent digital literacy skills. These findings present implications for educators since the skills found in these tutorials are reflected in the English Language Arts Common Core State Standards. This chapter highlights the importance of deeply understanding immigrant children's language and literacy practices outside of school and building connections to scaffold academic learning.

"Today we're learning about planets": Language and literacy in a Brazilian immigrant child's tutorial videos

> Hello guys! Today we're learning about planets. [...] So, our planet is not this little [shows small Styrofoam globe to the camera], it's that [opens arms widely], more than that! So, these places [points to spot on the globe] is our *país* [country]! And do you know the names *Brasil*, *México*, America? Every *país* we are. And every *país* is important. [...] and you'll see after my next video. Bye! (Arco-íris, 09/2019)

Arco-íris (pseudonym chosen by the child, meaning "rainbow" in Portuguese) loves to get home from school in the afternoon and go straight to her bedroom to grab her small tablet and make a variety of videos, including those where she talks about what she learned at school that day. Sometimes these videos involved Arco-íris' mother, Maria, a first-generation Brazilian immigrant, who was often tasked with holding the tablet and acting as an off-camera director during those video productions in their apartment in the Northeastern United States. The authoring of videos—and other common practices of immigrant families in the United States—involves complex social, cultural, cognitive, and linguistic competencies (García-Sánchez & Orellana, 2019). Although for several decades educational research understood these families' funds of knowledge through a deficit or difference lens, there has been a crucial shift toward positioning the language, literacy, and cultural practices of non-dominant families as resources to honor and extend (Ladson-Billings, 1995; Paris, 2012). Recent studies have documented, for example, the language and literacy skills cultivated by immigrant children and youth through participation in church classes and services (Ek, 2019; Pacheco & Morales, 2019), informal play, and language brokering (Dorner et al., 2008; García-Sanchez, 2014, 2019). Several of these studies also suggested that schools can leverage these language and literacy practices to support children's academic learning. In this chapter, I argue that Arco-íris' authoring of videos points to how children show their repertoire of knowledge through different mediums, build on this knowledge to create artifacts and, in the process, develop competencies that can support academic learning.

Using a theoretical framework based on Cultural Modeling (Lee, 2001, 2006; Lee et al., 2003), this case study explores the authoring of tutorial videos by Arco-íris, a second-generation Brazilian immigrant child (7 years old) in the United States. Close analyses of her videos suggest that they opened spaces for the child to meaningfully engage with subject-area content taught at school and create multimodal, multilingual, and collaborative productions that tapped into her emergent digital literacy skills. Moreover, the competencies and skills found in her tutorials are reflected in the expectations of the English Language Arts (ELA) Common Core State Standards (CCSS). Therefore, the authoring of tutorials presents novel possibilities for schoolteachers to design lessons and curricula that leverage immigrant children's language and literacy practices cultivated in homes and communities.

This chapter begins with a brief overview of the literature that informs this study, focused on transnational childhoods and digital literacies, and the theoretical framework that guides my analysis and interpretation of the child's videos. Next, the methods for data collection and analytical procedures are introduced, along with descriptions of the focal participants and the research setting. This is followed by the findings, which foreground the creative ways that the focal child mobilized multiple language and (digital) literacy skills in her tutorial videos. After discussing these findings, I connect the skills found in Arco-íris' tutorials to those expected by the ELA CCSS at the second-grade level. The chapter ends with concluding reflections, stressing the importance of learning from and leveraging immigrant children's practices outside of school.

Literature review

Transnational childhoods

The notion of transnational childhoods draws on the lens of transnationalism (Basch et al., 1994) which stresses that (im)migrants can maintain social networks across more than one physical terrain and remain connected to various places through multiple practices (Gardner, 2012; Oliveira, 2018). From this perspective, children with transnational lives

are assumed to inhabit childhoods that differ in many aspects from those experienced by children whose families have resided in the United States for generations (Orellana, 2009).

For example, transnational children were found to operate with a comparative lens, often juxtaposing life "here" and "there" based on their experiences and/or imaginaries that cut across geographies (Oliveira, 2018, 2019). They have also been described as routinely and skillfully traversing various, and at times conflicting, cultural traditions, values, and expectations (Dorner et al., 2008; García-Sanchez, 2014). Studies have also suggested that children and youth with ties to multiple physical terrains engage in transnational networking and communication that open spaces for learning (Compton-Lilly et al., 2019; Cuban, 2014; Lam, 2009). This chapter argues that one such space is the homemade video, a creative form of digital composition that is routinely assembled worldwide by children, youth, and adults and that can be shared with audiences in different geographical locations through social media.

Digital literacies

In the 21st Century, intensified globalization and technological diffusion have extended children and families' use of digital technology and created the conditions for new literacies to emerge (Anderson et al., 2010). Lewis Ellison and Wang (2018) indicated that individuals are engaging in digital literacies—which refer to "their culturally and socially situated use of technologically mediated forms of communication" (Wargo, 2019, p. 3)—for pleasure and closeness within their families. In doing so, they leverage a variety of digital tools to generate spaces for affinity and collaboration. Studies in the field of digital literacies have also shown how children and youth use technological tools such as the computer (Davidson, 2011) and video games (Lewis Ellison, 2014) in their homes to socially accomplish a range of activities.

Authoring homemade videos can constitute a powerful digital literacy practice, as these videos can serve as tools to sustain communication and transnational social fields (Orellana et al., 2001). As noted by Orellana and colleagues (2001), "video images can cross national borders even when the people captured in them cannot" (p. 586). They may

cultivate feelings of affection or fuel rivalry among family members in different physical locations. Despite their potential and mobility, transnational children and families' videos are seldom examined by education or literacy scholars as spaces for learning. In light of the prolific video production of the main participant in this study, a 7-year-old (Arco-íris), this chapter investigates the language and literacy skills involved in one specific form of homemade video, namely *tutorial videos* or *tutorials*, in which the child explains something or demonstrates a procedure to the camera.

Theoretical framework: Cultural modeling

To analyze and interpret the various moves observed in Arco-íris' tutorials, this chapter draws upon the Cultural Modeling framework (Lee, 2001, 2006; Lee et al., 2003), which pushes for "detailed analysis of routine everyday practices, examining modes of reasoning, concepts, and habits of mind entailed in everyday problem-solving" (Lee, 2006, p. 308). In her work with African American high school students in an urban district, Lee (2001) demonstrated that these adolescents were routinely using strategies for interpreting metaphors, symbols, irony, and satire when engaging in the language practice of signifying. Here, signifying consists of a genre of talk that has been passed down for generations within African American speech communities and involves various categories, including ritual insult, rapping, and loud talking (Lee, 2001). At the same time, the strategies used tacitly by African American youth who participated in signifying were not only required to negotiate literary texts found in schools, but were also elements that novice readers struggled with when engaging with canonical works of literature. Lee's work (Lee, 2001, 2006; Lee et al., 2003) showed the generative possibilities of designing instruction and curriculum that leveraged students' prior knowledge and made their tacit strategies more explicit and applicable to the interpretation of literature at school.

As pointed out by Orellana and Eksner (2006), this approach differs from proposals to simply bridge the discourses, norms, and values of home and school. Rather, cultural modeling emphasizes "the generative role of cultural funds of knowledge and the specific ways in which

one set of skills can be transformed for use in another setting" (p. 4). Following this tradition, Orellana and Eksner (2006) identified specific skills embedded in the language practices of contestation and mediation performed by Turkish youth in Germany and Mexican youth in the U.S. The authors showed that these practices emerged as responses to identities imposed upon the youth by interlocutors and encompassed linguistic skills that could be leveraged to foster academic literacy development (e.g., metalinguistic, metacognitive, and metacultural awareness). Building on this work, this chapter focuses on the practices enacted by one child with a Brazilian immigrant background when authoring tutorials, elucidating potential connections between her video production and the ELA CCSS. It also suggests that immigrant children demonstrate their repertoires of language, literacies, and social constructions through different mediums and build on their multiple sources of knowledge to produce multifaceted artifacts, such as tutorials.

Methods

This project adopted a case study design (Creswell & Poth, 2018; Stake, 2005) to examine how the language and literacy practices of transnational families were mediated by mobile media technologies and served to connect kin distributed across countries. Specifically, this case study focused on one Brazilian immigrant child (Arco-íris) and her mother (Maria) in the United States. This case also involved ethnographic procedures (Fusch et al., 2017) to establish rapport and generate deeper understandings of the focal participants' perspectives and experiences. These procedures included prolonged engagement in person and via phone, triangulation across data sources, and member checking.

Focal Participants

Arco-íris. Arco-íris was six years old at the outset of this study and turned seven over the course of this research. She was born and raised in the United States and has never physically been to her mother's country of origin, Brazil. At the time of the study, she attended a bilingual program (Portuguese-English) in a local public elementary school and

most of her school day in first grade unfolded in Portuguese. Arco-íris is a curious and communicative child who watches YouTube videos every day and describes herself as a fan of CookieSwirlC, a YouTube channel that features stories through roleplay and voice acting. Arco-íris also loves playing Roblox, an online entertainment platform that allows users to create and play together in 3D worlds through smartphones, tablets, or computers. When playing Roblox, I watched her carefully choosing the outfits and accessories for her avatar. Arco-íris also uses the "voice memos" app and the built-in camera on her tablet to record her performances.

Maria. Maria is in her late 30s, was born in Brazil, and immigrated to the United States more than 16 years ago. Since she divorced Arco-íris' father, Maria became the primary provider for herself and her daughter, working seven days a week at a supermarket and coffee shop. She describes herself as not speaking any English, although in our conversations she would often say isolated words in the language. She described herself as connected to the lives of her family members living in Brazil by communicating with them every day through the free messaging and calling application WhatsApp.

Setting
This study took place in Maria and Arco-íris' one-bedroom apartment in a busy city in the northeastern United States that has traditionally seen a high influx of Brazilian immigration (Siqueira & Lourenço, 2006). The vibrant presence of this immigrant group in the local community and state is evident in the growing number of Brazilian churches, the circulation of newspapers written in Brazilian Portuguese (e.g., *The Brazilian Times*), and the prolific artistic production by members of the Brazilian immigrant community (Rubinstein-Avila, 2005; Tosta, 2005).

Data generation
Data for this study were collected over 10 months (November 2019–August 2020). The following data sources were collected:

1. Field notes of 10 home visits (2–4 hours long) and 10 phone calls (16–47 minutes). All field notes were transcribed within 24 hours of each in-person visit or phone call.
2. 30 artifacts, including drawings and photographs.
3. A collection of 39 videos (~82 minutes) produced by the child with or without her mother.
4. One semi-structured individual interview with each of the two focal participants (~1 hour each) conducted in person.
5. One individual interview with each of three family members in Brazil (~30 minutes each) conducted over the phone. This chapter focuses primarily on a sub-collection of 7 tutorials (~13 minutes total) created by Arco-íris, at times involving her mother. These videos range in duration from 50 seconds to 2 minutes and 59 seconds.

Data analysis

The data analysis co-occurred with the data collection. First, the videos were transcribed multimodally (Flewitt et al., 2014) through the creation of matrices inspired by prior work in the area of digital literacies (Lewis Ellison, 2014). The layout of these matrices included columns for time length of a segment of interaction, visual frame (screenshot representing a segment), language/soundtrack, and kinesics action. Once the videos were transcribed, they underwent a first cycle of coding, being analyzed according to inductive (e.g., descriptive) and deductive codes that derived from the literature on transnational childhoods, digital literacies, and cultural modeling (Miles et al., 2014). Examples of inductive and deductive codes are displayed in Table 1.

Analytic memos and jottings were written throughout this first coding phase, signaling emerging ideas, connections, and interpretations. A second cycle of pattern coding was conducted, in which codes were integrated during the process of creating overarching categories. The findings below derived from the following broad categories: review of content-area knowledge, linguistic practices, collaboration, multimodality, and literacy skills/strategies.

Table 1
Sample coding

Inductive codes	Example of evidence from the data	Deductive codes and guiding literature	Example of evidence from the data
Design choice	2 dolls with different skin colors to tell MLK's legacy 	Literacy strategy (Cultural Modeling)	Enactment of a segment of the story (death of MLK)
Greeting audience	"Hello guys"	Mode of reasoning (Cultural Modeling)	Memory skills (definition of country in video about planet)
Announcing next steps	"Okay let's get started! I'm gonna tell all about his speech."	Comparative lens (Transnational childhoods)	Discussion about the spread of Covid-19 in Brazil and the United States.
Closing message	"Make sure to subscribe! Bye!"	Bi/multilingual skills (Transnational childhoods)	"Olá, pessoal. Um outro *warning* de Covid-19! […] Você tem que olhar pra TV, pros *news*, e acreditar."*

Note. *English translation: Hi guys. Another *warning* about Covid-19! […] You have to watch TV, the *news*, and believe [it].

Findings

Reviewing content-area knowledge

Tutorial videos opened spaces for Arco-íris to revisit knowledge taught at school and talk about content-area concepts that resonated with her. When creating these videos, the child engaged in several linguistic practices and literacy strategies. For example, in January 2020 Maria reported that Arco-íris arrived from school and went straight to her bedroom to make a video about Martin Luther King Jr. She chose a specific spot in her room, grabbed her pink-cased tablet, and gave it to her mother, asking if she could hold the camera in a way that captured the background. Arco-íris also grabbed two dolls from a nearby shelf and a handout from her backpack. Speaking in English to the camera, she shared her developing understanding about the civil rights leader, as can be seen, in Table 2, from the written excerpt taken from the video.

The link between Martin Luther King Jr. and the struggle for racial justice was made evident by the child through various design choices, including the video background, which presented a self-portrait of a girl of color, and the dolls with different skin colors. In addition to these non-verbal signals, the child explained MLK's legacy in the fight for equality (e.g., he "changed all the rules that were unfair"), made accurate allusions to one of his speeches (e.g., "he had a dream," his children would not be judged by the color of their skin), and reported that he was fatally shot. According to Arco-íris, she made this video because she felt excited about learning about Martin Luther King Jr. in social studies class, a content-area subject taught in English in her bilingual first grade. The authoring of this tutorial allowed the child to engage in linguistic practices, such as explaining and summarizing, and draw upon literacy strategies (e.g., enacting parts of a story) and modes of reasoning (e.g., memory skills) (García-Sánchez, 2019).

In another tutorial, Arco-íris shared her understanding of planets and countries after a school lesson about maps. While Maria silently held the small tablet to record the child, Arco-íris held a Styrofoam replica of the planet Earth in her hands and addressed the multiple colors used to represent different countries: "Hello guys, did you notice that the planet,
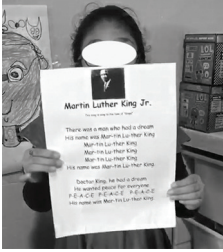
Table 2
Martin Luther King Jr.

Frame	Visual frame	Language/soundtrack	Kinesics action
1	(00:11)	Hello guys, we're learning about Martin Luther King, the greatest guy that changed all the rules that were unfair. Okay let's get started! I'm gonna tell all about his speech.	Grabs handout and points to MLK's picture. Then places handout on the bed, looks to the camera and moves both hands up and down as she speaks.
2	(00:35)	He had a dream, that he would- he uh he wanted peace for every-body and- never fight. And he also had a dream that his kids will <u>never</u> ever matter about their color. It will matter about their love.	Grabs two dolls and holds one in each hand. As she speaks, she approxi-mates and distances the dolls from each other.
3	(00:46)	<u>And</u>. One little fact. He want- every-one in this whole world, he wanted peace. And that was all he said.	Places dolls on the bed, opens her arms and then lowers them.

Table 2, continued

Frame	Visual frame	Language/ soundtrack	Kinesics action
4	(00:11)	Hello guys, we're learning about Martin Luther King, the greatest guy that changed all the rules that were unfair. Okay let's get started! I'm gonna tell all about his speech.	Grabs handout and points to MLK's picture. Then places handout on the bed, looks to the camera and moves both hands up and down as she speaks.
5	(00:35)	He had a dream, that he would- he uh he wanted peace for every- body and- never fight. And he also had a dream that his kids will <u>never</u> ever matter about their color. It will matter about their love.	Grabs two dolls and holds one in each hand. As she speaks, she approxi- mates and distances the dolls from each other.

Note. In all transcripts displayed in this paper, <u>underlined</u> words were spoken by the child with emphasis. A hyphen (-) represents cut-offs and *italics* were used to highlight words in a language other than the main one spoken throughout the video.

it's a ball? Well, the places are a little bit different… than the other places. Like you know you see these rainbow things? So, it is called the *países* [countries] in Portuguese. Now, it's something really serious. No funny, no laughing, nothing. Eyes on me." Here, the tutorial again opened a space where the child engaged in the linguistic practices of ex-

plaining, describing, and summarizing concepts covered in school (e.g., countries on the map), while emulating the language used by classroom teachers (e.g., "eyes on me"). Thus, Arco-íris showed her repertoire of content-area knowledge, skills, and strategies through tutorial videos while tapping into multiple sources of knowledge (e.g., social studies content, Portuguese language, teachers' talk) to create these artifacts.

Bilingualism and multimodality

The tutorials created by Arco-íris were multimodal productions, articulating modes of meaning that included oral language and gestural, spatial, and audio designs. A range of props and everyday materials were used to illustrate important points of the child's narrative and facilitate meaning-making. These objects included books, dolls, drawings, handouts, and food. An example of how gestures, oral language, and material items were mobilized by the child can be seen in the following transcript from a tutorial about toothbrushing. Arco-íris alone authored this video in the summer of 2020. According to Maria, the child quietly took her tablet to the bathroom when told to get ready for bedtime on a regular weeknight, propped it against the bathroom sink, and recorded her video without her mother's knowledge. Later that evening, Maria found it in the camera roll of the tablet (see Table 3).

In this video, Arco-íris spontaneously shared with an audience how she brushed her teeth before going to bed, a hygiene habit that Maria had taught her many times. Rather than explaining the process, the child enacted the toothbrushing, modeling a sequence of steps. Her smile at the end of the video (frame 7) illustrated the finished product of her toothbrushing after following all of the steps. Second, although this video is in English, she spontaneously used a Portuguese word (*pasta*) when using the toothpaste. Catering to an English-speaking audience, the child interrupted the process to ask the viewers if they understood the word ("Hey, get it?" in frame 4) and then clarified its meaning both verbally, saying "*Pasta* is my toothpaste," and non-verbally, showing the toothpaste on her toothbrush to the camera. This sense of audience awareness is an important literacy skill that can be leveraged by educators (Orellana & Eksner, 2006). Moreover, the child's wide range of

Table 3
Toothbrushing

Frame	Visual frame	Language/ soundtrack	Kinesics action
1	(00:01)	A: Hey guys!	Looking at the camera, snaps fingers twice.
2	(00:06)	A: I'm gonna show you how I brush my teeth <u>in the night</u>.	Points both fingers to the camera and then turns to her left reaching for something out of the frame of the camera.
3	(00:11)	A: *Okay just... *Pasta* [toothpaste]	Looking to her left. Serious facial expression. *Soft voice.
4	(00:16)	A: Hey get it? *Pasta*. *Pasta* is my toothpaste.	Smiles, still looking to her left. Turns back toward the camera. Brings left hand toward the camera, holding toothbrush.

(continued)

Frame	Visual frame	Language/ soundtrack	Kinesics action
5	(00:43)	A: And now let's get that right here and…	Turns gaze and body to the left. Moves right hand and a sound emerges and seizes quickly (running water). Then turns back to the camera and inserts toothbrush in her mouth, brushing teeth for 26 secs non-stop.
6	(00:47)	M: *Cabou Arco-íris*?? [Have you finished, Arco-íris??] A: *Tô acabando*! [I'm almost done!]	Maria's voice (impatient tone) can suddenly be heard. Child interrupts on-going action, turns her head to her left and yells response.
7	(01:09)	A (1): That's my video. A (2): Make sure to subscribe! Bye!	Turns back to the camera and continues toothbrushing. Spits. Says (1). Washes toothbrush, grabs cup, fills it up and briefly gargles. Points to the camera using both hands and utters (2). Smiles.

linguistic choices was evident in her engagement in codeswitching, or juxtaposing two different grammatical systems within the boundaries of a clause/sentence or at clause or sentence boundaries (e.g., "it is called the *países* in Portuguese"; "Okay just... *Pasta*") (García, 2009). In the toothbrushing video, her flexible language use was also noticeable when she replied to Maria in Portuguese while authoring a video in English.

Participatory culture and collaboration

Examining Arco-íris' tutorials revealed that she tapped into her digital literacy skills, such as engaging in a participatory culture and collaboration (Arroyo, 2013) in the process of learning and creating. Although an avid YouTube user, Arco-íris did not have a YouTube account or a social media page where she could share her videos with an audience. Instead, her audience was Maria and her maternal relatives who lived in Brazil and received her videos via the application WhatsApp every week. Despite this pattern of circulation, the child adopted language moves from her favorite YouTubers, including initial greetings (e.g., "hey guys"), followed by an announcement of the topic of the video (e.g., I'm gonna show you how I brush my teeth), and a closing message, such as "make sure to subscribe," despite her lack of a YouTube account. Thus, this 7-year-old did not just consume digital media content, but actively produced it with the resources available at home, on the platforms she was allowed to use and centered on themes connected to her everyday life and interests. While introducing her own innovations, Arco-íris was in dialogue with the content she regularly accessed online. Her desire and willingness to be part of and contribute to a community of content producers online fueled her authoring of videos and motivated her to experiment with language styles and multimodal resources.

Arco-íris shared during an individual interview that she felt more comfortable and by far preferred to create videos in English. However, when inviting her mother to co-author a video, the child had to negotiate the language to be spoken since her mother did not feel confident about her English skills. Therefore, collaborative productions were predominantly in Portuguese. Maria always held the camera, and while never captured in the frame, her voice was sometimes part of the narrative to dialogue with Arco-íris. In April 2020, during the COVID-19 outbreak, Maria and Arco-íris collaborated in a video in which the child taught the audience how to wash their hands. The video began with the following exchange (see Table 4).

Here, tasks were distributed between Maria and Arco-íris. The mother greeted the viewers and introduced the topic of the video while the child reinforced the main purpose of the video and explained and

enacted the process of properly washing hands. This moment of collaborative authoring of a video was also infused with teaching and learning. Throughout the video, Arco-íris displayed what she knew, and Maria had the chance to compliment what the child did right and also guide her in moments of confusion, such as when Arco-íris said that it was necessary to rub both hands for 15 minutes straight to kill the germs. Schools and educators can learn from and leverage the multimodal, multilingual, and collaborative ways to use digital media already taking place in immigrant households, such as in the production of tutorials by Arco-íris.

Discussion

The analyses of a Brazilian immigrant child's tutorials in the United States revealed the multifaceted ways in which she displayed and built on her repertoire of knowledge (e.g., subject-area content, procedures taught by her mother, teacher discourse) to create digital compositions. On one level, these videos opened spaces for the child to talk about what she enjoyed to learn at school and created avenues for mother-daughter collaboration. However, close examination of the child's tutorials also revealed a more complex dynamic, such as an amalgam of linguistic practices, literacy strategies, forms of participation, and modes of reasoning (García-Sánchez, 2019) that animate these digital compositions. Moreover, the analyses suggest that the prior knowledge and tacit strategies mobilized by the child in her everyday digital literacy practice of authoring tutorial videos at home are required in school learning and can be explicitly leveraged in curriculum and instruction (Lee, 2001, 2006; Lee et al., 2003).

Arco-íris' transnational life, knowledge, and connections also illuminate the value and sophistication of her tutorial videos. First, her tutorials were curated regularly by Maria and sent to relatives in Brazil, allowing physically distant family members to watch Arco-íris grow up and have a glimpse into her educational development. This is crucial since, for several transnational families, physical separation is often justified on the grounds of providing a better education for one's children (Oliveira, 2018; 2020). I argue that digital literacy practices, including the (co)authoring of tutorial videos, were important pieces in a larger

project of doing-being-family transnationally for those in Brazil and the United States. Importantly, tutorials also indicate the child's active role in sustaining transnational networks formed along kinship ties (Orellana et al., 2001). Furthermore, the analyses of Arco-íris' videos corroborate prior studies that position transnational networking communication as harboring learning spaces (Compton-Lilly et al., 2019; Lam, 2009). Tutorials were a common avenue to communicate and keep in touch with relatives in Brazil and, through the process of authoring these videos, Arco-íris could tap into and develop tacit skills and strategies. Finally, through her tutorials, the child also practiced traversing different cultural

Table 4
Washing hands

Frame	Visual frame	Language/soundtrack	English translation
1		M: Aí pessoal, a Arco-íris vai ensinar como se lava as mãos direitinho, como é que ela aprendeu, né Arco-íris? Pra você poder evitar contaminação. Então ela quer explicar, o que é que você quer explicar? A: Eu quero explicar a vocês como lavar os mãos [sic] por causa do- aqueles monstrinhos do *coronavirus*, então é assim como lava os mãos [sic] agora.	M: There guys, Arco-íris will teach how to wash hands properly, the way she learned, right Arco-íris? For you to avoid contamination. So, she wanna explain, what do you want to explain? A: I want to explain to you how to wash the hands because of- those little coronavirus monsters, so this is how you wash the hands now.

Table 4, continued

Frame	Visual frame	Language/ soundtrack	English translation
2		M: Tá então vamos lá, filha, como é que você aprendeu? A: Você abre a torneira com água morninha, aí você molha um pouco, depois você seca um pouco e depois pega um pouquinho de sabão, faz assim [...]	M: Ok then let's go, daughter, how did you learn? A: You open the faucet with water a bit warm, then you wet [hands] a little, then you dry [hands] a bit and grab a bit of soap, do this [...]

values and expectations (García-Sanchez, 2014). For example, aware of (or imagining) an audience with diverse experiences and abilities, Arco-íris used multiple languages and sources of knowledge and explained potentially unfamiliar concepts in her video performances. In the next section, I turn to how Arco-íris' tacit skills and strategies evinced in tutorials that can be leveraged by educators to support academic learning (Orellana & Eksner, 2006).

Implications

Connections can be made between the practices that Arco-íris enacted in her tutorials and the ELA CCSS for speaking and listening at the second-grade level. According to such standards, educators are expected to apprentice children into participation in "collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups" (CCSS.ELA-LITERACY.SL.2.1.A) (NGA Center & CCSSO, 2010). In Arco-íris' co-authored videos with her mother, they negotiated the language to be spoken and established roles in ways that built upon each other's talk and respected their individual contributions. Moreover, according to the ELA CCSS, second

graders should be able to "recount or describe key ideas or details from a text read aloud or information presented orally or through other media" (CCSS.ELA-LITERACY.SL.2.2) (NGA Center & CCSSO, 2010). On many weekdays, when getting home from school, Arco-íris made tutorials recounting information that she had just learned in her school classes. The space for retelling in tutorials can be leveraged by teachers to include children's interpretations of book readings and other target academic concepts or content. Finally, the ELA CCSS also expects that second graders will "create audio recordings of stories or poems; add drawings or other visual displays to stories or recounts of experiences when appropriate to clarify ideas, thoughts, and feelings" (CCSS. ELA-LITERACY.SL.2.5) (NGA Center & CCSSO, 2010). In Arco-íris' tutorials, we see seeds that can grow into this standard. Students can be encouraged not only to write stories or poems but to enact and film their performances. In the process, they might use objects to illustrate concepts and facilitate their audience's comprehension, such as Styrofoam globes, posters, and dolls.

Conclusion

Arco-íris' video tutorials were invisible at school. When she used technology in her formal classes, it was often in the form of Chromebooks in which Arco-íris and her classmates played the same math and literacy learning software every week. While working with students to help them improve how they presented their knowledge and ideas, educators in her first grade remained unaware that the child routinely created tutorials at home in which she engaged with content-area knowledge, mobilized multimodal avenues to make meaning, showed audience awareness, collaborated to create content, strived to be part of a participatory culture, enacted stories, and tapped into her emerging bilingual abilities in the process. This study encourages educators to learn about and acknowledge children's video production at home, explicitly link the tacit skills and knowledge displayed in these videos to the abilities and concepts required at school, and involve parents to facilitate and support children's creation of videos.

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5

International doctoral students' experiences in a host culture

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Abstract

International doctoral students face social, academic, and cultural challenges during their doctoral journeys. While existing research focuses significant attention on the general challenges associated with the international doctoral experience, we have limited understanding of how international doctoral students experience a host culture throughout their doctoral journeys. Drawing on nine student interviews, this study qualitatively investigated how international doctoral students experience the host culture during their doctoral education at an institution in the Southeastern U.S. Using a grounded theory method, a model of experiencing the host culture for international doctoral students that has two phases (understanding of the host culture; and responding to the host culture) was proposed. Suggestions for improving international doctoral students' experience stressed the need for promoting accessible, responsive, and inclusive academic and social life on campus.

Higher education in the United States has recruited and educated international students from all over the world. While the country has experienced the era of internationalization and globalization, the xenophobic immigration policies that targeted international students very specifically during the Trump administration showed clearly how vulnerable international students in the United States can be to the vagaries of U.S. immigration policy. Since international students in the United States play an important role in promoting mutual understanding and appreciation of different cultural and linguistic resources in higher education, it is important to attend to the voices of international students as they experience higher education and educate the higher education community about the experiences and insights of this large group.

While a significant body of research has paid some attention to the problems international doctoral students (IDSs) face while studying and working in North American higher education institutions, few studies focus on the experiences of IDSs within the context of culture (Deardorff, 2008; DeLuca, 2005). Little is known regarding how IDSs experience the host culture and how their experiences shape the way they go through a doctoral journey in the United States. A better understanding of these areas can guide faculty, departments, and administration on how to better support diversity and an inclusive academic and social life. When we traditionally talk about diversity, international students are an afterthought. This work emphasizes the importance of diversity that is inclusive of IDSs.

Using grounded theory, I aimed to document how IDSs experience the host culture during their doctoral journey in one institution in the U.S. Specifically, I asked how IDSs experience the host culture during their doctoral journey. In this paper, I first discuss the relevant literature and conceptual framework, then describe the research methods. Next, I present the findings: the model of experiencing the host culture has two phases: *understanding of the host culture* and *responding to the host culture*. This chapter concludes with a discussion, conclusion, and the limitations of the study.

Relevant literature

Multiple strands of the literature on the diverse group of IDSs studying in the United States focus on socio-cultural adjustment concerns, communication problems, academic and social isolation, psychological difficulties, recruitment, retention, funding, and mentoring problems (Adrian-Taylor et al., 2007; Ali & Kohun, 2006; Campbell, 2015; Smith & Khawaja, 2011). Some studies frame IDSs as homogenous groups and discuss common challenges IDSs face (e.g., Brown & Holloway, 2008; Laufer & Gorup, 2019). For example, Laufer and Gorup (2019) concluded that due to the lack of familiarity with the academic system, culture, and language, IDSs are vulnerable to academic challenges, financial difficulties, and social isolation. Other studies focus on IDSs with different cultural, linguistic, racial, and ethnic backgrounds and address their specific experiences and unique voices in higher education. DeLuca (2005), for instance, investigated the experiences of Jordanian graduate nursing students in a private university in the United States. The study revealed that students experienced a dramatic change in their personal development, several cultural clashes, learning challenges, and limited social contact with students from other ethnic groups (DeLuca, 2005).

Doctoral education is stressful and challenging for all students. However, IDSs are confronted with additional challenges such as cultural and social adaptation (Smith & Khawaja, 2011). IDSs are more susceptible to academic and social isolation (Janta et al., 2014), challenging academic and socialization expectations (Cotterall, 2015), and developing a social network and improving language skills (Brown, 2009). For instance, Janta and colleagues (2014) concluded that IDSs experience social isolation with limited social connections to their peers. Another study revealed that IDSs' identities were affected by the support from the academic community that they belong to and their ability to exercise their agency in the academic community (Cotterall, 2015). Brown (2009) showed that due to a lack of host contact, IDSs struggle to form friendships and to improve their conversational language skills. While the number of IDSs is increasing, little is known about how IDSs experience the host culture during their doctoral education.

Conceptual framework: Organizational socialization

To examine the ways IDSs experience the host culture in their doctoral journeys, I drew on the concept of *organizational socialization*. Socialization is a process in which newcomers become part of a community and its practices (Lave & Wenger, 1991). Organizational socialization explains how newcomers learn the values, norms, beliefs, and skills required to engage in organizational communities (Mortimer & Simmons, 1978). Coming from different cultures, IDSs socialize in their host culture through interactions with others. The theory of organizational socialization has framed the research in higher education (e.g., Jia & Bergerson, 2008; Lane et al., 2018). Looking through an organizational socialization lens, this study focused on unpacking students' experiences within the context of the host culture in the United States.

Culture is the key tenant of the theory of organizational socialization (Mortimer & Simmons, 1978). Defining culture is difficult. In the early 1990s, there was no agreement among researchers (Apte, 1994). Culture is an integrated pattern of shared values, beliefs, languages, worldviews, behaviors, artifacts, knowledge, and social and political relationships of a group of people in a particular place or time that the people use to understand or make meaning of their world, each other, and other groups of people and to transmit these to succeeding generations (Atwater et al., 2013). From the mentalist theory of culture, culture refers to a group's shared set of meanings encoded in social action and its messages about how to interpret experience (Geertz, 1973). Culture is also conceptualized as processes involving individual activity enabled and constrained by social structures and forms (Buxton, 2005). This study's proposition of culture aims to show how the social world is incorporated into individuals' experiences.

Methods

I aligned this study with the interpretive tradition and relied on symbolic interactionism as the theoretical position. According to symbolic interactionism, people act based on the meaning that is made through interactions, and that is developed from experience (Denzin, 1992). With their work rooted in symbolic interactionism, Glaser and Strauss

(1967) argued that grounded theory method is an inductive approach to data collection and analysis in social scientific inquiry that leads to new theories. Grounded theory is a suitable method for investigating topics that have not yet been explored completely, for exploring interactions and for the development of a theoretical model (Charmaz, 2000; Glaser & Strauss, 1967). Since the focus of this study is to explore IDSs' interactions with the host cultures, I adopted grounded theory method to answer the research question.

Participants

Using a snowball sampling approach (Patton, 2015), I recruited nine IDSs from a research university in the Southeastern United States. Table 1 presents participant information.

The average sample size in the studies using grounded theory was 25, the range 5 to 114 (Thomson, 2011). The sample size can be reduced when researchers choose appropriate participants (Glaser & Strauss, 1967). The criteria for the sample was being an IDS who had lived and studied in the United States for at least one semester.

Data collection

The primary data source consisted of semi-structured interviews conducted during fall semester 2018 and spring semester 2019. The interview protocol consisted of 25–30 questions and lasted 30–60 minutes for each participant. The interview questions explored what the IDSs know about culture and their interactions with their academic and social environments in the context of the host culture. Ethics approval was granted by the Institutional Review Board at the researcher's institution.

Data analysis

I used a constant comparison technique for my inductive analysis (Glaser & Strauss, 1967). I employed Saldaña's (2013) ideas to create a process of coding. The coding process evolved through three steps: pre-coding, initial coding, and process coding. I used NVivo 12, a qualitative data analysis software program, to complete all the steps involved in the coding process. While pre-coding, I highlighted participant

Table 1
Participants

Pseud-onym	Gender identifi-cation	Ethnic identifi-cation	Home country	Age	Major	Year
Nate	Male	Asian	China	26 –31	Chemis-try	2nd year PhD student
Martin	Male	Asian	Taiwan	26 –31	Biology	1st year PhD student
Ben	Male	Asian	Bangla-desh	26 –31	Chemis-try	1st year PhD student
Boriana	Female	Asian	China	20 –25	Biology	1st year PhD student
Yukari	Female	Cauca-sian	Bulgaria	26 –31	Chemis-try	PhD candi-date
Dylan	Male	Asian	Nepal	26 –31	Physics	1st year PhD student
Carla	Female	Asian	Sri Lanka	26 –31	Chemis-try	1st year PhD student
Sandi	Female	Asian	India	26–31	Genetics	4th year PhD student
James	Male	Asian	Taiwan	26–31	Plant biology	1st year PhD student

quotes that stood out to me (Saldaña, 2013). During the initial coding, I grouped the data set into discrete parts and closely examined each part (Saldaña, 2013). This step helped remain open to all possibilities that might emerge from the data set. A researcher can employ in vivo or process coding during the initial coding (Saldaña, 2013). I used process coding due to the nature of the research questions. Consider this example of how I used process coding: A segment of the data stated, "I didn't find anyone to help me." I labeled that segment as "lacking help." I then defined my codes by using the "code memos" function of the software program. Next, I developed some categories by excluding, rewording, and grouping the codes. I then grouped categories into themes.

Trustworthiness

Creditability issues were addressed through analyst triangulation (Patton, 2015) by having two more researchers who analyzed the same data set. I also conducted member checking. For addressing transferability, I produced a thick description (Lincoln & Guba, 1986) of each theme and provided background information on the participants.

Positionality statement

I am an international scholar who has experienced the phenomenon of interest. The topic of the study has both personal and social significance to me. Being an international student, I know what it means to be a bilingual speaker in the United States, prove yourself as a graduate student in a foreign country, make friends who are not familiar with your own culture, and live far away from your family and home country.

There is no doubt that my assumptions were intimately involved in my research. I believe that my assumptions rooted in my own experiences directly or indirectly affected my data analysis, though trustworthiness was addressed to mitigate bias. My participants interpreted their experiences and then I interpreted their interpretations. The interpretation of the subjective experience added more layers to the relationship of subjectivity to my research.

Findings

In this study, I asked the question of how IDSs experience the host culture as they journey through doctoral education. In response to this question, I developed two major themes: *understanding of the host culture* and *responding to the host culture* (see Figure 1).

Understanding of the host culture

The IDSs discussed characteristics of the host culture that improved or limited their experiences in graduate school. While the helping characteristics of the host culture included *supportive environment*, *open communication*, *diversity*, and *scientific method and research*, the impeding characteristics were *food habits*, *language*, and *instructional materials*. The IDSs mentioned that both advisors and peers supported them. They were very satisfied with their relationships with their advisors and peers. Yukari commented, "Our group is very like, 'I'm going to encourage you to go to this conference,' or 'If you have an issue, come talk to me and maybe we can solve it together.'" Dylan talked about peer support:

Figure 1
A model of experiencing the host culture for IDSs
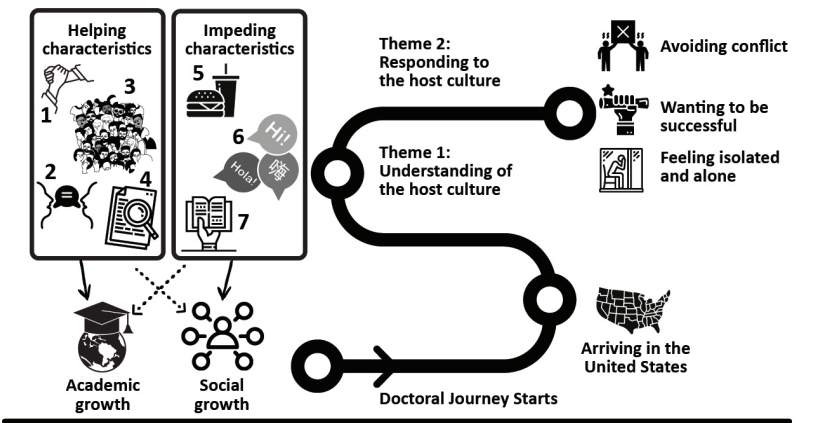
1. Supportive environment, 2. Open communication, 3. Diversity, 4. Scientific method and research, 5. Food habits, 6. Language, 7. Instructional materials

"You know because all the friends that I have, they are really helpful. I mean they're really willing to discuss things."

The students also expressed that they could freely communicate with the faculty to ask questions and talk about their problems. They talked about how the culture in their home country limits communication with their professors and how much they appreciate an open communication in the host culture. Ben commented,

> Our professors didn't like to ask questions that were the main thing, when I asked [my advisor] something I was hesitant, 'Should I ask him or not?,' and I talked with him and he said that 'You can ask me anything,' and that was the main thing that—'Oh yeah, I can ask professors.'

Sandi also remarked,

> You're supposed to be friends with your advisors. You work with them, not for them. But in, in Asia, it's more like, this is your boss, he tells you what to do. And if he says something that you are wrong, then you must be wrong. But here we can speak up and glorify ourselves. And I appreciate that I enjoyed that. I belong to not a conservative family, very liberal family, but still, there is a culture of okay. If a man says something you have to listen, or you know, that must be right and you cannot question that.

Another characteristic of the host culture that improved their experience in graduate school was diversity. The IDSs expressed that the diversity regarding the student body facilitates their adjustment process and communication with others. They expressed that the presence of other international students helped them feel better about being an outsider/other, as illustrated in a comment by Sandi: "In the department, there are a lot of graduates, international students, so you don't feel alienated or like an alien." Yukari equally remarked, "I'm an international student I found out that my department actually has a lot of international students and it's not going to be just me and my current group, probably 70% is international."

The IDSs also mentioned scientific method and research as one of the helping characteristics. James commented:

> We just say, 'Okay, yes, yes, no problem,' even though we hundred percent disagree with someone. But here, because we are scientists, and people are very clear about it: Where do the data come from? How can you prove it? Where do you get this from? Show me back, then.

Sandi also remarked, "I did not want to pursue my Ph.D. in India, because from the peers that I talked to, I did not get a very good sense that it's heavily research-focused."

Shifting the focus to the impeding characteristics of the host culture, the IDSs expressed the differences between the host culture and their home culture would become both irritating and frustrating. One impeding characteristic was the connection between food and culture. Food and food habits can connect us to different people and places. As Lee (TED, 2008) stated,

> What you want to cook and eat is an accumulation, a function of your experiences—the people you've dated, what you've learned, where you've gone. There may be inbound elements from other cultures, but you'll always eat things that mean something to you.

The students feel unconnected to the host culture because they do not have a chance to maintain their food habits and diets. Ben commented:

> We like to enjoy foods, like when we woke up from asleep we like to eat a lot of things in the breakfast and a lot of things in the lunch but in here I don't have any time for the lunch. And a lot of people don't know what lunch is.

Another impeding characteristic was language. The IDSs frequently mentioned that speaking English as a second language makes them feel anxious and self-conscious about their way of communication. James described his feelings about how language limits the way he wants to express himself as follows:

> I feel like I cannot express what I am. The true me, how I can make the true me, is limited because of the language. So, I feel like I'm caged in that area. It's like a bubble, language bubble.

Carla explained how she feels about her way of speaking:

> I do not want to assume what and how Americans think about my pronunciation and the way I speak but I have heard when I'm there

they said that Chinese girl is talking like rude but she's nice. Are they talking in the absence of me also? Maybe? But they say that she sounds like rude but she's nice, it's just her accent or voice tone.

Similarly, Yukari expressed her frustration about not being able to understand others talking to her when she said,

The other day somebody came into our lab looking for a chemical and I had to ask them to repeat themselves three times and I'm like, 'I swear, I'm not stupid; it's just I can't understand what you're saying.'

Another impeding characteristic was identified as instructional materials. Classroom expectations, student behaviors, and learning materials took the IDSs entirely by surprise. Regarding students' attitudes, Martin remarked, "Many American students here, they go place their feet everywhere, on the desk but in public place, yeah, but in Taiwan we don't do that and we think it's very impolite." Ben compared his culture with the host culture and said, "the study material is different, the books are different, the study style is different." Martin also made the following comment:

Because we have a critical reading class, we each week are assigned a paper to read and to be discussed in next week, so—and they separate us into little subgroups and there are maybe 10 to 15 in each group so—and two professors are in charge of every group so we will be paid enough attention, so that means it's not possible to be like in Taiwanese way like sit in the back and share nothing.

The helping and impeding characteristics addressed two things across the interviews: *academic growth* and *social growth*. When the students expressed their feelings about the helping characteristics, they explained how those characteristics support their academic and social growth. For instance, Boriana remarked,

I think most of the professors are crazy about their science and they are so confident about their stories and sometimes they even argue with the others to defend their theories. So, I think it can promote your research."

The students also commented on how the impeding characteristics affect their social growth. Martin explained how language prevents him participating in an informal conversation:

> Academic, scientific jargon or conversation I think it's still okay to me but when it comes to some daily life chat or—it's quite hard to me to be fully understanding their—what they are saying and without that I cannot really join their conversation. I will stand there and smile and actually I don't know what they are saying.

Nate equally remarked:

> The IDSs discussed the effects of helping characteristics on their academic growth, while they explained how the impeding characteristics have a strong impact on their social growth (see Figure 1). According to the findings, the IDSs tend to focus on their academic progress more than their social adjustment. There might be several reasons for this tendency. First, because IDSs study and live abroad for a limited time, building a rapport and networking may not be the primary concern for them (Carla, personal communication, December 17, 2018). Second, IDSs tend to think that good academic standing is important to be acknowledged by peers and faculty members during their doctoral programs.

The IDSs discussed the effects of helping characteristics on their academic growth, while they explained how the impeding characteristics have a strong impact on their social growth (see Figure 1). According to the findings, the IDSs tend to focus on their academic progress more than their social adjustment. There might be several reasons for this tendency. First, because IDSs study and live abroad for a limited time, building a rapport and networking may not be the primary concern for them (Carla, personal communication, December 17, 2018). Second, IDSs tend to think that good academic standing is important to be acknowledged by peers and faculty members during their doctoral programs.

Responding to the host culture

The IDSs responded to the host culture in three ways: *avoiding conflict*, *feeling isolated and alone*, and *wanting to be successful*. The IDSs

mentioned that they avoid conflict. The IDSs discussed informal and unexpressed conflicts that they experienced, what Kolb and Putnam (1992) called "hidden" conflicts. The students preferred not to bring up the subject of contention even though the issues damaged their well-being and their relationships with others. The main reason for avoiding conflict was the fear of not being able to speak up for one's self because of limited language skills. Describing his feeling about arguing with others, Martin commented,

> Both of our ideas are acceptable so sometimes we just say, do it your way or do it my way. I will be the one that will be accepting others' ways. It's not a big deal. Most of the time, I will accept their way because of the language problem so I don't want to argue or explain my thoughts too much.

Martin tried to prevent himself from having a conflict with somebody. He believed that his language skills were not sufficient to express himself even though he felt uncomfortable with a situation.

Another response to the host culture was feeling isolated and alone. Isolation and language barriers during social interactions was evident in Ben's following remarks:

> I don't know anything outside of chemistry. When I talk with others in my class, I was talking like, that is acid, that is base but when I'm outside the classroom, what am I going to do? What am I going to talk about?"

The IDSs also responded to the host culture by focusing on their academic progress. They specifically mentioned their desire to be a successful student. They aspired to be a top student in their department or research team. The significance of this desire to be successful and the tension that ensued was best illustrated in Carla's following comment:

> We had to do the American Chemical Society Standard exam, so that was the criteria the coordinator used to specify us as TAs, so those who got low score made as prep TAs, the prep TA is the one who makes solutions and cleans the lab. I didn't want to be that and then luckily, I got the highest score on the test and I was promoted to the sophomore level TA. Since I received a higher score in the first exam so everyone wants to learn with me so in case if

I receive the lowest score it would be because the international
student who received the lowest score is kind of ignored, I think.
If I do not study in the future maybe I also can get ignored.

Discussion

The recent study unpacked the IDSs' experiences in the host culture
as they go through their doctoral journeys. According to the theory of
organizational socialization, newcomers are in the process of becoming
part of a community and its practices (Lave & Wenger, 1991; Mortimer
& Simmons, 1978). While much of the existing literature on interna-
tional students' experiences in studying and working abroad focuses
on socialization as a unifying concept, it is apparent from this study
that socialization in experiences of IDSs is one aspect of intercultural
competencies that students may fail to figure out or prefer not to benefit
from. The students' voices, their descriptions, and explanations of their
experiences illustrated an awareness of culture and illuminated the im-
portance of cultural differences in shaping their relationships with others
in the host culture. A model of how the IDSs experience the host culture
has two phases: *understanding of the host culture* and *responding to the
host culture*. The two phases in the model can become intertwined as
students discover more about the host culture. This model adds to the
existing literature on IDS in the U.S. by presenting a student perspec-
tive on what it looks like to experience the host culture while pursuing a
doctoral degree.

For the first phase, the students began to understand the host culture
by observing what is happening around them. Understanding the host
culture is an important step because human beings learn from oth-
ers through interactions as they are socialized (Spencer-Oatey, 2008).
The theoretical position of this study, symbolic interactionism, helped
reveal how the students acted based on the meaning that they made
through interactions with others (Denzin, 1992). This phase requires
international students to interpret new experiences through their subjec-
tive knowledge and personal perspectives. This study showed that the
IDSs interpreted the host culture and identified some characteristics
that can be advantages or disadvantages for their participation in the

host culture. This participation refers to a cultural diffusion, a selective process in which people do not accept everything from the host culture (Spencer-Oatey, 2008). The IDSs appreciated the characteristics such as *open communication*, *supportive academic environment*, *diversity*, and *scientific method and research*, which motivated them to be part of the culture. They also discussed how some characteristics—*food habits*, *language*, and *instructional materials*—impeded their engagement with the host culture. The impeding characteristics are more related to their materialistic view of culture, while the helping characteristics are associated with both materialistic and mentalistic views of culture. The students related the helping characteristics to their academic growth, while they connected their social growth with the impeding characteristics.

The second phase was how the IDSs responded to the host culture. Their responses included *avoiding conflict*, *feeling isolated and alone*, and *wanting to be successful*. Considering themselves as "cultural outsiders", the IDSs discussed how they experienced exclusion from participation in social settings at the university due to language barriers. Language is key for having confidence in communication, solving conflicts, and building a network in an academic setting. These components of the academic setting may affect students' well-being and academic and social performance. Other researchers have noted that for international students, language is the biggest challenge in adjusting themselves to the new culture (e.g., Halic et al., 2009; Smith & Khawaja, 2011). Moreover, the lack of understanding how international students and people in the host culture act from different contexts of culture leads international students to feel less acknowledged and involved (Harman & Zhang, 2015). The findings of this study help the literature expand its understanding of how international students respond to the new culture in their doctoral journeys.

Conclusion

In conclusion, this study conceptualized the ways IDSs experience the host culture. This study offers insights into the strategies adopted by stakeholders in higher education to ensure that academic and social environments are accessible, responsive, and inclusive to IDSs. I suggest

that future research is needed to understand whether IDSs make an effort to join the host culture and whether the host culture accepts them.

Limitations

One limitation is the representativeness of the participants because the students were recruited from science majors. In larger populations, the findings might be different. Another limitation is the level of experience studying or working in the United States. The IDSs in this study were international students who entered the United States for the first time to pursue doctoral education. A study with IDSs who completed their undergraduate education in the United States might reveal a very different picture.

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6

How do East Asian graduate students perceive their academic discourse socialization?

Yesul Han

Abstract

Understanding language socialization of international students in an academic setting has become a significant issue, since it implies their development of English discourse, which greatly influences their academic success. This study explores non-native English-speaking graduate students' negotiation of identity and experiences through language socialization in the discussion-based classroom at an American university by examining their perceptions of identity construction and social relations to their new academic communities. Native English-speaking graduate students' perceptions of their academic discourse socialization are also investigated in terms of comparison between first and second language socialization. This research is conceptually framed within sociocultural theory and second language socialization theory. The findings indicate that there are both different and similar constructions of identity and membership among all groups in terms of predispositions toward discussions, emotional rapport, and accepted roles in discussion.

How do East Asian graduate students perceive their academic discourse socialization?

International students' academic success in the United States has become a significant issue because international students comprise a large portion of overall students in higher education. Over the last 20 years, the number of international students has increased by more than 120%, and these students contributed more than $45 billion to the U.S. economy in 2018, according to the United States Department of Commerce. It is especially important to examine Asian students in the United States, since they comprise 57% of all international students (Institute of International Education, 2019).

East Asian students are often categorized as "silent or reticent in class" (Kim, 2006, p. 480). Under the influence of Confucianism and collectivism, East Asian students share similar values in many aspects (Hung, 2006; Hung & Hyun, 2010; Lee, 2009; Young, 2017). They are generally educated to be as indirect as possible to "save face," which means avoiding embarrassing or conflictual situations (Lee, 2009; Young, 2017), so they may prefer to remain silent in class rather than actively participating in discussions. However, research shows that they do participate in class activities through active listening (Kim, 2008; Ma, 2008). This research explores how East Asian graduate students perceive their academic discourse socialization as they narrate their experiences of participation in a discussion-based classroom at a university in the United States and contrasts this experience with domestic students.

That English as a Second Language (ESL) students tend to have difficulty adapting to a new environment when they study at English-speaking universities is not a new concept in the field of second language (L2). Particularly, Asian students generally feel confused and frustrated when they have to adjust to a classroom atmosphere that is very different from what they are used to, such as a discussion-based class. Several studies examine ESL students' challenges and difficulties with class participation, especially discussions (Ferris & Tagg, 1996; Kim, 2006), and their struggles to adapt to the new academic culture (Haneda, 2009; Morita, 2004). Kearney and Barbour (2015) caution that language learning is often expected to naturally lead learners "to greater language awareness and openness to diversity of all kinds, but such outcomes should not be taken for granted" (p. 160). For this reason,

the process of socialization in language learning should be emphasized because language socialization dictates whether a learner can "use language appropriately in different contexts" (Duff, 2003, p. 1).

This research is conceptually framed within sociocultural and second language socialization theory. Within the perspective of language socialization, much attention has been paid to the construction of social and cultural identity (Gordon, 2004; Kim & Duff, 2012; Ochs, 1993). Although understanding how L2 students develop participation in English academic discourse to adjust to the new academic environment has become critical (Morita, 2004; Zappa-Hollman, 2007), not much has been published about their transition to the U.S. graduate-level classes and how they orally socialize into a new academic discourse society (Ho, 2011). Moreover, though there are a few studies that compare first language (L1) and L2 socialization in the same setting (e.g., Morita, 2000; Vickers, 2007), little research has been conducted comparing academic discourse socialization of native and non-native English-speaking graduate students. By comparing the experiences of both populations, we can determine whether there are qualitative differences in the experience of these two groups in academia that should be addressed.

Motivated by these concerns, this qualitative study mainly examines six non-native English-speaking (NNES) graduate students' academic discourse socialization in a graduate seminar at an American university. Five native English-speaking (NES) students were also investigated to permit some qualitative comparison between first and second language socialization. The research questions are:

1. How do NNES and NES graduate students at an American university describe experiences of their construction and negotiation of identity and membership in a discussion-based graduate seminar?
2. What are narrated experiences of first-year graduate students regarding participation in the academic discourse event of classroom group discussions, and how do they differ from those of second-year students?

How do East Asian graduate students perceive their academic discourse socialization?

Conceptual framework

Language socialization

According to Duff (2007), language socialization is "the process by which novices or newcomers in a community or culture gain communicative competence, membership, and legitimacy in the group" (p. 310). Schieffelin (1990) also notes that "the study of language socialization has as its goal understanding how persons become competent members of their social groups and the role of language in this process" (p. 14). That is, language learning does not merely involve acquisition of grammar and the lexicon; rather, it is the interface between linguistic competence and sociocultural competence. In this context, language socialization can be understood as an important process that connects language learners' linguistic competence with sociocultural competence.

Second language socialization

With this firm theoretical groundwork in language socialization, the area of second language socialization has attracted increasing attention from second language researchers. Similar to L1, L2 learning could be influenced by the vicinage, which means that interactions with people around a learner, such as language instructors or classmates, could play an important role in acquiring norms of the target-language community.

Poole (1992) was one of the earliest researchers to explore second language socialization. She investigated how cultural messages are carried in the second language classroom through teacher-student interactions; specifically, she found that the white middle class American (WMCA) culture was projected onto the English as a Second Language teachers' communication with their students in classroom settings. As Poole's study shows second language teachers' cultural background is reflected on their language teaching, it fully supports the fundamental premise of language socialization theory that language and culture are deeply related. Second language learning, therefore, is influenced by not only the knowledge of the language itself, but also the culture underneath it; eventually, it is inevitable for language learners to have linguistic identity that might have been affected by the target culture. In this

sense, it is also important to understand identity construction within the perspective of second language socialization.

Identity and membership construction through second language socialization

Ochs (1993) defines social identity as "a range of social personae, including social statuses, roles, positions, relationships, and institutional and other relevant community identities one may attempt to claim or assign in the course of social life" (p. 288). Likewise, Norton (2000) states that identity deals with "how people understand their relationship to the outside world, how that relationship is constructed across time and space, and how people understand their possibilities for the future" (p. 410). Accordingly, one's identity construction cannot be separated from his/her language use, since it is closely related to the speaker's social interactions, which are mostly realized through language-mediated communication. In addition, it becomes even more important in terms of second language learning because learners must construct their identities within the target language group, where the same act and stance used in their native language groups might be accepted in different ways.

Review of literature

Traditionally, much has been written about L1 acquisition and socialization of children under the theoretical umbrella of language socialization; in more recent literature, however, attention has also been paid to L2 socialization focusing on oral discourse (Kobayashi et al., 2017), with scholars' realization that it is an ongoing process (Morita, 2000).

Zappa-Hollman (2007) explores graduate non-native English speakers. She found that both participants and instructors in her research perceived academic presentations as a serious matter and even an important factor that had a great influence on graduate students' lives. This study indicates second language speakers' struggles with discourse socialization even when they have high-level language proficiency in a second language. In addition, students who have different academic values in their home country might resist their academic socialization in a second language because it is a new speech situation for them.

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Vickers (2007), on the other hand, examined how a team consisted of both NNES and NES students socialized into academic discourse through interactions in a higher education setting. The findings suggest that the non-native participant could not socialize into the academic discourse until he successfully displayed competence in his field by contributing to the team with design solutions. Moreover, he constructed core membership with the help of teammates' scaffolding. In this context, Vickers (2007) argues that second language socialization should be viewed as a process of human development. For language learners' achievement in human development, more chances should be given for them to be involved in interactions with members in the target community where the target language is used.

Similarly, Vasilopoulos (2015) investigates how Korean-English speakers negotiate their L2 identities in their native language setting, and the participants' L2 identities were manifested differently according to local and target culture. They experienced disempowerment in L2 identity in their home country. Chang (2016) examines how two multilingual students at a community college in the United States negotiated sociocultural norms in the target culture, and accordingly, created investment in L2 learning. She found that their investment in learning English was selective, and it was formed within multifaceted dimensions.

It is apparent in the literature that identity construction is key for understanding language development of language learners. Furthermore, there is a gap in the research on L2 graduate students' oral participation among peers in discussion-based class as well as research that compares non-native and native graduate students' language socialization in an academic discussion. In addition, limited research views internationally populated classroom contexts as hybrid, dynamic spaces as opposed to just places where native and non-native norms and practices clash. In this regard, this study will contribute to the understanding of hybridity in the US discussion-based classroom.

Methodology

Research design

This research is an ethnographic case study that enables a deeper understanding of experiences the participants narrated. The ethnographic case study design is a case study that employs "ethnographic methods and focused on building arguments about cultural, group, or community formation or examining other sociocultural phenomena" (Schwandt & Gates, 2018, p. 344). This research design made it possible to thickly describe (Geertz, 1973) the context and backgrounds of each participant in this study and it helped understand their narratives of socialization into academic discourse. Since this research examines each participant's cultural formation and each focus group's community formation with ethnographic methods, it would be sensible to make use of the ethnographic case study design.

Research site

The research site for this study was a state university in the Northeastern part of the United States. All participants were recruited from one class that was designed for graduate students, mostly master's students, and had less than 20 students registered for the semester. The students were all master's students except for one doctoral student, the researcher. In every session, students were divided into small groups and discussed the main ideas of the readings assigned for the week. The professor facilitated student discussions by distributing handouts with questions about the readings and let students freely share their thoughts and opinions in small groups before the whole class discussion. After small group discussions, the whole class shared what they had discussed in their groups.

Participants

The participants were purposefully selected. There were 11 master's students in the English for Speakers of Other Languages (ESOL) or Teaching English for Speakers of Other Languages (TESOL) program. Six participants were NNES, and five were NES students. The NNES students were all from East Asia, namely China or Korea. Three of the

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NNES participants were first-year students, and another three participants were in their second year. Likewise, three of the NES students were in their first year and two were second-year students. The profiles for each participant are described in Table 1. Participants' names used in this study are pseudonyms for confidentiality.

Role as a researcher

As Weis and Fine (2000) noted, researchers cannot be completely objective or neutral in terms of qualitative approach in research. Because I was taking the class with the participants, I was a "complete participant," which is defined as "the highest level of involvement for ethnographers" (Spradley, 1980, p. 61). Being a complete participant could

Table 1
Participant profiles

Name (pseudonym)	NES/ NNES	Country of origin	Year in the program	Program
Chun	NNES	China	2nd year	TESOL
Honey	NNES	Korea	2nd year	TESOL
Jie	NNES	China	2nd year	TESOL
Jinhee	NNES	Korea	1st year	TESOL
Shan	NNES	China	1st year	TESOL
Yue	NNES	China	1st year	TESOL
Charlotte	NES	USA	1st year	ESOL
Julia	NES	USA	2nd year	ESOL
Katie	NES	USA	1st year	ESOL
Marline	NES	USA	1st year	ESOL
Vicky	NES	USA	2nd year	ESOL

have positively affected the study because it reduces tensions between me and participants during an interview (Menzies et al., 2011). During interviews, the participants appeared relaxed and did not exhibit signs of tension to me because they knew that I would understand what they say and how they feel.

Data collection

After gaining IRB approval, I recruited participants from the specific class described in the Research Site section. To best answer the research questions, semi-structured interviews were collected for the data throughout two semesters. Since this research adopts the ethnographic case study design, multiple data collection methods that are widely used for the research design were employed for triangulation, including informal individual interviews, focus group interviews, and direct observation during each interview. Although direct observation has some limitations in its nature that the researcher might not be able to be detached from the research, such limitations could be overcome to "identify [the researcher's] position up front and be open about [the researcher's] perspectives" (Fusch et al., 2017, p. 929). During the first semester, one semi-structured in-depth individual interview with each participant was conducted. In the following semester, one focus group interview with first-year NNES, second-year NNES, and first-year NES students each was conducted. A focus group interview with the second year NES students could not be conducted because they were not able to adjust their schedule to meet. The interview questions were about background questions for the participants including their educational history and their experiences in class such as class activities, particularly about group discussions and whole class discussions. The interviews were recorded with an iPhone recording application with the consent of the participant, and each interview was 30 to 60 minutes long.

Data analysis

After conducting the interviews, I transcribed all the data. Since the interviews were conducted sparsely throughout two semesters, each interview was transcribed not long after it had been done. One interview

was conducted in Korean, and the researcher translated it into English. After transcribing, all the data were initially coded in in vivo coding. According to Manning (2017), in vivo coding "places emphasis on the actual spoken words of participants" so that it "can be helpful to understand stories or ideas through the actual words of participants" (p. 1). In vivo coding helped develop vivid codes directly derived from participants' voices. The codes were then inputted to HyperRESEARCH to create chunks based on similarities among the codes and organize those chunks. Those chunks became final 15 codes, and these final codes were categorized again according to similarities (See Appendix I). With these codes and categories, the process of theming the data, which is perceived as "an outcome of coding, categorization, and analytic reflection" (Saldaña, 2009, p. 139), was carried out. This thematic analysis allows a researcher to "make sense of [the data] and give them shape" (Saldaña, 2009, p. 140). Within these procedures, I came up with three larger themes, which will be described in the findings section.

Trustworthiness
In addition to triangulated data collection, I built prolonged engagement with participants so that they could freely reach out to me whenever they have any questions or inquiries for the research processes and findings. In this way, credibility of the study could be enhanced (Connelly, 2016). Codes and themes for the initial findings were reviewed by another researcher who has expertise in the qualitative research methodology to establish intercoder agreement (Lincoln & Guba, 1985).

Findings and discussion
Participants' changing dispositions and stance toward "discussion"
The finding shows that NES and NNES groups, respectively, had different dispositions toward discussion activities. In particular, NNES students tended to have more negative disposition than NES students. However, those negative perceptions changed over time as they had more experiences in discussion activities.

According to Dewey (1922),

The word "disposition" means predisposition, readiness to act

overtly in a specific fashion whenever opportunity is presented, this opportunity consisting in removal of the pressure due to the dominance of some overt habit; and that attitude means some special case of predisposition, the disposition waiting as it were to spring through an opened door (p. 42).

The term "disposition" explains not only the participants' perceptions of discussion but how they are ready to react to it. Moreover, according to Ochs (1993), social identity is established through act and stance, and stance includes "*epistemic attitudes*, such as how certain or uncertain a speaker is about some proposition, and displays of *affective attitudes*, such as intensity of emotion or kind of emotion about some referent or proposition" (p. 288).

In the individual interviews, a few participants showed negative disposition to the concept of discussion although many participants described a positive perception of discussion. Differences in perspective were especially noticeable between NES and NNES participants. Katie, a first-year NES student, thought discussions are helpful because some of readings are "so dense that it's good to see where other people came at reading it that I might have not have seen, or I write it differently than they did and make sure of that concepts and ideas." Similarly, Vicky, a second-year NES student, said readings are "so in-depth and wordy" so that "it's nice to sit with my peers and discuss the topic."

On the contrary, Honey, Jie, and Chun who were second-year NNES students, were critical of discussion activities, at least in the semester when I first interviewed them. For example, Honey thought discussions were "not fit for" her, and Jie wanted the instructor to "just tell me the answer" because she was "so familiar with teacher-centered teaching style." Chun found the reason why she thought discussions are not helpful for her in her cultural background, saying she was "just so used to studying by myself"' and "it's the most Chinese students' style."

It is noteworthy that Honey, Jie, and Chun who said that having discussion is not very helpful for them were all second-year NNES students. This suggests that they perhaps did not get accustomed to the discussion-based class until the time of the interview. However, they thought discussions are unhelpful not because of the discussion itself,

but because of their different learning style. They seemed to be going through a different learning environment, which was discussion-based classroom, which differed from their own culture.

However, in the focus group interviews which were conducted in the next semester, NNES students who initially described their classroom discussions in negative ways showed positive perspectives of discussions. Honey, for example, said "last semester, I couldn't understand why the professor didn't teach anything. But now, I can say I admit that we can learn from each other." She thought "it's amazing." Yue (first-year NNES student) and Jinhee also agreed, saying "it's awesome!" It was not only the NNES student group that showed the shift in their perception of discussion. Even though all NES participants, except one second-year student, described classroom discussions in positive ways in the first interviews, they expressed their perceptions toward discussion even more positively in the later focus group interviews. Marline and Charlotte, who were second-year NES students, both said they "appreciate our discussions a little bit more." Charlotte "took discussions for granted" in the first semester, but in the second semester, discussions "help understand concepts more." Most of participants seemed to view discussion activities more positively as time progressed. It is interesting that this was the case even for second year NNES students, who had already spent a year in the graduate school before Fall 2014. This finding suggests that participant dispositions toward discussions are connected to identity construction since their stance toward discussions had changed over time. Identity construction was particularly prominent for NNES participants because they built new identity in a discussion-based classroom as an active learner who understands the need for discussions with their peers. It shows that the target culture, which put more emphasis on learning through peer discussions than teacher-centered lectures, influenced participants' second language socialization and identity construction.

The role of emotional rapport with group mates in discussion
The data shows that both NNES and NES graduate students, including first- and second-year students, consider a rapport with their discussion

group members as an important element in discussion. This became even more obvious in focus group interviews, as Marline observed that "I think you're more comfortable to talk to people when you know their names second semester," and Chun and Honey agreed with each other that "when I have friends (in class), I feel much better."

The data reveals that the first-year NES students and the second-year NNES students both value the relationship among discussion group members since it shapes the quality of discussion. In other words, if they have built a deeper friendship with the group members, they can contribute more to the discussion because they feel much more comfortable in the classroom space. In addition, NNES participants preferred to be in a group with other Asian students than grouping with American students. A possible reason is that NNES participants could use their L1 (Chinese or Korean). However, they felt comfortable even when they were grouped with Asian students who had different L1, and therefore the primary reason why participants preferred a group consisted of only Asian students was that NNES students could feel connected to each other due to their similar cultural backgrounds. Specifically, Chun said "one is because of the language, and the other, I think, is because of thinking system or processing system because we analyze articles in kind of similar ways compare to Western students." Honey thought, "native students are speaking fast" even though "they give me more information than Asian students because they understand it better" so that she "feel[s] comfortable with Asian students." Honey "speak[s] more with Asian students" because "they listen to me." She said "native students, they don't listen to me," and Chun agreed with that statement.

In this finding, second-year NNES students agree with each other that they can contribute more to discussions when they are in a group with only Asian students because they understand each other better and try to listen to each other sincerely. This shows that NNES students have their specific standards for the emotional rapport. Unlike NES students who consider a "rapport" as the relationship amongst all members of the whole class, NNES students perceive a "rapport" that can be built within a certain ethnic group or with classmates who are actually listening to them. Previous literature on L2 socialization showed that L2 learners'

classroom experiences are affected by norms of the target-language community and the way these norms are animated through language use, including instructors' and classmates' use of the language. However, it also implies that there is potential mismatch between the expectations of learners and the surroundings. This finding clearly shows such mismatch as NES and NNES participants displayed different perceptions of emotional rapport that could affect their language socialization.

Different construction of identity between native and non-native students

The data indicates that NES and NNES students constructed their identity and membership in a discussion-based classroom in different ways. Most of the NNES students described their role in discussion as a *listener* and *learner*. For instance, Shan, a first-year Chinese student, believed she could learn because she had "experts" such as NES students and an advanced NNES doctoral student in class. She said, "I have learned a lot of things from you. […] After I had the small group with you and Susie [NES student], you helped me a lot to learn things." Jinhee also said when there was no NES student in class, the discussion did not go well because there was no "initiator." Other NNES students expressed a similar opinion to Shan's and Jinhee's, saying that they could learn from more advanced or NES students. In other words, they tended to perceive these students' role as *experts* and *initiator* rather than equivalent peers. Most of them said that they learn from listening to other students. In these descriptions, these participants positioned themselves as a *learner* and *listener* in discussion activities. In contrast, NES participants tended to consider all students in class as peers on the same path and who can help each other. They constructed their own membership in the classroom as a *facilitator* in group discussion when they were with NNES students. However, in the case of Shan, it is noteworthy that she said the researcher and a NES student helped her learn what she didn't know, which shows not only NES students but also a NNES student with expertise could be a *facilitator*. This case indicates that identity and membership construction does not occur with regard to "nativeness"; rather, it took place when she had someone who could help her learn.

On the contrary, NES students considered their role as a *facilitator* and *sharer*. Charlotte thought "sometimes the best way to participate is to be the silent partner" and she tried to "encourage them (NNES students) to say what we've just talked about." She said "they (NNES students) have confidence in small groups, but they lose their confidence in big groups" so that a teacher has to encourage students to be involved in a bigger group discussion. This shows that she perceives her role as a *facilitator* in the class. Katie thought that her role in the discussion was "to share my information, to ask questions, to be part of our group, and make sure that everybody keeps on task." At the same time, she tried to empathize with NNES students because she understood that the content of the class is hard enough even for NES students. Even more, she joked about how she felt when reading the articles that "I have hard time enough and it is my language, and sometime I don't think it is!" This can be related to the language socialization theory, specifically academic discourse socialization, in a sense that even a NES student can undergo language socialization when she has to encounter unfamiliar materials written in "academic language" and discuss them with NNES peers. According to Kobayashi et al. (2017), academic discourse socialization occurs when "newcomers and those they interact with learn to participate in various kinds of academic discourse in their communities and other social networks" (p. 239). Katie experienced academic discourse socialization by participating in academic discussions, recognizing the fact that it would be doubly challenging for international students who were doing so in L2. She constructed and negotiated her identity as a graduate student in the academic setting through language socialization, not settling her identity merely as a "native" student.

All of the NES participants, including Charlotte and Katie, also explained that they could share different ideas and perspectives in discussion, which shows that they constructed their identity primarily as a *sharer* rather than a *learner*. This finding demonstrates coherence to the previous literature on constructing identity and membership through language socialization since the participants built their identities in relation to the outside world by establishing relationship and interacting with other students rather than just perceiving their roles as fixed ones

(Norton, 2000). Thus, identity construction through language socialization should be seen as "complex, multifaceted, and dialogic" (Schecter & Bayley, 1997, p. 153).

Limitations and implications

The findings in this study clearly show that there are some differences but also some similarities in the ways NES, NNES, first and second year graduate students construct identity and membership in the classroom. Since this research only collected the interview data and did not gather any field notes, there is a lack of vivid descriptions of how the participants actually socialized into academic discourse. Therefore, in future studies, gathering multi-fields of data and enhancing multiple angles in viewing participants' language socialization process can enrich an insight of research.

The research has some pedagogical implications. First, instructors will know how NES and NNES students would perceive their roles and construct their membership and identity in a discussion-based classroom as well as how students' stances and forms of participation might shift over time and experience. Second, teachers will be aware of their roles in facilitating discussions and let students fully understand this. This study shows that initially many Asian students thought the instructor did not do her "work" because she was not teaching anything. Yet, they gradually came to realize that the instructor's role was not just to "spoon-feed" the knowledge to students but to let them scaffold and build it together in discussion.

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Personal perspectives: Men of color

7

"We are all taking the same classes, but we are not all living the same life:" An examination of the experiences of men of color in STEM

Danielle V. Lewis

Abstract

Much of the recent scholarship regarding underrepresented groups in science, technology, engineering, and mathematics (STEM) has focused on women. While women are certainly underrepresented in STEM, men of color are underrepresented at much higher rates. However, limited research on this population exists. With a significant shift expected in the demographic composition of the student-age population, continued increases in STEM opportunities, and most importantly, the need for increased access and equitable environments, a stronger understanding of the experience of this population is necessary. Results indicate that students of color experience isolation and feelings of otherness, which drive them to form relationships with peers who also hold racial or ethnic minority status; they encounter an underpreparedness for college-level academic work that white peers do not experience; and engagement in campus activities like clubs and work-study jobs helps bond students to the institution and thus serves as motivation to persist.

"We are all taking the same classes, but we are not all living the same life:"
An examination of the experiences of men of color in STEM

Much of the recent scholarship regarding underrepresented groups in science, technology, engineering, and mathematics (STEM) has focused on women. While women are certainly underrepresented in STEM, men of color are underrepresented at much higher rates, with Black and Hispanic men earning only 6% and 11%, respectively, of all STEM degrees nationally (U.S. Department of Education, 2019). However, there is a dearth of research on this population, and the scholarship that does exist are recent contributions to the literature. Additionally, these studies have either focused on student achievement of men of color in STEM graduate programs or do not disaggregate the experience of men in particular when discussing students of color (i.e. research often discusses gender and race in STEM separately, creating a knowledge gap regarding men of color). In fact, when students of color in STEM are discussed in the literature, it most often centers the experience of women of color.

The increasing need to fill jobs in STEM fields for the U.S. economy to remain competitive in the global market requires that U.S. institutions of higher education improve retention and graduation rates of racial minorities, especially in the STEM disciplines (Chubin & May, 2003; Palmer et al., 2011). A significant shift is expected in the demographic composition of the student aged-population, with racial minority students representing the major source for expansion of higher education markets (Frey, 2018; Fry & Parker, 2018; Murdock & Hoque, 1999). Thus, continued increases in STEM opportunities (U.S. Department of Commerce, 2011), more equitable environments and opportunities for all students, and a stronger understanding of the experience of racial minorities is necessary. The findings of this study may lead to the development of strategies and tools that can better support undergraduate men of color in STEM disciplines, which in turn could improve educational outcomes and increase the diversity of STEM pipelines.

Literature review

Students of color are often at a disadvantage in STEM disciplines even before they enter higher education due to unequal high school preparation (Rodriguez, 2018), with white and Asian students consistently outperforming their Black and Hispanic peers (Chubin & May, 2003).

While literature demonstrates that family support, previous academic success in science and math, and engagement in supplemental academic activities (e.g., science fair participation) all positively influence the interest of students of color in STEM (McGee, 2016), there is robust research indicating that achievement rates of this population are due, in large part, to systemic inequalities in education (e.g. they attend less well-funded schools and are educated by teachers that are insufficiently prepared to teach math and science) (Chubin & May, 2003). In fact, some high schools that disproportionately serve students of color fail to even offer the courses necessary for admission to state research universities (Rodriguez, 2018).

Students of color that are successful in gaining admission into an institution of higher education, despite being academically underprepared, must overcome obstacles to persist in their STEM majors. The experience of students of color in STEM can be isolating, with individuals often serving as the sole person of color in their STEM courses. Beyond the solitary nature that students of color in STEM are forced to manage, they are also subject to unwelcoming campus and departmental climates, often undergirded by constant stereotyping, enacted through racial microaggressions about their intellectual aptitude and STEM identity. These experiences can lead to struggles in interacting with faculty, leaving students of color without the opportunity to pursue and develop mentoring relationships with faculty in STEM, which have proven crucial. This is especially true at predominately white institutions (McCoy et al., 2017). A dearth of mentoring relationships and research experiences puts this population at further disadvantage in pursuing STEM graduate programs and careers, as they lack opportunities to gain the necessary social and cultural capital in their fields, as well as discipline-specific undergraduate research and internship prospects. The literature demonstrates the ways in which research experiences contribute positively to persistence, including the promotion of integration into STEM fields (Estrada et al., 2018; Rodríguez et al., 2018). However students of color who engage in undergraduate research or lab settings in STEM disciplines assert that faculty often use colorblind language, thereby denying their unique lived experiences and reinforcing racial

biases and stereotypes (McCoy et al., 2015). As a result, students of color have posited that in order to manage racist stereotyping and protect their STEM academic identities, they must adopt defensive strategies (e.g. performing conventional mannerisms), which in turn often disrupt their racial identities (McGee, 2016). Further, participants in this study (McGee, 2016) indicated that they could not be their authentic selves if they wanted to persist and succeed in their discipline.

Given the incredibly low representation of men of color in STEM (U.S. Department of Education, 2019), there are rarely peers in classes who are also racial or ethnic minorities, which can mean that there is limited peer support for students attempting to navigate obstacles like stereotyping and microaggressions. This is concerning, given that the literature clearly demonstrates the importance of peers in providing both academic and social support, like motivation and encouragement, and in reinforcing decisions to pursue STEM majors (Johnson, 2019; Lu, 2015; Palmer et al., 2011).

Beyond personal relationships with peers in STEM, engagement in campus activities is crucial for the retention and academic success of students of color. The literature indicates that STEM club participation positively contributes to retention and persistence for racial minority students (Chang et al., 2014). In STEM disciplines, there is a strong emphasis on peer collaboration and peer-based learning. Like professors, peers can also offer social capital in that they can act as "institutional agents," who can transmit institutional resources and opportunities, including access to co-curricular experiences (Johnson, 2019, p. 4; Xu et al., 2018).

Theoretical framework

The literature on masculinity theories has developed significantly in recent history (Waling, 2019), with much of the discussion centering on hegemonic masculinity. This concept is defined as oppression that perpetuates the patriarchy, or men's dominance over women (Connell, 1987); however, hegemonic masculinity centers the experience of white men and discounts the unique experiences of men of color. Flowers and Banda (2015) examined how men of color experienced the concept of

masculinity and found that a variety of social and cultural factors affect their own characterizations of masculinity. However, these influences vary based on racial and ethnic membership, with Black and Hispanic forms of masculinity differing greatly.

According to Flowers and Banda (2015), the perpetuation of what constitutes as adequate gendered identities in STEM spaces reifies a culture and climate that is welcoming to white male students and appears to be off limits to women and men of color. As hegemonic masculinity centers the experience of white men as the norm, it was not an appropriate lens to use in this study. The authors' (2015) call for a redefining of masculinity so that it more accurately applies to all men, especially those of color, is valuable in examining the experience of this population.

Methodology

This research was designed using a basic qualitative study, which enabled the researcher to focus on how participants make meaning of their communications, interactions, and relationships (Merriam & Tisdell, 2016). Data collection occurred through both interviews and observations, which helped to create a clearer illustration of the participants' experiences. As this research focused on examining the lived experiences of men of color in STEM, a basic qualitative study was an appropriate methodological tool.

Participant recruitment and demographics

Semi-structured interviews were conducted with 13 participants, all of whom were men of color enrolled in a STEM major at an institution near a mid-sized city in the northeastern United States. Men of color refers to any non-white individual who self-describes as a man and includes domestic students who identify as Black, Hispanic or Latino, Indian, and/or Asian. The participants' racial and ethnic backgrounds included Chinese, Southeast Asian, Black, Indian and Pakistani. STEM disciplines include the natural sciences (e.g. biology, chemistry), computer and information sciences, social and behavior sciences (e.g. psychology, sociology), mathematics, and all of the engineering disciplines. The majors of participants included biological sciences, computer

science, math, and geographic information science. There was diversity across the class years represented, with students in their second year through fifth year represented.

Students were recruited via email and compensated $10 for participation. Outreach to recruit participants focused on student clubs that indicated non-white status, enrollment in a STEM discipline (e.g. National Society of Black Engineers, Biology Club) or both. The researcher also worked with the engineering school at the study site to identify possible participants. Direct invitations were sent to several students who fit the criteria and had participated in a previous study. Several female students of color in STEM known to the researcher also invited peers to participate. Snowball sampling, the process of using the knowledge of current respondents to identify potential study participants, was utilized (Davis, 2010). It was not until the faculty advisor for the biology honors program recommended a set group of students to recruit that the researcher was successful in identifying qualified participants. Despite the varied outreach, most of the study participants were biology majors, and therefore, the sample is not representative of enrollment in STEM disciplines at the research site.

Methods
Interviews served as the sole data collection method. Each participant was interviewed once in person for at least 30 minutes, with some interviews occurring for 90 minutes or more. Prior to beginning each interview, a consent form was reviewed, signed by the participant, and collected by the researcher, as Institutional Review Board approval was received. The criteria for participation were again reviewed to ensure individuals met the study conditions. Interviews were recorded and transcribed; analytic memos were created immediately after each interview. The questions asked allowed for participants to reflect on and discuss their undergraduate experiences, both in the classroom and socially.

Data analysis and triangulation
Data were examined using inductive or open coding, which allows the researcher to analyze data without predetermined codes that are typi-

cally informed by the literature (Kvale & Brinkmann, 2009). Atlas.ti, a qualitative data analysis software, was utilized for the coding process, which enabled the researcher to easily organize the data into specific codes and identify themes. As classroom observations were also conducted, trustworthiness, or the act of using multiple procedures or sources in data collection, was ensured (Lincoln & Guba, 1985).

Limitations

To effectively make meaning of an individual's lived experience, participants must be able to articulate said experience in great detail. All participants were traditionally-aged undergraduates, and as such, some may not have had experience participating in one-on-one interviews. Additionally, the sensitivity and social and political nature of the subject matter being discussed – race – could have impacted participants' responses, especially given that the researcher identifies and presents as white. Finally, as mentioned previously, the sample ultimately is not representative of the STEM disciplines, with only four of 13 participants majoring in engineering.

Findings

The intersection of race, gender, and discipline and how it impacts student experiences pervaded the participants' stories. The participants in this study confirmed that there are very few men of color in STEM, and that, when possible, they tend to socialize with other students of color. Participants also substantiated that they felt underprepared for the rigors of college coursework and recognized that this was a result of attending high schools that primarily serve students of color, which are typically under-resourced. Lastly, those involved in the study affirmed that engagement with faculty and in campus activities creates feelings of connectedness, which has been found to aid in the retention and academic success of students.

Students of color spoke frequently about the isolation they experienced within higher education, and more specifically, in their STEM courses. For example, one participant, a student of color in an engineering major, spoke of the first time he noticed that he was the only person

of color in a course with 30 students. He stressed that he did not feel less capable in that course than other students. He went on to note that he remembers thinking that he "needed to represent his group of people… because essentially in this room, I am the only Black guy. I need to deal with it because it's not going to change." This pressure that the student felt to represent his population well seemed to create additional stress on this individual. He also noted that, from his perspective, there was a lack of support or any resources for students of color that could aid in his success. This finding was echoed by multiple students in the study, with one saying:

> Sometimes people are like, 'Oh well, we are all taking the same classes,' but we are not all living the same life. I could even say it's a barrier not having people who look like you in your classes, not feeling comfortable in your classes, not feeling like you have people you can talk to, who understand.

These feelings of otherness extend beyond peers, with many participants indicating that there were often no faculty of color in their STEM disciplines. One participant noted that not only were there no African-American faculty in his academic area, but there were also no Black engineers on the multiple visits he made to engineering firms.

The experience of isolation resulted in men of color intentionally seeking out other students of color. Undergirding these peer relationships is the shared experiences that men of color encounter, which participants indicated enabled them to relate to one another in a way that is not possible with white students. Multiple participants discussed that they would almost always gravitate towards other students of color. Hank, a computer science student who identifies as Asian, offered that "My friends are pretty much all Asian, though I do have Black friends..." and indicated that the only club he participated in was the Asian-American Student Union.

There were interesting distinctions about how these peer relationships manifested among different racial and ethnic groups. While I found that students of color in STEM tend to form social groups within their own race or ethnicity, some of the participants actually referenced feelings of isolation within groups formed by their own populations.

Participants posited that exclusion within ethnic or racial groups occurs due to the high value placed on succeeding in many STEM disciplines, which creates competition. This competition can also be exacerbated by racial issues or cultural expectations. A Pakistani student majoring in biology indicated that "as a person of color, you get pushed down so when you can get a leg up, you want to hold your position and not bring others up with you". Further, findings indicate that there are other social categories that further separate groups, such as class or religion. Another participant spoke of his experience at a historically Black college and how it was rife with socioeconomic divisions. This dynamic and its impact on his socialization affected his experience so much so that it ultimately precipitated the individual's decision to transfer to another institution.

Participants indicated that engagement in campus activities beyond coursework led to stronger feelings of connectedness to the institution, which several study participants indicated served as motivation to be academically successful and ultimately, persist in both STEM majors and to graduation. One student shared the following, in reference to his on-campus job:

> It kind of helped me with school, too. It made me more responsible outside the classroom […]; it made me want to be all around [successful at his job and his academics], especially when I became an RA [Resident Advisor], that changed a lot, because I can't like tell my students, my residents 'Hey, you should really be studying' and I'm not studying.

Another student discussed how their research experience helped shift their post-graduation focus from medical school to a doctorate in Biophysiology, in order to support a research position in industry. Further, another participant highlighted a number of teaching assistants who were especially helpful to him and acknowledged a singular white female computer science faculty member with whom he had several valuable experiences over a period of time.

Another finding was that students possess an awareness that as students of color, they were underprepared for the rigors of college coursework. As one participant noted:

> I thought my high school was...challenging, until I got here [re-
> search site]. I really feel like my high school did us really bad, and
> I know it's not their fault. I went to [a borough of New York City];
> it was a zoned high school...basically poor kids and stuff, you
> know we had free lunch and basically, they didn't really have a lot
> of expectations for us. I'm still dealing with the effects of that 'til
> this day...they really didn't prepare us for this at all.

Hank, the Asian computer science student, echoed this sentiment shar-
ing that he frequently struggled in his major classes because he had no
prior coding experience, and unlike many of his classmates, had taken
no Advanced Placement courses. Connected to this finding was the
absence of supportive and engaged high school guidance counselors. As
a first-generation student, Matt struggled through the college application
process and indicated that older cousins who had already navigated it
assisted him much more so than anyone in his high school did.

Another participant, Francis, started his undergraduate career as a
biomedical sciences major, which he selected because he did not un-
derstand what it meant to major in a discipline. As he hoped to become
a doctor, he selected this major simply because it had the term medical
in it. He was ultimately weeded out of biomedical sciences through a
required course. This lack of hidden curriculum-type knowledge is an
indication that Francis did not have much support throughout his col-
lege process from his high school teachers or guidance counselor. This
participant ultimately changed his major twice more before deciding on
biology, which he enjoyed; however, he indicated that he consistently
felt behind the rest of his classmates as he was being exposed to much
of the academic content for the first time. He noted that while many of
his peers were capable of conducting experiments in initial lab courses,
Francis was unaware of even the correct terms for the instruments that
were being used. This highlights the idea that the high schools many stu-
dents of color come from are failing to adequately prepare their learners
for success in higher education.

Finally, participants confirmed that engagement with faculty and in
campus activities creates feelings of connectedness, with some students
indicating that both of these items aided in their own retention and

academic success. One participant, a double major in math and mechanical engineering, discussed several challenges that his math faculty supported him through, including the identification of scholarship funds so that the student could complete his degree. An Indian student, Matt, indicated that while he had unpleasant interactions with white students in his STEM classes, he remained comfortable reaching out to faculty and was proud to have been nominated for the biology honors program by one of his professors.

Men of color are significantly underrepresented in STEM. These findings indicate that despite acceptance into STEM majors, this population frequently experiences immense social isolation and academic difficulty while in these spaces. However, the participants in this study demonstrate that when men of color in STEM are connected to appropriate resources and supports – peer relationships, mentorship from faculty, involvement in campus activities – they can be successful and persist in their majors.

Discussion

Recent research, while limited, has identified common experiences that men of color in STEM undergo, both challenges they may face and aids that can be implemented to support this population. The data from this study substantiates much of what is found in the literature. The mere fact that certain groups of students are underrepresented can have negative impacts once admitted to college. Bourdieu's (1977) argument regarding habitus, which asserts that students will gravitate towards setting, and by extension, people, with whom they are already familiar (Jack, 2016). However, when there are few or no students of color in an individual's major or discipline, underrepresented students experienced isolation in unfamiliar environments in which they were the only member of a minority group (McCoy et al., 2017; McGee, 2016). In turn, participants indicated that they purposefully pursued the creation of relationships with other students of color, as shared status as members of a racial or ethnic minority enabled them to relate to one another in ways that they cannot with white peers. This is consistent with previous literature that demonstrates that communal support is essential to racial and ethnic

minorities' persistence and success in STEM fields (Nestor-Baker & Kerka, 2009). Further, research by Kendricks et al. (2010) illustrated that having a sense of community can be extremely beneficial toward minority and other disadvantaged groups; yet, if opportunities to form such communities are limited through underrepresentation, then the college experience of these students will likely suffer, and in turn, this isolationism could impact their ability to persist.

The finding that engagement in campus activities leads to heightened feelings of connectedness to their institutions, and thereby serves as motivation to persist and be academically successful, is consistent with the literature (Chang et al., 2014). Given that many STEM disciplines value group work and collaboration with peers, this is an opportunity for other individuals – faculty, staff and students – to offer social capital to students of color who may be lacking it (Johnson, 2019; Xu et al., 2018). Students of color in the study possessed awareness that their high school experiences did not adequately prepare them for the rigors of college coursework, which has been previously established in the literature (May & Chubin, 2003). Related to this notion is the absence of engaged high school guidance counselors, which is an issue that has been highlighted in the literature (Gast, 2016).

Implications for future research

As students of color experience feelings of isolation frequently, which can negatively influence their retention rates, an examination of how this population perceives support initiatives intended for them could be valuable (Winkle-Wagner & McCoy, 2018). Are they aware of available resources, and do they find them helpful? If institutions of higher education were able to provide student support services to men of color in STEM majors proactively, persistence and retention may increase (Jack, 2016; Palmer et al., 2011). Racial minority students need to have more access to extracurricular and research opportunities, to engage meaningfully with faculty and in their intended field of study (Chang et al., 2014). As such, scholarship on the motivations of faculty who mentor students of color in STEM should be explored, in an effort to capitalize on existing supports and identify mechanisms to recruit others. If there

are institutions that are effectively supporting and incentivizing faculty to engage in mentoring activities of minority students, these should be studied.

White STEM faculty need to become more aware of the barriers students of color face, to grow trust, and to develop effective mentoring relationships, which aid retention and academic success (McCoy et al., 2015). Moreover, pre-college programs that allow prospective students of color to develop meaningful connections with other prospective students and help prepare them for the rigorous coursework (Johnson, 2019; Tomasko et al., 2016) should be evaluated so that recommendations for broader implementation can be presented. State policy also needs to change to tie high school course offerings to the requirements of the state's higher education institutions, to ensure equitable access to these universities for all students (Rodriguez, 2018).

Conclusion

As demographics of the U.S. population shifts away from majority white, it is imperative to support populations that have typically been underrepresented in higher education (Murdock & Hoque, 1999). Expansive growth in STEM fields and accelerated international development in this space necessitates that the United States train and educate an effective and diverse workforce to remain competitive in an increasingly global environment (Chubin & May, 2003). While much attention and resources have been directed toward increasing the number of women in STEM, men of color are represented in these disciplines at far lower rates. When they do self-select into these fields, men of color experience much lower rates of success than white peers (Bransberger & Michelau, 2016); yet, special support initiatives for this population of students are limited. However, research demonstrates that when men of color in STEM are supported appropriately – through mentored research, summer bridge programs to address underpreparedness, and engagement in campus life – they can be successful. As anticipated increases in diversity amongst the student-aged population occur, jobs in STEM areas continue to grow and most importantly, the need for progress towards equity is ever-present, exploring the experience of men

of color in STEM helps to better understand the unique needs of this population and the ways in which they can be most effectively served and supported.

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Personal perspectives: Teaching

8

Emergency remote teaching with reacting to the past: A case study

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Abstract

In the wake of the COVID-19 pandemic, classrooms worldwide utilized emergency remote teaching (ERT), presenting challenges for instructors who wished to maintain learning objectives and best practices amidst unexpected circumstances. Maintaining best practices while converting to ERT was especially difficult for history courses that incorporate Reacting to the Past (RTTP) pedagogy, which is based on immersive historical role-playing and active learning. This case analyzed results from the Northern Michigan University History Department. The professors were well versed with RTTP best practices and had some online teaching experiences but had never employed the pedagogy online. With little time to restructure their courses, the professors adapted games to a variety of web-based platforms. The results show positive learning outcomes using this pedagogy in a time of crisis. This case study provides a unique and theoretically-sound contribution to the fields of online and history pedagogies while also supporting additional research calls for the role of emotional presence in the Community of Inquiry.

The history department at a midwestern regional public university was still holding courses on campus during early March 2020. Thanks to global news outlets tracking the spread of COVID-19, many professors and students anticipated a campus closure and prepared to conduct classes remotely for the remainder of the semester. However, knowing that something is going to happen and being prepared for it are two very different things. The rapidity with which each student was able to return to any semi-organized structure was largely dependent on which courses they were taking. At the same time, there was no real way of knowing when the return to normality would happen, if at all. Because of this, many students disengaged academically and socially. This dramatic fall in student interaction presented a challenge for the history courses employing Reacting to the Past (RTTP) historical role-playing games that rely on student-student interaction. Even so, the use of the pedagogy resulted in positive learning outcomes for the participating students.

This case study focuses on the university's history department courses that were running RTTP games when the university switched to an emergency remote teaching (ERT) format. RTTP is a pedagogy that encourages student commitment by placing much of the perceived control over a classroom into the hands of the students. The professor still has the final say in matters, but through debate founded on historical research and strategic planning, the students ultimately control where and how the class progresses. RTTP is a proven teaching method (Proctor, 2011), but most of the games associated with the pedagogy do not have clear guidelines for online integration. Ultimately, however, any guidelines are generally rendered moot if the students have difficulty working with an unfamiliar format. Even amidst the abrupt transition to ERT, most courses still accomplished their learning objectives. This study analyzed differing methods for rapidly transitioning RTTP into online formats to promote interaction, retain student commitment, and accomplish learning objectives.

Literature review

Online teaching best practices

Online teaching best practices align with best practices in teaching generally, but also require additional attention to online course design. Three frameworks, that are excellent examples of quality teaching guidelines, create a conceptual foundation for this study. Chickering and Gamson (1987) suggested the following principles for quality undergraduate education:

> (1) encourages contacts between students and faculty; (2) develops reciprocity and cooperation among students; (3) uses active learning techniques; (4) gives prompt feedback; (5) emphasizes time on task; (6) communicates high expectations; and (7) respects diverse talents and ways of learning. (p.2)

The Quality Matters (QM) standards ensure rigor and best practices of online course design. Specifically relevant to this study is QM Standard 5.2, which requires opportunities for learners to interact with each other, the material, and the instructor. The Community of Inquiry framework delineates between cognitive, social, and teaching presences and suggests that all three must be present to create a deep and meaningful learning experience (Garrison, et al., 2000). Building on the three presences of the Community of Inquiry, scholars increasingly call for a fourth category recognizing emotional presence (Cleveland-Innes & Campbell, 2012; Lawson, 2019; Majeski, et al., 2018). Under ideal conditions, these frameworks would guide online course design and delivery to maximize student learning. However, even under the most difficult and challenging circumstances of ERT, these guidelines can help inform understanding of conducting RTTP online during the pandemic.

Emergency remote teaching

Emergency remote teaching differs from online teaching due to the lack of preparation. While online teaching requires extensive attention to course design, ERT may be defined as "a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Hodges et al., 2020, para 13). When the pandemic shut down

classrooms worldwide, the educational community quickly sprang into action to support teachers and students (Commonwealth of Learning, 2020; Hulett, 2020; Miller, 2020). Problems emerged such as losing the benefits of the physical classroom, including body language and instant verbal interactions, resulting in a situation of teaching-triage (McMurtrie, 2020). Recognizing the need to promptly build capacity for online teaching and learning amidst serious obstacles such as the digital divide, varying technological skills, and prior experience with online teaching and learning, uncertain employment circumstances, potential housing and food insecurity, and isolation from loved ones, emotions in higher education's newly-virtual classrooms were particularly prominent in the weeks following the shutdown. The often-difficult and emotionally-charged experience of ERT impacted the ways in which many faculty prepared for the subsequent Fall 2020 semester (Fox et al., 2020).

While there is ample literature on the role of emotions in effective teaching as well as the potential for heightened emotions during RTTP (Lightcap, 2009; Proctor, 2011), this study fills an existing gap in the literature in several ways. To the best of our knowledge, no studies exist utilizing Chickering and Gamson's (1987) Seven Principles and the Community of Inquiry (Garrison et al., 2000) framework as a way to evaluate learning outcomes, objectives, and perceptions of experiences for RTTP games conducted online. Nor does the existing literature about emotional presence consider these same circumstances. This case study provides a unique and theoretically-sound contribution to the fields of online and history pedagogy while also supporting the call for additional research into the role of the emotional presence of the Community of Inquiry.

Reacting to the past

RTTP is a cooperative, active learning, immersive, and often emotionally-charged historical role-playing pedagogy that fits into a broader constructivist learning paradigm. Cooperative learning is characterized by student collaboration and communication as well as by the instructor-as-facilitator (Aronson & Patnoe, 1997; Johnson, et al., 1991), who takes the role of 'game master,' guiding the students in their objec-

tives without direct instruction. Active learning benefits students by improving their understanding (Crouch & Mazur, 2001; Kvam, 2000), increasing student retention in the general student population and in underrepresented minorities (George, et al., 2004; Lorenzo, et al., 2006), and enhancing conceptual learning, problem-solving skills, and attitude (Beichner, et al., 2007).

Developed in the mid-1990s at Barnard College, each RTTP game includes character role sheets with objectives, background and primary source readings, quizzes, and an instructor's manual. Students must leave behind their preconceived notions about the historic era and embrace their character wholeheartedly. The intermediary period in which a student is trying to embrace their character but has not done so entirely is known as liminality, which is defined by a rite of passage that is often disorienting and emotional. From the students' perspective this may include understanding their role in the community of the game and coming to terms with the ideas and values of their character, which may be different from their personal beliefs.

Liminality is a crucial component of RTTP because it empowers students to transform their educational space and mindset into their historical circumstances for the game (Carnes, 2004). Such transformations are often emotionally-charged learning experiences because students progressively think and argue from their character's point of view, and because some games encourage heckling, generally utilized by students who have particularly outspoken characters. They can interrupt game proceedings by loudly voicing side comments or outright intentionally disrupt events. For instance, a student might stage a protest, lead a parade, spark a revolution, or otherwise disrupt the game in a generally emotive way.

RTTP helps students develop and enhance their critical thinking, collaboration, leadership, argumentation, and problem-solving skills (Carnes, 2014; Hughes, et al., 2006; Johnson, 2017). Most students enjoy RTTP and create meaningful connections with their peers and instructor, which may enhance their university experience and retention (Hagood, et al., 2018; Higbee, 2009; Johnson, 2017). While the existing literature supports the benefits of incorporating RTTP into the traditional

classroom, few publications address the challenges and outcomes of conducting RTTP online.

Methods

It is important to note the paradigm guiding this study because doing so helps "clarify and organize the thinking about the research" (Cohen et al., 2018, p. 9). A paradigm may be described as a world view, a set of beliefs, and a way to pursue knowledge (Cohen et al., 2018). This qualitative case study fits within the interpretivist or subjectivist paradigm. The researchers drew conclusions individually and then collectively negotiated shared meanings about the data sources. The researchers reject the notion that truth exists outside of human interpretation as in the positivist paradigm. Rather, the researchers constructed their own meanings using interpretation.

A midsized midwestern regional university in the United States is the context of this case study. It has a well-developed laptop distribution program for students and an educational broadband network spanning several hundred miles around the university, providing free high-speed internet to the university community. While the laptops and broadband network afforded some advantage for ERT, many students left campus when the pandemic struck and lacked reliable internet access.

The methodology is a single revelatory case study with multiple embedded units of analysis (Yin, 2003). When the university shut down due to the COVID-19 pandemic, four History Department courses, which are the embedded units of analysis, were forced to convert high-impact, high-energy, and high-engagement on-campus RTTP games into online formats. These circumstances make the case revelatory.

All four classes met entirely on-campus prior to the shutdown. Three courses were lower-level introductory seminars, with content and difficulty levels generally geared toward first- and second-year students. Students often select these courses to meet general education requirements, and as such the students varied in their academic majors, years of experience in the university, and history-specific background. One course was at the upper level consisting of mostly graduating history majors. Class size varied, as shown in Table 1.

Table 1
Course details

	Embedded units of analysis			
Course title	HS 110	HS 130	HS 222	HS 308
Virtual Attendance after Shutdown	30 (86%)	38 (78%)	35 (81%)	16 (100%)
Teaching Assistant	Yes	Yes	Yes	No
Game #1, Timing, A/synchronous, Technology	*Second Crusade*; two sessions to go post-shutdown; Synchronous on Zoom	*Climate Change in Copenhagen*; Halfway into game at shutdown; Asynchronous; Slack & LMS	*Paterson Silk Strike 1913*; Prior to shutdown, in person on campus	*Rousseau, Burke, and Revolution in France, 1791*; Prior to shutdown, in person on campus
Game #2, Timing, A/synchronous, Technology	*The Black Death Comes to Norwich*; end of semester; Asynchronous; LMS	*The Needs of Others, Rwanda, 1994*; end of semester; Synchronous; Discord & LMS	*Women's Liberation*, a few weeks into the shutdown; Synchronous, Zoom	*Mexico in Revolution*, 1911–1920; end of the semester; Synchronous; Discord

The lower-level courses utilized an instructional team approach with a professor and a paid undergraduate teaching assistant. The four history courses took different approaches to implementing RTTP in response to ERT and thus experienced different outcomes. They varied with their use of educational technologies, which included Zoom, Slack, Discord, and the university's learning management system (LMS) and requirements for asynchronous and synchronous meeting formats.

The following questions were considered for this research project:

- Did the RTTP games achieve anticipated learning outcomes when implemented in the context of ERT?
- Did faculty perceptions of the RTTP game as an immersive and emotionally-charged learning experience suffer when implemented in the context of ERT?
- Were faculty able to achieve online teaching best practices according to Chickering and Gamson (1987), Quality Matters Standard 5.2, and the Community of Inquiry framework even when faculty did not intentionally design for those expectations?
- How did the experience of conducting RTTP during ERT impact faculty decisions about teaching during the Fall 2020 semester?

The sources of evidence for the case study include oral history interviews with faculty from the four courses, analysis of learning objects, anonymized student-created digital artifacts, and written documentation. The oral history interviews were recorded via Zoom and then digitally transcribed using Otter.ai software. The written documentation included anonymized student course evaluations, anonymized student evaluations of teaching assistants, teaching assistant self-evaluations, and professor evaluations of teaching assistants. Institutional ethics approval was received.

The four oral history interviews served as the core analysis mechanism and were coded using a two-step process. All three members of the research team drafted initial open codes to describe the interview transcripts. Minor discrepancies were discussed and resolved. Axial codes were subsequently negotiated by the research team for shared meanings of themes and applied to the open codes. These coded results were then compared back to the research questions.

Construct validity was established by using multiple sources of evidence, member-checking, and establishing a chain of evidence (Yin, 2003). The written documents were used to triangulate the findings in the interviews. The learning objects and anonymized student-created digital artifacts were used to corroborate findings regarding learning outcomes and online teaching best practices. Anonymized course

evaluations, student evaluations of teaching assistants, teaching assistant self-evaluations, and professor evaluations of teaching assistants were used to corroborate perceptions of the immersive and emotionally-charged learning experience. It should be noted that the written documents did not explicitly inquire about RTTP. Rather, some people opted to discuss their experiences in the general comments section of their respective documents.

Member checking was employed at two stages to increase the trustworthiness of this study. Interview transcripts were sent to the four faculty members after typographical errors were fixed from the transcription software. The four faculty members verified the accuracy of the interview transcripts. Member checking also occurred after drafting the data and findings sections of this research study. Again, the members verified the accuracy.

Data

Four professors were interviewed about their experiences conducting RTTP during the winter 2020 semester when campuses were shut down and forced to conduct ERT. Table 2 shows each professor's determination regarding achieving intended learning outcomes and student engagement for each of the two RTTP games played.

Qualitative results indicate a more complex backdrop about factors that professors considered when deciding how to conduct RTTP given the unexpected disruption. The results from coding the interviews are reported in Table 3.

Findings

RTTP games were either in progress or scheduled when the COVID-19 pandemic forced the campus closure. The courses chosen for this study demonstrate RTTP's impact on learning during the emergency shutdown, and how the shutdown affected later decisions regarding its use. The four professors are experienced Reactors with an excellent understanding of how RTTP games work, and how students should act in specific scenarios. Three professors are authoring their own games in various stages of development. By the time of the shutdown, all four

Table 2
Objectives achieved

	Embedded units of analysis			
Course title	HS 110	HS 130	HS 222	HS 308
Game #1 Learning Objectives Achieved as Reported from Instructor Interviews	Yes	No	Yes	Yes
Game #1 Typical Level of Student Engagement Achieved as Reported from Instructor Interviews	Yes	No	Yes	Yes
Game #2 Learning Objectives Achieved as Reported from Instructor Interviews	Yes	Yes	Yes	Yes
Game #2 Typical Level of Student Engagement Achieved as Reported from Instructor Interviews	Yes	Yes	Yes	Yes

classes had either already completed one game or were at least halfway to completing one.

HS 110: Pop culture and history

This course of 35 students incorporated two games, one based on the Second Crusade and another based on the Black Death. The first game of the semester was interrupted by the shutdown with only two sessions left and was completed on Zoom during the regular class time. Likely due to the significant disruptions caused by closing campus and many students moving home, as well as some unfamiliarity with the platform, attendance was lower than usual, and some important characters were unable to participate.

Because of the difficulties faced during the last two sessions of that game, and due to concern about the disruption the pandemic was having on students' lives, the instructor decided to conduct the second game

Table 3
Interview coding

Open coding: Descriptions	Axial Coding: Themes
Students don't have internet off campus. Students have inconsistent and unreliable internet off campus. Some students and professors were grateful for the university broadband network stretching across the community. Which software could allow students to be named according to their role? Which software could allow students to backchannel using written communication while also affording video speeches? How will everyone learn the software? Role distribution must occur electronically rather than on campus.	Technology factors
Student employment schedules changed. Students lost jobs. Students were food insecure. Students were housing insecure. Students lost daycare for their children. Students worried about their at-risk loved ones. Professors and teaching assistants had to quickly identify campus and community resources and connect students with those resources. Students need time to move home.	Concerns for student well-being

(continued)

Table 3, continued

Open coding: Descriptions	Axial Coding: Themes
Students were not trained to learn online. Professors were not trained to teach online. Professors were comfortable with teaching online but not synchronously. Teaching assistants noted varying degrees of comfort with online learning.	Prior online teaching and learning factors
Liminality, emotional, and physical components of RTTP might diminish online. Less opportunity for students to bump into each and spark conversations that facilitate the game and learning. Less opportunity for students to ask professor or TA questions.	RTTP pedagogical factors

entirely asynchronously using the university's LMS. A special forum was set up for discussion and all materials were made available digitally. A schedule was drawn up outlining when certain discussions had to be completed and how voting and other game mechanics would be implemented.

The result of these changes to the format of the game was that although there was less intrigue and boisterousness, elements that account for part of RTTP's engaging nature, the students were highly invested in the material and the debates around questions of quarantine, mitigation, and disposal of the dead. These are issues built into the Black Death game, but they gained a stark immediacy during this semester in particular as students were inundated with news reports about the same things. According to one student during the game's debrief session,

> I knew they were pretty much the same situation but it really hit
> me how similar the situations really are when I was discussing the

game with my mom and she did not realize I was talking about the game and thought I was talking about the things that were happening with COVID-19.

Other comments from students after the end of the game further demonstrated the impact of online RTTP. Previously, a large part of the debrief was devoted to students explaining why they took certain actions, but during the winter 2020 semester, the students were much more focused on the texts than on the mechanics, and how the history related to current events. For example, immediately before the debrief, a large anti-quarantine protest had taken place in Lansing, the state capital, which was compared to the arguments for and against quarantine in the game. Demonstrating a deeper dive into the history, several students compared news reports and their own witnessing of Sinophobic attacks and anti-Chinese rhetoric with medieval accounts of anti-Semitic frenzy in Europe during the Black Death, something that is not included as an element within the game.

HS 130: Globalization & you

In HS 130, which had just started the *Climate Change in Copenhagen, 2009* game, the instructional team decided to use an asynchronous approach to accommodate the uncertainty of students' circumstances. Students immediately reported changing employment shifts, moving back home without internet, childcare needs, and in one case sudden homelessness. The instructional team selected Slack, which is an app dedicated to professional instant messaging, offering students the ability to remain in character and to post asynchronous messages. The only question that remained was whether students would actively participate or not, since asynchronous RTTP is, even more than typical RTTP, based heavily in self-motivation.

The answer to that question was, with the exception of a small handful of students, a resounding "no." The active students were those previously strongly engaged in the class, but participants went from being exceptionally vocal to being almost silent and confused as to how they should proceed. As the instructional team learned, students were overwhelmed by the emergency. Indeed, it took several weeks for

most of the students to resume communication in the midst of constant announcements and emails from the professor and teaching assistant designed to encourage participation. The instructional team deemed this first RTTP less than satisfactory, with only a few students achieving intended learning objectives.

Fortunately, HS 130 had one more RTTP left for the semester: *The Needs of Others: Human Rights, International Organizations and Intervention in Rwanda, 1994*. With the previous lackluster results, the instructional team switched to synchronous class periods. Furthermore, this game utilized the app Discord, allowing synchronous meetings to incorporate voice calls and a friendlier user interface. Discord has popularly been known as a gaming medium, though due to the pandemic the developers made certain changes to allow for more academically-based servers to exist with professors and teachers in mind, allowing voice channels to initiate video conferencing much like Zoom. These changes influenced the decision to move to Discord as the preferred technology for RTTP.

Concerns about students' internet access for synchronous sessions were only realized in a single participant, who was invited to post their arguments on text channels. Overall, this method of synchronously meeting, with the professor having the ability to assign certain permissions to students with particular roles, made for a much better solution. Gone was the widespread confusion about course work since students simply needed to ask questions as they would in a physical class. Participation further skyrocketed as a result of these interactions. Upon surveying multiple students informally, it was found that they preferred Discord and synchronous meetings to Slack and asynchronous meetings, especially because Discord permitted more widespread academic debate because of its voice chat.

Of particular note are the comments left by students after completing both of the games. Many students expressed their anxiety and stress as a result of moving the course online, with at least 25% of them leaving formal comments in the end-of-semester course evaluations. Approximately 33% of the class voiced informal comments to the professor and teaching assistant during and after class sessions. These

same students also expressed that many of their negative feelings were abated upon moving to Discord, as they were able to communicate much more effectively. At the end of the second RTTP, the instructional team deemed the Rwanda game a resounding success. The intended learning outcomes were achieved in a similar manner to in-person RTTP.

HS 222: United States History Since 1865

Instead of an asynchronous setting over a message forum or synchronously over Discord, the instructor chose to hold the RTTP synchronously over Zoom for the *Liberation: Second Wave Feminism in America* game. The class had already played a full game before the shutdown, so they were familiar with the pedagogy.

After campus closed, the class held a "Pandemic Week" where the focus shifted to pandemics and epidemics in history, including the 1918 flu and a polio outbreak in San Francisco. One result of this focus was that it gave students time to settle into a new routine and work out any technical issues arising from the move to virtual instruction. This gave the professor the confidence to hold the game synchronously, and this was borne out by attendance, which was at the same level as the class pre-shutdown.

Although the instructor felt that the online setting hampered some of the liveliness of the game, which relies on heckling and a spirited back-and-forth between characters, the professor found that in terms of outcomes nothing was lost, and said,

> I think the main learning objectives of the game were accomplished in terms of understanding the issues in women's liberation but also understanding the nature of radicalism and factionalism and these types of issues with compromise and lack of compromise within radical movements.

While acknowledging that the game was "not as fun," the move from in person to online had no negative effect on the desired outcomes.

There was no detectable difference in the level of work submitted by the students, indicating that while the shutdown disrupted the students' routines and forced many of them off campus, it did not interfere significantly with their writing and studying habits. Interestingly, in the student

evaluations, none of the students distinguished the two games in the class, noting only that RTTP as a whole was well-received.

HS 308: Themes in Modern Europe

HS 308, focusing on modern revolutions, was a smaller seminar with 16 students. As with the other classes, the students in HS 308 had already played a game: *Rousseau, Burke, and Revolution in France, 1791*. The French Revolution game was played entirely on campus, while the class's second game, *Mexico in Revolution, 1911–1920*, began just prior to the shutdown.

This professor emphasized the social element that RTTP provided the class, which was aided by the fact that it was held synchronously. The course consisted mainly of history majors who already had an established rapport with each other. The professor stated,

> They almost universally discussed how vital they found the connection for them at that moment in their lives, that they were feeling the full-on initial pressure and scare of it. A lot of tension. Some of these are graduating seniors concerned about what world they're going out into. And then they talked very frankly and openly about that.

It was also noted that the students would stay after the allotted class time on Zoom, continuing to discuss the game. This is a notable feature of RTTP in a physical classroom, where students will often stay after class or meet outside class to continue the game.

The professor confirmed that the quality of the work from the students was on par with other semesters. It may have been slightly better, suggesting that since there was less focus on the "mechanics or antics" of the game, the students were more focused on the arguments. According to the professor, "they were grateful for having this sort of experience in a way that was more elevated than usual. And that may have been translated into a certain higher degree of commitment." The level of engagement in this instance, being in the midst of such uncertainty, was not guaranteed to continue in later semesters though the professor remained open to running the game online in the future.

Comparison of history courses

As a result of the experience gained from the shutdown, the four professors had different approaches to RTTP the following fall semester. The first selected in-person classes and continued utilizing RTTP in the classroom, although accommodations were made in light of social distancing restrictions, and this professor was prepared to move their classes online if needed. The second chose not to use RTTP in the fall, since the assigned room was too small to fit everyone, with half the class on Zoom on a rotating basis. No solution could be found to integrate RTTP into that situation. The third opted for entirely online courses and did not wish to use RTTP asynchronously for large classes, though they remained open to the possibility depending on future developments and feedback from others with that experience. The fourth designed the upcoming fall semester to meet synchronously online precisely to accommodate RTTP, reduced the course cap to 35 students, and only selected one game rather than two.

The experiences in these classes were overall positive in many aspects despite the stress and uncertainty of the shutdown. Differences in presentation, format, technology, class size, and level were all present, but each instructor was able to, at short notice, rework schedules and methods to retain RTTP as an element in their winter 2020 classes. Attendance was generally not negatively affected by the closure of campus, nor did technology cause a significant hindrance to learning outcomes.

Most importantly, the learning outcomes were at minimum on par with the same games in a regular semester, and in at least one case a slight improvement was seen. The professors were able to meet their original objectives, and in some cases also tied the game directly to events caused by the COVID-19 pandemic. The students, though unable to take part in certain interactive elements of the games, did not indicate any negative impact on their own learning experience. And, although in agreement that online delivery is not the optimal method for games designed for classroom use, the professors were willing to continue to use RTTP online should circumstances dictate.

Implications

According to recent research, the COVID-19 pandemic has highlighted the need for faculty professional development for online, hybrid, and highly-flexible undergraduate courses, especially considering the drop in undergraduate enrollment and increased drop/fail/withdraw/incomplete (DFWI) rates (Bryant et al., 2021). While universities are unlikely to provide professional development opportunities that specifically address RTTP in the online environment, the Reacting Consortium (the professional organization devoted to peer-review and support) has already triggered professional development opportunities to support online RTTP needs.

The decision to adopt RTTP in an online course requires additional considerations beyond those normally considered for an on-campus course. The instructors involved in this case study did not have the luxury of such considerations given the unexpected nature of ERT. The outcomes emphasize the differences between ERT and online teaching best practices. Instructors considering incorporating RTTP into their online courses should consider online teaching best practices, technology options, and their students' needs. The technology options and student needs overlap and inform each other.

Whether conducted on-campus or online, RTTP aligns with several elements of the three frameworks for quality teaching discussed in the literature review. RTTP promotes the first three pillars for quality undergraduate education because it requires interaction between students and faculty, cooperation among students, and active learning (Chickering and Gamson, 1987). Similarly, each game includes role sheets, a student gamebook with historic primary sources, an instructor manual, and mechanisms to move the game toward deep and rich learning. Thus, RTTP aligns with QM Standard 5.2, which requires opportunities for learners to interact with each other, the material, and the instructor. Furthermore, RTTP promotes the social, cognitive, and teaching presences of the Community of Inquiry framework while also adding to the growing body of evidence suggesting that the emotional presence should also be considered to maximize meaningful learning. Even though elements of these three frameworks apply to RTTP in any mode of learning,

unique considerations exist for adopting RTTP into an online learning environment.

Conclusion

This case study utilized embedded units of analysis (four courses) to document the experience of moving RTTP courses online due to the COVID-19 pandemic. Four professors took different approaches regarding synchronous learning and technology. Learning outcomes were achieved, professors adhered to online teaching best practices perhaps without realizing it, but the RTTP learning experience was notably diminished due to lack of physical interaction (heckling, etc). However, in spite of the difficulties faced by both the professors and students, the results of this move show positive learning outcomes using this pedagogy in a time of crisis.

Heightened emotions emerged as an important theme in this study. In the context of the uncertainty, students and teachers relied on their connections with each other to create a sense of normalcy when surrounded by nothing normal. While emotions may impact learning in the best of circumstances, in this situation, students and teachers seemed to channel their emotions into RTTP. Perhaps it was a result of the sense of community already created within the classroom prior to the shutdown, perhaps it was the dynamic of extensive interactions required by RTTP, or perhaps it was some combination of both. Clearly, the role of emotional presence was heightened with RTTP during the pandemic shutdown. This evidence adds to the growing call for a recognized separate emotional presence within the Community of Inquiry framework.

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Teaching reading: Ethnographic case studies of primary professional development structures

Kristin Keane

Abstract

Literacy is a critical element of thriving adulthood. For most U.S. residents, literacy outcomes depend overwhelmingly on their experiences learning to read and write during elementary school, which makes the work of preparing teachers to be effective practitioners of literacy instruction a key lever in developing lifelong proficiency. Yet teacher preparation pathways vary widely in terms of quality, missions, and structures. This study explores the question: Which structures do teachers name as being primary for learning how to teach reading? Findings are presented in four ethnographic case studies with 1st- through 5th-grade teachers in high-poverty schools. All of the structures were social in nature but varied in how well suited they were to the learner's zones of proximal development. Members of underrepresented racial groups are underrepresented not only numerically but also systemically through social structures and the ways in which power is situated among groups.

Teaching reading: Ethnographic case studies of primary professional development structures

Literacy is a critical element of thriving adulthood and plays a key role in social mobility, economic growth, and democratic participation. In an ever-growing, information-rich world, participation requires citizens who can read and evaluate conflicting information to make critical life decisions (Reardon et al., 2012). Thousands of children across the nation making inadequate gains in literacy achievement fall further behind as they advance through school. This year's National Assessment of Educational Progress depicts a recurring 16-year average trend of below basic reading performance for 4th-grade students eligible for free or reduced lunch, a consistent result for "high-poverty" schools where 75% or more of the student body is eligible (National Center for Education Statistics; Institute of Education Science, 2019).

As the gatekeeper to nearly all disciplinary learning, literacy plays a critical role in students' school success and life trajectories. For most students in U.S. schools, this depends overwhelmingly on their experiences and successes with learning to read during elementary schooling. This makes the work of preparing teachers to be effective practitioners of literacy instruction a key lever in developing students' proficiency, yet teacher preparation pathways vary widely in quality, mission, and structure. Once in the field, teachers themselves experience inequitable access to high-quality professional development (PD) for literacy instruction (Wei et al., 2010). This has critical implications, particularly for linguistically diverse and economically disadvantaged students over-represented in schools labeled as high-poverty, yet we know little about what experiences teachers have.

Though teacher preparation has been explored in the literature, little is known about what literacy PD structures teachers have undergone and how this learning surfaces in their practice. Through a series of ethnographic classroom observations and interviews with 1st through 5th grade teachers in high-poverty schools, this study provides a description of seven teachers' exposures to PD, and the ways that PD surfaces in their classroom practice. This study was guided by the following question: Which professional structures do teachers working in high poverty schools report having experienced, and how are these instantiated in their practice?

Review of the literature

Examination of teachers' PD experiences and classroom practice supports the field of literacy research in answering questions about PD's impact on both teachers and students. This is particularly salient in schools considered high poverty.

School context

Schools considered high poverty face significant challenges in impacting students' reading growth, including greater risk for lower achievement levels and academic reading difficulty as compared to high-income students (Chatterji, 2006; Kaplan & Walpole, 2005; Snow et al., 1998; White, 1982). This gap has been acknowledged as persistent (Jencks & Phillips, 1998). However, though differences in the quality and outcomes between high-poverty and low-poverty schools are recognized, as is the importance and gaps in literacy achievement, very little is known about the structures teachers working in these environments learned how to teach reading within.

Preparing teachers to teach reading

Teachers' abilities are important contributors to students' learning, but educators learn literacy content and instructional approaches in different ways in credentialing programs varying in structure, focus, emphasis, and philosophy (Darling-Hammond, 2006).

While teacher quality is connected to teacher learning at the pre-service level, it is also connected at the in-service level. Once inducted into the teaching profession, elementary teachers continue to learn more about reading through auxiliary learning. Drawing from a wide body of scholarship, Desimone (2009) argues that PD should include: 1) activities focused on subject matter and how students learn that content; 2) active learning whereby teachers observe, receive feedback, analyze student work, or make presentations; 3) coherence within the goals, content, and activities consistent with needs of students, schools, and district reforms and policies; 4) ongoing PD activities with twenty or more hours of contact; 5) collective participation of teachers from the same grade, subject, or school (Desimone & Garet, 2015).

Cross-sectional studies, longitudinal studies, and literature reviews of qualitative and quasi-experimental studies all yield evidence supporting these five features (Desimone, 2009; Desimone et al., 2002; Garet et al., 2001).

Teacher knowledge of reading

Knowledgeable teachers play significant roles in supporting learning to read (Brady & Moats, 1997), which is particularly true for children at-risk for reading difficulties. PD has been found to impact successful literacy instruction (Anders et al., 2000). Therefore, the PD and what teachers learn about teaching reading is critical at pre- and in-service levels (Moats, 2007).

Research presents guidance on the features of PD that work best (Wayne et al., 2008; Yoon et al., 2007) including increasing content knowledge (Carreker et al., 2005). Yet, the in-service space still faces challenges with providing teachers adequate training (Podhajski et al., 2009). More information regarding what teachers' experiences have been—and the variance among them—is warranted.

Theoretical framework

Data collection and analysis in this study are grounded in two theoretical lenses. The first is Vygotskian sociocultural theory (Vygotsky 1960; 1978; 1981), which implies social interactions make possible cognitive development which leads to individual internalization. While Vygotskian theory is typically applied to the education of students, it can be handily applied to the professional growth of teachers in their workplaces since teachers in both pre- and in-service learning structures rely on social interactions for learning (Eun, 2008).

The second is Guskey's (2000) models of PD, which include training, observation/assessment, involvement in a development/improvement process, study groups, inquiry/action research, and individually guided activities. Situating these PD models within a Vygotsky's theory and Guskey's theories is helpful as both consider social interaction as the main sources of development (Eun, 2008). Internalization of social interactions take place through mediation where social interaction alters

existing mental functions and forms new internalized psychological functions (Kozulin 1990; Vygotsky, 1978), making it critical to examine the context in which they occur. By grounding the practice of PD in a Vygotskian framework, it becomes possible to derive insights into how to better enhance the effectiveness of PD endeavors, and in the case of literacy, shed light where inadequate preparation lies.

Methods

A total of seven primary mid-career teachers volunteered for the study from five schools meeting high poverty standards in a Northern California school district. Teacher selection occurred through recruitment of all 1st through 5th grade teachers with at least two years of experience as a "teacher of record." All qualifying teachers were invited twice by email and once by their site supported literacy coaches to participate. Human subject approval was obtained through the sponsoring university's IRB process.

Participants ranged in years of experience (two to seven) as well as in their program of certification—teacher residency (an extensive two-year program following a medical residency model of apprenticeship), traditional yearlong, and alternative programs. Table 1 provides an overview of participants. All names presented are pseudonyms. Recruitment focused specifically on a varied sample to gain insights into preparation within several different pathways. Mid-career teachers were selected to include those who had experienced at least two years of in-service duty to capture learning experiences outside of pre-service education.

This study is based on 14 semi-structured interviews (once before each observation and once after) (Kvale, 1996) and 21 classroom observations. Interviews addressed aspects of literacy learning and practices and lasted between 45 to 70 minutes. A total of 21 classroom observations took place during regularly scheduled literacy instruction. Each teacher was observed three times during a 10-week period. Classroom observations lasted between 35-120 minutes. Observations were documented by fieldnotes, which descriptively captured classroom activities and provided insights into how structures in teacher learning experiences were instantiated in the classroom (Emerson et al., 2011).

Table 1
Demographic information for all teachers interviewed

Teacher	Identifying Gender	Years of Teaching Completed	Type of Credentialing Program
Natalie	Female	4	Alternative
Jaime	Female	2	9-Month Program
Cammie	Female	2	Residency
Emily	Female	6	9-Month Program
Christina	Female	4	Alternative, online
Amanda	Female	3	Residency
Jennifer	Female	2	9-Month Program

Data sources and analysis

Field notes, formal interview transcripts and post-observation interview transcripts served as the units of analyses.

A total of 7 formal interview transcripts were reviewed for insights regarding teachers' reports of PD experiences, learning and influences related to literacy instruction. Audio-recordings were transcribed and repeatedly read to margin-code for PD themes (Saldana, 2021). Forty-one codes focused on PD were applied to 202 pages of transcribed statements using NVivo software. Parent codes included 'learning,' 'demonstration,' 'influence,' 'feedback,' and 'literacy coaching.' Child codes extended parent codes to include activity types for each parent code such as 'read aloud, 'phonics,' 'guided reading,' and 'shared reading.'

A total of 21 sets of field notes were recorded and immediately reviewed at the conclusion of the classroom observations. Field notes were comprised of two sections, including Classroom Information (start and end times of observations, number of students in attendance, and summary of instructional materials used during the observation) and Observation of Instruction (organized by whole, small or individual grouping type, instructional activity type, materials used, and notes of instantiations of literacy practice). Field notes were used to develop

assertions of teacher practices as related to reports of professional development experiences, learnings and influences.

Post-observations were conducted to follow up with and confirm assertions of observed practices. Codes from the first interview were then connected to field notes to reveal four themes related to professional structures that teachers reported experiencing, and the ways those were instantiated in their literacy practice: *Pre-service structures*, *Embedded PD*, *Instructional coaching*, and *Extensive formal learning*.

Findings

In this section, four themes are presented to answer the research question: Which professional structures do teachers working in high poverty environments report having experienced, and how is it instantiated in their practice?

Pre-service structures

Pre-service learning structures became central to one teacher's development as a teacher of reading. Natalie, a third-year teacher and graduate of an alternative pathway program, relied heavily on the literacy methods course she took as a pre-service teacher as well as her experiences from her monthlong student teaching placement. Natalie's training was rooted in standards-based instruction.

Because Natalie learned to teach primarily from a scripted curriculum, she preferred a rigid structure, but her new school used a different curriculum that she was unsure how to use. She described the tension between what she learned about teaching reading to how she was being asked to teach currently:

> So knowing that there's curriculums that offer you all of that and offer you tons of differentiated work for students, it's very hard to come into reader and writer workshop and not have even a writing prompt, even a reading response at the end of a reading lesson... Now that I don't have that list of texts and that list of comprehension skills that students should be working on throughout the year, I feel like I'm not doing what I should be doing [with teaching reading].

Natalie explained that she had very little PD access as an in-service teacher (a total of five days of workshops in five years of district employment) and that she had never observed anyone teaching since becoming a teacher of record. Additionally, she had not received administrative feedback on her reading teaching practice.

Classroom observation consisted of three days of sequential instruction. Days one, two, and three consisted of the same routine: children were asked to watch a video of a Caldecott-nominated book being read aloud. Throughout the viewings, Natalie paused frequently to ask students recall questions and to provide explanations of unfamiliar words. Afterwards, students were asked to compose summary statements of why they did or did not like the book. Natalie identified this practice as reading responses. She named shared reading as a practice she was unfamiliar with.

Embedded PD

Two teachers reported primarily learning to teach reading within their school contexts through site-based PD—Cammie and Emily. Cammie, a third-year 2nd grade teacher, was a graduate of the local teacher residency program. Emily was in her seventh year of classroom practice, working at a new school in a combination configuration of fourth and fifth grades.

Cammie considered herself lucky, having been a resident teacher at a school with a close partnership to a reading institute and then a full-time teacher at a school with the same partnership. For Cammie, her practices as a teacher of reading came primarily from demonstration and support in-context. Her student teaching consisted of full-time classroom teaching with a supervising teacher considered a literacy expert in the district. In addition, she participated in week-long intensive PDs led by university consultants multiple times a year as both a student teacher and teacher of record which included live demonstrations of the practices of read aloud, shared reading, and reading workshop. Finally, as a teacher of record, she also observed over 50 modeled lessons during a curriculum pilot her classroom was selected for. She described a typical structure of the university PD and how influential it was:

I would say [the consultant's work] is very influential for the groups that I keep doing and I think it was ... because it was presented so well. It was so in depth. It was like, this is what it's called, the reasoning behind it, here's the science behind it. The idea of it is to build their volume of how much they're reading. She demoed. We got to try—...It was good because it was something we asked for.

When asked to describe the influence the structure of pre-service methods courses had on how she learned to teach reading, Cammie responded that the courses were not influential whatsoever and that she had seen very little demonstration.

In three consecutive observations in Cammie's classrooms, teachers read to and with children, the children read on their own, and engaged in group and partnership discussions of text involving analysis and text interpretation. Students also wrote about reading. In post-observations Cammie described these practices as reading workshop, guided reading, independent reading, and word work. She named phonics as a practice with which she was unfamiliar.

Emily had similar learning experiences as Cammie, having worked at two schools with a partnership to the same university reading institute. While Emily did have experiences learning to teach certain aspects of reading in her methods class and in her clinical placement, it was not until her experiences with site-embedded PD that she felt like she was really learning how to teach reading. She described her experience learning how to implement an instructional read-aloud:

One, being able to see [the facilitators] in action in our classrooms, and not their videos of them in their classrooms, 'cause I felt like those were so contrived... But actually seeing them with our students and seeing the way that they were able to interact and then seeing the response from real live students. Then being able to have conversations around those read-alouds.

Like Cammie, she also named the collaborative structures at her school site as being significant in her development, such as observing grade-level colleagues teaching on a regular basis, planning instruction together, and exchanging ideas.

During three classroom observations, students engaged in making predictions about text, examining why moments in text were crucial, naming character desires and traits, locating crucial scenes, and finding evidence. Additionally, they participated in small and whole group discussions and book clubs, where small groups of students met to read and discuss text. In post-observation interviews, Emily described the observed practices as reading workshop, independent reading, and book clubs. She also named phonics as a practice with which she was unfamiliar.

Instructional coaching

For three teachers, instructional coaching, the support of an expert colleague who observes and gives feedback on practice, was the primary learning structure for their practice as reading teachers. Jennifer, Jaime, and Christina all experienced a significant amount of support over multiple school years from a coach who helped to facilitate their learning about reading instruction during formal learning cycles. All teachers' teaching had taken place exclusively at the same site. Jennifer graduated from the local university's traditional credentialing program and taught 1st grade for three years; Christina graduated from an online alternative program and taught 4th and 5th grade for five years; and Jaime, who graduated from the same program as Jennifer, taught 4th grade for three years.

Jennifer worked exclusively with her coach, since she did not have colleagues teaching the same grade to collaborate with. Regarding the structures that had been primary to her learning about reading workshop, guided reading, shared reading, and read aloud, she named her coach, who would demonstrate and then watch and provide feedback. She expressed wanting to deepen her reading-teaching knowledge by working with the coach and other teachers:

> I mean, I'm just thinking about how I learned so much just from watching how she set everything up...I would love to see a PD where we can meet with other teachers and talk about what they do in their reading workshop that works…Then if there were a way to observe or watch videos even and just see these different options.

Christina also learned to teach reading through her experiences with coaching. She described her clinical placement as a situation where the kids read while the teachers observed; and, like Jennifer, she did not have much opportunity to learn about reading as a pre-service teacher and did not, "even feel like there were literacy classes" in her credentialing program. She described how the coaching partnerships worked:

> We did some co-teaching of lessons…When I was first starting out, it was like a gradual release of responsibilities... Sometimes sitting in with me while I would confer with students, and maybe prompting me with some things I could ask them...I was so supported, and it really strongly influenced. And I got to see it then so much…

In three classroom observations of Christina, she focused on finding and interpreting symbols in text, presenting thinking from book clubs, setting reading goals, summarizing text, and analyzing character's feelings. She modeled thinking aloud and also facilitated small and partnership discussions, and named these practices as reading workshop and read aloud. Christina also named guided reading and phonics as practices with which she was unfamiliar.

Jaime was a third-year teacher. Like Jennifer and Christina, her relationship with her coach had been a primary structure of learning for her reading practice. For Jaime, coaching included in-class support and modeling, facilitated meetings with her grade level partner and the literacy coach, and participation on her school's instructional leadership team which organized "walk-throughs" where they visited classrooms to observe colleague's teaching.

> Well we have done and I think we're doing a little bit more of right now is us actually trying it out, so three weeks ago they did the reading conference one and then they brought in our kids with their reading materials and we just did a reading conference right there and for five minutes and they had their skill and got to try it out here and this... Me seeing it and seeing somebody doing it and then me doing it, that's really helpful for me.

When asked why this style of learning was best for her development as a teacher of reading, she said, "Just hitting all the different, visually seeing it, actually doing it, knowing that I can and just go try it out." Jaime had

not experienced any PD outside of coaching at her school site.

During three classroom observations, Jaime was observed teaching how to make predictions about text, evaluating and writing about an author's purpose, summarizing text, determining problems and solutions characters face, determining unfamiliar words' meanings, and prompting students in the area of fluency as they read text aloud. Jaime identified these practices in the post-observation interview as reading workshop, guided reading, and conferring about reading. Jaime also stated that she was unfamiliar with the reading teaching practices of phonics and shared reading.

Extensive formal learning

Amanda was a fourth-year teacher for whom extended PD was most influential to her reading practices. She had exclusively taught second grade at the same school. Unlike the other six teachers in this study, Amanda had pursued further learning through a Master's program at the local university and National Board Certification, an intensive PD program and assessment focused on improving teaching practice. The learning she had completed since becoming a teacher resident had shifted the way she thought about teaching reading. She explained how National Boards had impacted her, "Since I've been doing national boards, they ask questions like, 'How have you promoted a discussion within their peers?' I know in 1st grade we did a lot of poetry and clocking out sounds, and I was like, 'Should I still be doing that?'' The additional PD provided her with a framework for thinking differently about teaching and pushing her to further reflect on her reading practice.

Three classroom observations of Amanda's literacy practice included instruction in phonics, setting reading goals, responding to partners, determining importance, and character feelings and traits in texts. She identified the practices she used to teach this content as conferring, guided reading, reading workshop, morning message, and independent reading.

Discussion

The findings of this study of which structures teachers experienced learning how to teach reading in, and how that was instantiated in practice, are situated within the Vygotksian theoretical overview of PD (Eun, 2008). These themes reflect varying degrees of opportunity for social interaction and best-suiting structures to teachers' learning needs in order for internalization to take place, as well as how PD varies widely among schools (Darling-Hammond, et al. 2009). Internalization of social interactions takes place through mediation where social interaction alters the structure of existing mental functions and instead forms new internalized psychological functions (Vygotsky, 1978; Kozulin 1990). Because the formation of psychological functioning is linked to the individual participating in social practice or activity, it becomes critical to examine the context in which they occur.

The primary structures of learning for Natalie included *Pre-service structures* and took place in a methods course in which an instructor was presenting information about reading to a class as well as a brief student teaching placement. This can be classified as "training" in Guskey's models of PD, which typically involve a presenter who shares expertise through a variety of group-based activities (2000). Natalie also experienced "observation/assessment" (Guskey, 2000) where the observer learns from closely monitoring and watching an expert—in this case a supervising demonstration teacher. Research has evidenced that preservice teachers receive differing messages from coursework, clinical placement and school contexts writ large, which can lead to confusion (Fisher et al., 1996). This has great bearing on teacher's transition to inservice teaching, especially with regards to teaching context. Research by Pietsch and Williamson (2010) demonstrates that these contexts have significant effect on developing competency within the earliest phases of in-service work; expansion of the knowledge base includes information from individual classroom experience but requires more—including impact from collegial interactions and formalized PD, which facilitate the craft of teaching, self-confidence, and professional identity-development.

Teaching reading: Ethnographic case studies of primary professional development structures

The *Embedded PD* that Cammie and Emily experienced involved the additional model of the development/improvement process (Guskey, 2000). Like Natalie, both Cammie and Emily had experience with training and observation/assessment structure in their pre-service experience, but they both named them as non-influential; instead, their PD experiences involved watching the teaching activities of colleagues (and being observed trying them afterward with opportunities for feedback) and the chance to gain new knowledge through collaboration and discussion with peers. An extensive literature base has confirmed that this kind of collaborative PD is a key lever in school improvement. Joyce and Showers' (1980) work demonstrated that the combination of modeling, simulated practice in classrooms, and feedback results in probable school change, and more recent research has also confirmed that job-embedded PD is meaningful for both teacher quality and student learning (Cavazos et al., 2018; Cordingley 2015).

Christina, Jaime, and Jennifer also participated in training and observation/assessment structures, but they additionally had the opportunity to develop close coaching relationships allowing the more expert other to assess the development of the mentee through *Instructional coaching*, where a space is created between a more and less capable participant (Guskey, 2000). Literacy coaching is a kind of PD included in federal literacy reforms and statewide initiatives. Though the research base is scant, both qualitative and quantitative work has illustrated its promise, linking literacy coaching to both increases in teachers' expertise and student outcomes (Lockwood, McCombs, Marsh, 2010; Matsumura et al., 2010; Joyce & Showers, 1996).

Amanda relied primarily on individually guided activities (Guskey, 2000) for PD, which typically start with an identification, need, or interest. These models offer opportunities for self-analytic and self-reflective activities. Though Amanda's descriptions of her learning were individual in nature, they are still guided by Vygotskian principles of social interaction as even her personal reflections were the result of participation within social interaction in her university graduate and National Board certification programs. Evidence has demonstrated that participation in National Boards relates to professional discourse, collegiality,

and reflective teaching practices; research has demonstrated that it has significant impacts on candidates' understanding of knowledge related to certification area (Lustick & Sykes, 2006) and provides them with learning opportunities that can impact literacy teaching practices over time (Coskie & Place, 2008)

Implications

The findings of these four themes were all social in nature but differ in the way the PD structures were best tailored to the teacher. The zone of proximal development—a main tenant of Vygotsky's theory—is the distance between the developmental level of the less competent participant and the potential level determined through guidance by a capable peer (Vygotsky, 1978).

One implication that emerges from these findings, then, is the PD facilitators' own capacity for supporting multiple participants are being led at once. Assessing participants' zones of proximal development is less likely to happen, as in the case of Natalie, whose exclusive PD experience in *Pre-service structures* was rooted in a training-like model where an instructor shared expertise through course work that was not accompanied by individualized instruction. Though trainings are cost efficient, they lack opportunity for individualization. In contrast, in a modeling structure as was experienced by those who experienced *Embedded PD*, the facilitator worked proximally with the learner in an intimate setting; they knew the teachers they were leading well and could suit the experience to the mentee's needs. Christina, Jennifer, and Jaime were all led by someone who knew their current and proximal stages of learning through *Instructional coaching*. This was especially true in the case of Cammie and Emily, where not only did the facilitators know them well, their own colleagues were present in their learning. Though Amanda was leading much of her own learning, she had many opportunities for self-reflection through *Extensive formal learning* as she expressed in her interviews.

Since internalization of PD depends on a particular kind of social interaction wherein the more capable other is able to assess the zone of proximal development of the learner, it stands that training alone leaves

teachers without opportunities for individualized instruction. Additionally, embedded PD and instructional coaching might be better suited for internalization where those facilitating interactions know the teachers well. When learning is self-guided through extensive formal learning experience, it might have more impact on learning if coupled with another opportunity to be led by a more expert other who can monitor the participant's zone of proximal development.

Another major implication drawn from the study was that teachers learned about teaching reading with various degrees of opportunity to access live demonstrations. Joyce and Showers (1982) articulate the importance of these opportunities, but for these to become primary structures for learning, the demonstrator must also have knowledge of the observer to best highlight practices within their developmental stage. This took place for teachers who experienced *Embedded PD* as well as *Instructional coaching*.

Future areas of research should investigate the impacts of different models of PD on the levels of internalization (both in content knowledge and in practice) of teachers of literacy, and the role of facilitators' ability to determine the zone of proximal development of their mentees.

Limitations

Interviews relied exclusively on self-report where selective memory, telescoping, and recall might have biased some of the teachers' reported learning experiences. This bias was mitigated by neutral questions with explicit probing. Additionally, this interview study looked exclusively at teachers for whom English is their primary language of instruction. Many high-poverty schools include bilingual language tracks—missing from this study are the unique and valuable perspectives and voices of these teachers. Finally, while classroom observations were informal in nature, they did not include a standardized observational measure among cases.

Also, the small number of participants and possibly the method of their recruitment could be limitations.

Conclusion

Teachers must be afforded rich and equitable learning opportunities and shouldn't feel 'lucky,' as one teacher described, for having access to deep coaching or external PD. Every teacher deserves the benefit of deep, ongoing, and conceptually rooted PD that is suited to their learning goals and needs. Teachers in this study reported primary structures of learning to include pre-service structures, embedded PD, instructional coaching, and extensive formal learning. All of these PD structures were social in nature but varied how well suited they were to the learner's zones of proximal development.

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10

"I don't know how…" The problems of practice that arise as pre-service teachers learn to teach writing

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Abstract

This study examines a semester-long online pre-service teacher community of practice to answer the questions: What problems of practice do pre-service teachers (PSTs) raise in a peer community within a writing teacher preparation course? and, How do problems of practice shared within a peer community of practice support PSTs' development as writing teachers? An analysis of seven PSTs' problems of practice over the course of a semester reveals that problems about writing pedagogy and equity/social justice education were the most frequently posed type of question, and that, although PSTs did show evidence of breaking isolation and teacher growth, this online community of practice was not maximally helpful in solving the PSTs' problems. The article concludes with a discussion of why the community may have been less effective than anticipated, and suggestions for how to structure more fruitful problems of practice conversations and communities of practices surrounding the teaching of writing.

"I don't know how…" The problems of practice that arise as pre-service teachers learn to teach writing

Writing instruction frequently falls under the broader umbrella of "literacy," and what it means to effectively teach and research literacy are slowly evolving in the 21st Century to include less traditional and more equitable definitions. For example, research and practice surrounding ideas like new literacies (e.g., Leu et al., 2017) and critical multimodal literacies (e.g., Cappello et al., 2019) are cropping up as a response to the demand for literacy practices that match modern social contexts and also meet the needs of an ever-diversifying student population. At the same time, however, writing tasks in K–12 schools continue to prioritize things like the Common Core Standards, high-stakes assessments, and information/nonfiction texts in ways that are at odds with these more equitable new literacy ideals (Avalos et al., 2019; Cassidy et al., 2016). These competing goals, along with the fact that explicit, standalone writing instruction preparation is rare in teacher preparation programs (Brindle et al., 2016), means that thinking about how to prepare pre-service teachers (PSTs) to be writing instructors is both particularly salient and complicated (Brindle et al., 2016).

Understanding the problems that PSTs encounter as they grapple with pedagogical discrepancies between their theoretical preparation and what they are experiencing on the ground in classrooms provides valuable context for thinking about how to best prepare PSTs to be effective writing instructors. While the presence of explicit teacher preparation in writing instruction and those who study it are both slowly increasing, the fact remains that writing pedagogy preparation and research are wholly understudied and deserving of ongoing attention (Bomer et al., 2019; Grisham & Wolsey, 2011; Myers et al., 2016). After reviewing 82 articles focused on the preparation of writing teachers, Bomer et al. (2019) issued a call for studies that "provide more insight into the way ideas are taken from coursework into [pre-service teachers'] future teaching" (p. 208). This research responds to that call by exploring the problems of practice that PSTs encounter as they begin experiencing classroom contexts for the first time.

Pre-service teachers share common problems as they learn and practice pedagogy and begin experiencing classrooms and students in real time. These problems represent a range of challenges from across the

role of teaching, including classroom management, assessing students, delivering content, working with parents, and managing other professional responsibilities (Miller, 2008). In turn, conversations about problems of practice make space for PSTs to "learn with and from each other as they engage in framing, talking about, and reflecting upon their problems" (Miller, 2008, p. 93). Examining the problems of practice PSTs discuss in their peer communities may help teacher educators better understand how to prepare PSTs to enter the classroom, which is why this study seeks to answer the questions:

1. What problems of practice do pre-service teachers raise in a peer community within an online teacher preparation course focused on writing instruction?
2. How do problems of practice shared within a peer community of practice support PSTs development as writing teachers?

Literature review

As new research continues to explore the best ways to prepare pre-service teachers to teach writing, it remains important to examine where PSTs encounter challenges as their exposure to authentic classrooms, theory-in-practice, and student writing increases. Researchers of PST preparation often agree that peer support communities are an invaluable resource for identifying, reflecting on, learning from, and overcoming challenges (e.g., Bomer et al., 2019; Morgan, 2010; Street, 2003). However, the literature often less frequently examines the actual problems that continue to arise as PSTs in support communities learn and grow together. The research questions explored in this study aim to examine ongoing problems of practice surrounding teaching writing in order to add to the growing body of literature informing PSTs' preparation to teach writing instruction.

Preparing writing teachers

In a review of empirical research on the preparation of writing teachers, Bomer et al. (2019) found that the most effective preparation experiences involve "experiences designed to disrupt static understandings of writing that influence [PSTs'] beliefs, knowledges, and practices"

(p. 200). All PST preparation experiences that provide practice evaluating student writing have the potential to either reinforce the dominant status-quo of writing evaluation (e.g., state-curriculum generated rubrics and single-submit timed writing tasks) or disrupt PSTs' inherited beliefs about student writing. Similarly, being in the field and having exposure to real K–12 students as opposed to theoretical exercises and/or approximations of practice allows PSTs the opportunity to begin observing and trying out the theories learned in pre-service preparation. This exposure can take two different forms: 1) PSTs experience placements and/or mentors that uphold the status quo by only focusing on writing tasks geared towards things like test preparation, traditional grammar, or timed writing (Johnson et al., 2003; Smagorinsky et al., 2011), or 2) PSTs work closely with individual or small groups of students forming emotional connections and understanding life as a young student of writing, which in turn engenders a more nuanced understanding of what students need and the importance of authentic writing tasks (Dutro & Cartun, 2016; Roser et al., 2014).

In all of these forms of exposure, the ways in which PSTs interpret and reflect on their experiences help determine how well-prepared they are to do the important work of assessing and meeting student writers' diverse needs (Bomer et al., 2019; Wahleithner, 2018). Understanding the problems of practice that arise as PSTs are asked to do this reflection is an important aspect in informing writing teacher education. Student teaching—the portion of teacher preparation in which PSTs take on the full responsibility of teaching with mentor supervision—is a time when PSTs are grappling with applying theory to practice and are encountering real students and classrooms for the first time as educators. Talking about student learning in this phase—when PSTs are inundated with stories and questions about students and student learning—has the power to positively disrupt and meaningfully influence their thinking about and execution of quality writing instruction (Bomer et al., 2019; Kuehl, 2018; Miller, 2008).

Communities and problems of practice

According to Wenger (1998), communities of practice are defined by three criteria: a common goal or focus, an understood process for participation, and a shared repertoire of resources amongst members. Wenger et al. (2002) further define teacher communities as having a common concern or set of problems about which they seek ongoing knowledge through participation in the community. Pre-service teacher methods courses fit the definition of teacher communities of practice: all participating members are focused on becoming (better) educators; their participation in the community is defined by the course; and all members share routines, vocabulary about teaching, artifacts for teaching, and understandings about teaching that assist in the co-construction of knowledge and problem-solving. The cohort model of many teacher preparation programs, including the program of focus in this study, "can complement mentoring and induction programs to provide a more multidimensional support experience not entirely possible with a single mentor" (Cuddapah & Clayton, 2011, p. 73).

Hadar and Brody (2010, 2015) theorize about the significance of communities of practice for the professional development of in-service teachers and teacher educators. In this model, teachers who participate in collaborative communities of practice progress through three layers: 1) Breaking of isolation, 2) Improvement of teaching, and 3) Professional development (Brody & Hadar, 2015; Hadar & Brody, 2010). The shared experience of learning how to teach inherently helps PST communities of practice spaces to that break isolation. In courses focused on writing instruction specifically, these communities of practice can "positively influence PSTs' sense of self-efficacy as composition instructors" (Kuehl, 2018, p. 87) and allow PSTs to "participate as knowing members of writing communities [where] their ideas become an integral part of learning in those spaces" (Johnson & Eubanks, 2015, p. 32).

A limited amount of scholarship beginning to examine the potential of online communities of practice like the one in this study (which took place prior to the mass-move to remote instruction in 2020 in response to the COVID-19 global pandemic). These studies have found that online communities of practice have the potential to "remove the sense of

professional isolation felt so acutely by novice teachers" (Herrington et al., 2006, p. 129), encourage community members' participation in conversations with peers about practice (Henderson, 2007), and encourage resource-sharing and problem solving with other community members (Tseng & Kuo, 2014).

Within communities of practice, problems of practice, which are "complex and sizeable, yet still actionable, problem(s) which exist within a professional's sphere of work" (Henriksen et al., 2017, p. 142), are an important source of both individual and communal knowledge development. PST problem-based approaches are especially meaningful when participants are allowed to choose and frame their own problems; such autonomy increases participation and creates an authentic opportunity for participants to bring their questions and concerns to light in a safe space of similarly-minded peers who are likely sharing similar experiences (Miller, 2008). Spaces for pedagogical discourse around lived problems of practice have the power to incite critical reflection and increase pedagogical efficacy and self-efficacy (Kuehl, 2018; Street, 2003; Wahleithner, 2018). While the benefits of PST communities of practice are becoming more recognized in the literature, the problems of practice that arise within these communities are less explored but equally important to understanding PSTs' learning needs. More specifically, in an area like writing instruction preparation that is vastly understudied but increasingly important to meet the writing needs of all students (Avalos et al., 2019), understanding PSTs' authentic problems of practice and how communities of practice help address those problems can meaningfully inform how teacher educators frame and provide teacher preparation.

Theoretical framing

Layering Wenger's 1998 communities of practice framework as a social learning system onto Hadar and Brody's (2010) layered model of professional development helps to more specifically explore the mechanics of how community participation supports PSTs as they learn to be effective writing instructors. Though the Hadar and Brody model was developed to better understand teacher educators' professional development, I apply the same stages of development—breaking of isolation, talking

about student learning, and professional development—to explore PSTs' growth in a coursework-bound peer community of practice (Hadar & Brody, 2010). I add problems of practice as conceptualized in Miller (2008): like a vehicle that moves PSTs through Hadar & Brody's layers within the community of practice. Together, this model allows me to explore how problems of practice function within a community of practice to help move teachers through the three stages of development towards improved writing teaching.

Methods

Participants and the peer community of practice
The seven PST participants in this research were students in the master's certification teacher preparation program of a prominent Mid-Atlantic Research I institution at the time of their study participation. This one-year preparation program for new teachers utilizes a cohort model in which PSTs are grouped by specialization and then take a prescribed set of courses over a calendar year. The participants in this study were in a secondary (grades 7–12) English language arts/literacy teaching cohort. Of the seven participants, four were female, two were male, and one was nonbinary; all were white native English speakers and in their 20's at the time of data collection. In terms of other social identities, participants' sexual orientation surfaced throughout the course and in posts, so is worth mentioning here: one participant identified as gay, one as a lesbian, and one as queer.

The specific writing course from which the data were collected—a course about assessing, diagnosing, and teaching writing in secondary ELA classrooms—was situated in the fall semester (middle) of an intense three-semester course progression, after students had completed a summer semester of preparatory coursework and were beginning their immersive student teaching experience. All participants were placed in local public linguistically- and culturally-diverse classrooms throughout all 10 weeks of critical reflections conversations and had taught at least one class by week four in the semester.

Data

The community of practice in this study was a cohort of master's certification students participating in a course about assessing, diagnosing, and teaching writing in secondary ELA classrooms. One of the two major assignments for this course, weekly community critical reflection conversations, are the data for this study. These critical reflections took the form of 10 weeks' worth of online discussion board posts in which students were asked to do two things: 1) Post a critical reflection to analyze course theories, frameworks, and ideas through the lens of their experiences learning about and watching the teaching of writing in their coursework and placements, and 2) Respond to peer's critical reflections by responding to insightful or challenging points and/or offering tips or helpful resources (summarized from course page). The space and nature of these posts was designed to create a collaborative community of practice that fulfills the criteria of Wenger's (1998) definition a common goal, a process for participation, and a shared repertoire of resources amongst members. Students were evaluated only on completion of this course requirement and received feedback from each other and me—the doctoral student assistant of the course at the time—but not the evaluative instructor of record. To keep the community of practice as authentically participant-centered as possible, my commentary was shared with students one on one, and the faulty-level instructor of record did not engage with the students' discussion posts at all.

Data analysis

To ground analysis both inductively through pre-existing theory and deductively through the data (Miles & Huberman, 1994), a multi-step approach to data analysis was taken using NVivo software to help sort and visualize codes and emerging themes. I first used descriptive and process coding with all of the content of the critical reflections, followed by a second round of theoretical deductive coding using codes derived from my layered model of pre-service teacher development (for example, "shared similar experience" or "critiqued others' practice"). I then organized all of these codes into a frequency table (Table 1).

Table 1
Frequency table of codes and collapsed coding categories

Category	Sub-codes	Times occurred in posts
Pedagogy		
	Writing instruction	45
	Writing assessment	28
	Rules for teaching writing	9
Total		82
Equity Issues		
	Social justice pedagogy	16
	Culturally sustaining pedagogy	39
	Institutional barriers	22
Total		77
Theory to practice		
	Reference course text	28
	Critique readings	17
	Identify gaps in own knowledge	9
Total		54
Peer support		
	Affirm/connect with peer statement	39
	Answer peer question	6
	Challenge peer view	7
	Learn from peer perspective	7
	Sharing resources	10
Total		69

(continued)

Table 1, continued

Category	Sub-codes	Times occurred in posts
Sharing experience		
	Beliefs about writing	38
	Personal experience	14
	Student teaching observation	49
	Student teaching critique	16
Total		154
Total, All Codes		**436**

The critical reflections then underwent a second round of focus coding to pare all of the similar process codes down into the most dominant and representative categories, and the table was adjusted accordingly.

Throughout the coding process I noticed that most specific and direct "problems of practice" were being posed as questions. I made a second table to further explore and code all of the directly mentioned problems of practice (Table 2). I then coded the problems in this table with the same final representative categories from round two coding. Upon completion of both tables, I used "codeweaving" as described in Saldaña (2015) to help think about how the resulting categories fit together (or did not) in ways that did (or did not) answer the research questions.

Findings

In total, the pre-service teachers in this study directly raised 32 problems of practice over the course of the semester. Categorically, 18 of these problems were related to writing pedagogy, 18 addressed elements of equity in writing instruction, eight were questions about moving theory into practice, seven involved peer support, and four involved sharing experiences. Some questions belonged in multiple categories, and in the interest of space I explore the two most frequently occurring categories of problems—writing pedagogy and equity—below.

Table 2
Examples of problems of practice raised in the discussion board
(1 example per week)

Question	Category	Participant
The school simply does not have enough Spanish-speaking teachers to meet the needs of the student population. I question whether this is a problem of educators for not being proactive to try and learn more to meet student needs, or it is just a problem of under representation among the staff?	Equity issues (institutional barriers)	Sophia
Do you think it is better for a student's writing abilities to write in a notebook than to type in a Chromebook?	Pedagogy (writing instruction)	Priscilla
I don't disagree that choice is beneficial for students, and that writing about something that interests you is vastly more pleasant. But I wonder if he isn't doing a disservice to students by emphasizing the importance of interest, since it is almost guaranteed that at some point they will need to write well about something they don't care about in the least.	Pedagogy (writing instruction); Theory to practice (critique readings)	Kaitlin
I'm still wondering if there was anything I could have done differently: are there situations in which teachers try and fail and that's it? What happens when you do your best to make the connection, but it doesn't happen?	Pedagogy (culturally sustaining pedagogy); Theory to practice (gaps in own knowledge); Sharing experience (emotions)	Kaitlin

Table 2, continued

Question	Category	Participant
While I totally see your point about giving feedback on drafts, I do think that it is helpful to provide feedback along the writing process. Not necessarily on a draft of the paper itself, but maybe on the other elements along the way, such as graphic organizers, and other elements of outlining? Do you see these elements as "too early" to give comprehensive feedback?	Pedagogy (writing assessment); Peer support (challenge peer view)	Sophia
I agree that students' first few tries at peer editing might not be able to dig very deep. However, I would view that more as a skill to be learned. Do you think that making time to teach students how to identify errors in their peers' work, make corrections, and communicate with each other about writing might ultimately help students with their own writing and grammar skills?	Pedagogy (writing assessment); Peer support (challenge peer view)	Amy
I also agree that emphasizing context-specific language is important. But where does this leave me when I assess student writing? If I have a student who is a promising writer, I will of course be focusing on shaping their overall writing skills; however, I think it is also necessary at some point to indicate that "wanna," "because reasons" and "chill" should be avoided in academic papers. Is Bell arguing that teachers should never point out that specific word and language choices are problematic in the context of an academic paper? And if not, at what point should a teacher begin to make this distinction?	Pedagogy (writing assessment); Theory to practice (critique reading); Equity issues (institutional barriers & culturally sustaining pedagogy)	Kaitlin

(continued)

Table 2, continued

Question	Category	Participant
I know that I wanted to draw on CRP, trying to find texts that engaged with topics meaningful for my students. Aside from this, however, I've found this a difficult issue to approach...The question for me, then, is how can I be a social justice educator, and how will what I teach serve my students?	Equity issues (social justice pedagogy); Theory to practice (gaps in own knowledge)	Kaitlin
How does one broach the idea of social justice teaching when there is a strict curriculum that the teacher must adhere to on a day-to-day basis?	Equity issues (social justice pedagogy & institutional barriers)	John
I wish that our readings this week had done more than suggest teachers need to accept a broader definition of acceptable language. I think most of us agree with this, and are struggling to find practical "next steps" we can use in our classrooms.	Theory to practice (critique readings & identify gaps in own knowledge)	Kaitlin

Challenges with writing pedagogy

A majority (11) of the 18 problems of practice surrounding pedagogy appeared in the first five weeks of the semester, suggesting that participants' observations and interactions with real classrooms for the first time generated the greatest amount of uncertainty around pedagogical choices. Additionally, problems surrounding pedagogy overlapped with other categories more than any other, meaning that participants were asking questions about pedagogy through the lens of other challenges, most often equity and gaps in theory to practice. For example, in week four, Amy (all names are pseudonyms) asked a purely pedagogical question about whether "skills are better taught explicitly" or if by providing explicit examples "students are purposefully crafting their writing to fit the mold they imagine [she] would want them to fit." By week nine,

Amy's pedagogical problems had grown to reference experiences in her placement and reflect social justice wonderings:

> I tried to do a writing assignment using the Frederick Douglass speech "What to a Slave is the Fourth of July" to critique the "Declaration of Independence" and connect the contradictions between the two documents to a modern social issue in America. I ended up being forced to dump the whole second half of the assignment. Any advice on how to try and teach social justice and writing this year?

In week four, Amy's problem of practice was a low-stakes, broad one seeking pedagogical opinions about how to model in the classroom. By week nine, Amy's problem had become much more complex; she mentioned an assignment (a tool) she designed, and then reflected on the results of creating the assignment in a school that did not support her beliefs about social justice. Priscilla's progression of posed problems also serves as a good example of growth over time. In week two, Priscilla posed a basic problem of practice about writing modalities, asking her peers if they thought it was "better for students' writing abilities to write in a notebook than to type in a Chromebook?" By week seven, however, her posed problem was a thoughtful one about how to best practice linguistically sustaining writing practices with her students within a specific context. She explained and asked:

> I don't know HOW to implement the teaching of a second dialect in my classroom. I don't want it to be a separate, isolated lesson; rather, I want to soak my lessons and classroom in culturally sustaining pedagogy. How do I work these ideas into my day-to-day lesson plans? How do I teach my students something that it seems no one else in the school has even considered as an option?

Here, Priscilla is bringing several concerns across different aspects of pedagogy together into a wondering about practice. She has identified a belief that feels important to her teacher identity—"soaking her classroom in culturally sustaining pedagogy"—but realizes both that she is not sure how to best do this work, and is also beginning to think about the contextual barriers of teaching in ways wholly unfamiliar to her students since "no one else in the school has even considered [linguisti-

cally sustaining choices] as an option." Like Amy, Priscilla's problems of practice are becoming more complex and involved the longer she is in an authentic teaching setting and is seeing discrepancies between what she wants and was prepared to do and what she is able to do with her students.

As the semester progressed, the problems of practice across the community became more complex and multi-faceted in the same ways that Amy's and Pricilla's examples demonstrate. This growth is likely a reaction to the PSTs' growing realization that pedagogy does not exist in a vacuum but is instead influenced by factors ranging from the interpersonal to the institutional levels, and evidence of their progression from idealism, through cognitive dissonance, toward confidence and growth (Wall, 2013).

Challenges moving equitable thinking into equitable practice

Interestingly, as the semester progressed and participants' roles in their student teaching placements progressed from being observers to being teachers, problems about writing pedagogy decreased and were replaced with problems about how to enact equitable writing practice. One half (nine of the 18) of the problems of practice surrounding equitable writing instruction appeared in the last three weeks of the semester, suggesting that as participants took over teaching, they came to realize that larger systemic issues and gaps in their teacher preparation would impact their ability to implement writing instruction the way they envisioned based on theoretical preparation. This is consistent with literature that suggests that PSTs need targeted support to build their capacity to enact social justice practices (Lynn & Smith-Maddox, 2007; Ritchie et al., 2013), and also explains the fact that problems surrounding equity also overlapped the most with problems of moving theory to practice (five out of nine) and identifying gaps in knowledge (five out of five).

For example, in week eight, Kaitlin indicated a desire to draw on culturally relevant teaching, but then explicitly stated that she had "found this a difficult issue to approach" and questions "how can [she] be a social justice educator and how will what [she] teachers serve her students." Kaitlin knew, theoretically, that culturally responsive

pedagogy is important and that social justice goals are an important part of how she wanted to frame her teacher identity, but then also admitted having no real idea of how to do this in practice. The problems of practice in this study suggest that as university preparation and research grow over time to try to address social justice goals within writing instruction education (Avalos et al., 2019), PSTs feel that they are receiving more theory than practice, and they are still struggling with how to implement social justice education theory into their pedagogy.

Problems of practice to support growth

Findings from this study also show that, while online communities of practice allowed PSTs a space to empathize with one another, a community of practice did not otherwise frequently support participants' teaching or professional development. Using the proposed layered model centering problems of practice within a community of practice as a vehicle for professional growth, I expected to find that proposing and discussing problems of practice would support participants' progression through Hadar and Brody's (2010) stages of growth. However, though participants did progress through the layers of development, they neither did so predictably nor linearly, and problems of practice did not serve as a vehicle for improved teaching or professional development.

Over the course of 10 weeks, these seven pre-service teachers raised a total of only 32 directly stated problems of practice, which is less than one full problem per person per week. Additionally, one third (11) of these problems came from one participant, Amy, and another third (11) came from Sophia and Kaitlin combined, meaning that the other four participants were rarely utilizing problems of practice to reflect on their teaching. In a space where participants were specifically required to ask and attempt to answer questions and challenges surrounding teaching writing, this is a curiously low rate. Further, the distinct lack of answers to posed questions indicates that the community of practice was neither encouraging nor supportive of PSTs' problems of practice. Of the 32 posed questions, only six received any response: two received sympathy/empathy, four received a strategy to try, and one received two follow-up links to resources.

Among the few questions that did get asked, some notable trends speak to the positive function of problems of practice within a community of practice. First, the number of questions asked each week increased over time: only six were raised in weeks one through three, while 10 were raised in weeks eight to 10, suggesting that ongoing participation in the community led to ongoing inquiries. Furthermore, the nature of the problems of practice and their responses is a testament to how problems of practice allowed some participants to progress through the layers of the model of PST development. For example, in week one, Sophia discussed a source of inequity in her school by noting that "the school simply does not have enough Spanish-speaking teachers to meet the needs of the school population" and wondering if "it is just a problem of under-representation among the staff." She had broken isolation by participating in the community and sharing a problem of practice; however, she couched this important problem about institutional barriers within her own school's specific context and phrased it as a casual wondering. By week five, Sophia was using her inquiries to challenge and extend Kaitlin's thinking about providing feedback on student drafts:

> While I totally see your point about giving feedback on drafts, I do think that it is helpful to provide feedback along the writing process. Not necessarily on a draft of the paper itself, but maybe on the other elements along the way, such as graphic organizers, and other elements of outlining?

Here, Sophia was talking about student learning with the specific goal of helping Kaitlin improve her teaching and offers tools for consideration, which in turn increased Sophia's self-efficacy, pushing her towards Stage 3: professional development. Unfortunately, a distinct lack of questions in general, combined with a lack of dialogue surrounding the questions that were posed, prevented more meaningful and more frequent progressions through the stages of writing teacher development like this one.

Discussion

In the layered model of PST growth framework, talking about student work, discussing problems of practice, and reflecting upon attempts

to implement writing pedagogical tools is essential to PSTs' professional development. While all of these important PST growth moments occurred sporadically throughout the semester, they were less frequent than expected and not as linear as the Hadar and Brody models (2010, 2015) would suggest. I use two problems that arose from observing these participants' practice within the community of practice are used to frame the discussion of findings below: (1) participants did not share problems surrounding teaching writing as frequently as anticipated, and (2) when problems were shared, they were rarely answered or discussed.

Fewer problems of practice arose than anticipated

Participants in this study were regularly talking about teaching, pedagogy, and theory: there were 82 instances of talking about writing pedagogy, 77 instances of talking about equity in teaching writing, and 154 instances of sharing beliefs and experiences. However, in most of these instances, participants discussed pedagogy, texts, classrooms, and social justice writing descriptively, which was not conducive to further conversation. For example, in week three, Emma talked about the importance of vulnerability in the writing process and stated that "if teachers modeled the process of writing and the vulnerability of that process, I think students would take that as permission to take more risks." Here, Emma discussed an important aspect of writing teacher pedagogy—modeling the writing process—but did so in a way that was both nondescript enough to not serve as a specific tool for her peers, but was also descriptive enough to not be taken as an invitation for conversation around what that modeling can and should actually look like in classrooms. As a result, nobody in the CoP responded and no further talking about or improving teaching took place.

Similarly, there were glimpses of professional development throughout the semester as defined by increased efficacy, pedagogical and theoretical wonderings, and commentary on how to teach writing equitably. However, these glimpses were almost entirely text- and classroom-reflection based and did not frequently lead to questions or shared problems of practice. For example, Madeline said:

I loved Gallagher's ideas about assessment, especially the self-correction sheet. I fully intend to implement that process in the third quarter when I take over the classroom. I want my students to take responsibility for their grammar, and the self-correction sheet seems like an excellent option for that.

Throughout this post, Madeline has journaled herself through the three stages of the layered model without the help of any of her peers: she initially posed a challenge regarding building grammar skills and how to assess, identified a new tool from a reading, and then noted that she has added it to her teacher toolbox for later use. Though it is possible that the presence of the online CoP and the act of posting within it led to this line of reflection, a personal reflection journal or reading response would have achieved the same ends. Further, by never actually posing a problem of practice, Madeline did not open up the possibility of receiving other advice, tools, or experience-based knowledge about her writing pedagogy from the CoP.

Overall, though participants directly referenced either their own or classroom experiences 154 times in the community of practice, only 11 of these experiences translated into a problem of practice posed for the group to consider. Similarly, although participants *talked about* and *described* equity issues and the challenges of moving theoretical understandings into practice 131 times, these topics only arose in problems of practice 26 times. In instances where problems of practice were directly shared, even when they did not get answered, participants showed evidence of progressing through the stages of PST growth. Had students turned more of their observations and descriptors into problems of practice, they may have experienced more or more rapid teaching, learning, and professional development.

Shared but unanswered problems

More important than the lack of overall questions, however, is the near absence of responses and feedback. Though few, there are studies that have specifically documented both the promise of online communities of practice as ways to break isolation for PSTs (e.g., Herrington et al., 2006), and the necessary use of communities of practice as productive

collaborative spaces where PSTs can reflect and grow as writing teachers (Bomer, 2019; Kuehl, 2018; Miller, 2008; Morgan, 2010; Yang, 2009). This study, however, produced different findings. Only six of the 32 specifically raised problems of practice in this semester-long community of practice space received a response from peers. These six questions were important ones and, had they been unpacked in a true discussion format, could have occupied an entire course of their own. For example, John raised a question about "how to broach the idea of social justice teaching when there is a strict curriculum," and Madeline directly stated, "I don't know HOW to implement the teaching of a second dialect in my classroom." Each of these questions reflected an authentic and very complicated aspect of being a writing teacher and had the potential to generate a rich dialogue involving theory, examples, or challenges from practice. Unfortunately, none of these questions were addressed.

The lack of authentic discussion in the online discussion boards, as measured by a lack of consistent posing and responding to thoughts and challenges, prevented PSTs from meaningfully and frequently progressing through the layered model of pre-service teacher development. Though there was consistent evidence of breaking isolation and talking about student learning (Brody & Hadar, 2015), the PST participants most often took up conversation or issue with course readings and mentor teachers instead of each other. Further, most of these conversations were descriptive and not conducive to outside input. As a result, very little writing pedagogy growth was visible.

Limitations and implications

There are a number of possibilities for why consistent discussion via back-and-forth problem posting and response did not happen, despite that being the stated intent of the community of practice. It is possible that PSTs did not view the discussion forum as a place where they could receive helpful feedback, or that they were overwhelmed by their roles as PSTs in classrooms for the first time (Melnick & Meister, 2008) and their participation was therefore more perfunctory. It is also possible that more explicit guidance on how to use the discussion board as a space posting and solving would have been helpful. Several studies suggest

that pre-service teacher communities of practice can be important spaces for growth in writing instruction, which is exactly what this community of practice was attempting to do (e.g., Hall, 2016; Myers et al., 2016; Street, 2003). However, the online aspect of the community of practice may have mitigated some of this community's usefulness; an online, moderated real-time audio or video meeting or a face-to-face class session likely would have led to more authentic dialogue about the problems raised in theoretical readings and classroom spaces.

Finally, it is possible that a community of practice consisting solely of pre-service teachers does not have enough collective experience and knowledge to make an online discussion forum a useful place for progressing through the layers of teacher development. In this course, the graduate student teaching assistant (me) consistently responded to participants' problems of practice to support their development and model productive responses, but the participants themselves did not regularly reciprocate this practice. Studies outlining the effectiveness of teacher communities of practice featuring both novice and veteran teachers report effectively supporting novice teacher growth and development (Borg, 2012; Brody & Hadar, 2015). It is possible that the lack of veteran input greatly constricted the usefulness of a community of practice based on problem of practice.

Conclusions and next steps

This study demonstrates both the potential of PST communities of practice, but also the need for further research into what makes these spaces—especially in online formats—maximally impactful for participants. This research took place prior to the comprehensive turn to remote/online pedagogy spurred by the onset of the COVID-19 pandemic in 2020, which means it will undoubtedly be followed by a dearth of similar research about how to best establish remote learning environments and communities like this one. The findings of this study may serve as a useful launch point for further investigations into how to best structure online communities for pre-service educators.

Encouragingly, participants in this PST community of practice were thinking and raising concerns about writing pedagogy, social justice

teaching, and institutional barriers that will impact their teaching. These questions are complex, and surround topics that even experienced teachers and academics struggle to understand and implement. Their questions demonstrate the value of such spaces, and the necessity for teacher educators to create spaces for these important conversations to happen. This study also shows that there is clear value to having a CoP for pre-service teachers throughout teacher preparation: the CoP in this study served as a place for PSTs to critically reflect on their classrooms and readings, share their emotions and challenges, and publicly pose and consider problems of practice.

That said, either adjusting the format of the community, changing the expectations of participation in the community, and/or expanding the experience levels of the community members may have made the space more valuable for participants. Exploring these options is an important route for further inquiry. Finally, investigations into how to help PSTs productively shift their commentary on practice and theoretical under-standings into problems of practice for fruitful discussion is an impor-tant next step in thinking about how to support pre-service teachers' writing pedagogy development.

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Personal perspectives: Doctoral students

11

Exploring the formal and informal stages in the socialization process in graduate students' professional development

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Abstract

The purpose of this phenomenological study is to explore the experiences of doctoral students during the process of socialization as students and professionals and as they attempt to develop their professional identities. This study uses Graduate Socialization Theory, and the data is made up of interviews and focus groups of graduate students within a college of education. The findings suggest that doctoral students face a myriad of challenges throughout their program that may stifle their socialization and hinder the development of their professional identities. The findings indicate that faculty, staff, and administrators could offer specific supports that could increase graduate student socialization, which may increase the likelihood of professional success for graduate students. These findings, the related implications for doctoral education, and suggestions for further research are discussed.

Exploring the formal and informal stages in the socialization process in graduate students' professional development

Discussions about preparing doctoral students for future careers are centered upon developing knowledge, skills and dispositions specialized for their chosen fields (Weidman et al., 2001). The knowledge, skills, and dispositions that are developed during graduate students' programs are part of their socialization process (Beijaard et al., 2004) and contribute to the development of their professional identities (Bloom, et al., 1956; Bragg, 1976; Sweitzer, 2009). The socialization process for graduate students is unique. It is through socialization that "novices acquire the values and attitudes, the interests, skills, and knowledge, in short the culture, current in the groups of which they are, or seek to become a member" (Merton et al., 1957, p. 287). From the first day, graduate students are simultaneously engaged in the process of being socialized as a graduate student and a professional (Frisby, 2019). Graduate students engage in socialization through associations with different communities: student support services, employers, professional organizations, and peer groups (Jackson, 2016). It is through socialization that graduate students learn and emulate the attitudes, actions, and values of professionals in their field of study (Clarke et al., 2012). Developing this way of thinking and practicing is an important step in the socialization process (Entwistle & McCune, 2009). When a graduate student is successfully socialized, the student accepts, incorporates, and acts out the role in which he or she aspires (Weidman & Stein, 2003). But what happens when students experience challenges that interfere with the socialization process and the development of their professional identities?

Purpose of the study

The purpose of this phenomenological study is to explore the experiences of doctoral students during the process of socialization as they attempt to develop their professional identities. This study is designed to examine the types of supports that doctoral students need to help facilitate the socialization process and the development of their professional identities. The following research question was examined: What are the perceived challenges and needs of doctoral students as they engage in the process of socialization to develop their professional identity?

Graduate socialization theory

Within the context of doctoral education, this research focuses on the development of professional identity through the lens of Graduate Socialization Theory (Weidman et al., 2001). This theory is comprehensive and includes students' personal characteristics, educational backgrounds, and predispositions in relation to their chosen professions. At the core of their framework is the higher education institution wherein the majority of graduate students' professional training occurs. Here, three mechanisms of socialization occur: "interaction with others, integration into or sense of fit with the expectations of faculty, and learning of knowledge and skills" (Weidman & Stein, 2003, p. 643).

Socialization can be interpreted as "an upward-moving spiral" as the graduate student transforms into their professional role (Weidman et al., 2001). Weidman and her colleagues proposed a four-stage process with interactive and interchangeable stages: anticipatory, formal, informal, and personal (Weidman et al., 2001). The Anticipatory Stage occurs as students begin a program or a new phase. During this time, they learn new roles and new behaviors, attitudes, and cognitive expectations (Gardner, 2008, Weidman et al., 2001). Communication during this stage tends to be one-way, from professor to student. Students listen carefully and explicitly follow the directions of their professor so that they can maximize their learning from an expert in the field. These initial interactions are not a direct predictor of success in the doctoral socialization process (Jeong et al., 2019).

In the Formal Stage, students idealize their chosen academic field and rely heavily on the clear communication of information and expectations passed down from faculty (Weideman et al., 2001). Role expectations are often explicit. It is a time when students determine their degree of fit with their program through observations and role rehearsals (Weideman et al., 2001). Students affirm their fit and create solutions to problems by successfully completing formal examinations and other program goals while observing perspectives and interactions outside their departments (Ostrove, et al, 2016; Sweitzer, 2009).

The Informal Stage is marked by a new set of expectations set forth by role incumbents, often faculty and peers, who are ahead in the

program (Weideman, et al., 2001). Like the other stages, students can transition in and out of this stage frequently and fluidly. Successful transitions are often marked by students communicating anxiety before passage to the next stage and relief afterwards (Weideman et al., 2001). Role expectations tend to be more implicit in the Informal Stage, requiring students to closely observe on the subtle but expected values and attitudes inherent in their program.

During the Personal Stage, students begin to embody their new professional identity. They begin to separate themselves from their department and begin to form their own identities as researchers (Weideman et al., 2001). Students in this stage learn to balance their new roles as academic knowledge is intertwined with personal values and attitudes. To solidify their new professional identities, students leverage their experiences in each stage through at least one of the core elements of socialization: (1) acquisition of knowledge, (2) participation in the program's culture, and (3) investment in adapting to a new role (Weideman et al., 2001).

Methods

Research design
In this study, we used a phenomenological research design to understand the specific experiences doctoral students had during their graduate education process, as graduate students provide the best opportunity for understanding the challenges in graduate education. A phenomenological design is the study of understanding a specific phenomenon based entirely on the experiences of participants' lived experiences (Johnson & Christensen, 2017). After collecting data, a general inductive approach was used (Thomas, 2006) to identify the challenges and needs and the suggested supports that impacted doctoral students' professional identity and socialization.

Research context
The research team is comprised of graduate students and faculty that are housed within this College of Education. The data collection and

evaluation were influenced through the makeup of the research team, although the researchers tried to remove biases of their own graduate student experiences by only analyzing the text exactly as it was stated. Participants for this study were doctoral students enrolled in a college of education at a large Research 1 institution in the southwestern United States.

We desired to fully capture the varying experiences of students throughout the entire college. To achieve this goal, we used the maximum variation sampling of students currently enrolled in one of the college's doctoral programs. Twenty-one doctoral students agreed to participate in the study. The students represented six different doctoral programs in the college. The sample of graduate students were at different stages of their programs, 10 students were in their first year, 13 students were well into their coursework, and three students were in the dissertation or candidacy phase. See Table 1 for additional demographic information.

Data collection procedures

The data was collected through face-to-face and phone semi-structured interviews and focus groups. Distance students were interviewed over the phone, while local students were interviewed through face-to-face interactions. All the interviews and focus groups were conducted by the authors as facilitators. The conversations were recorded, transcribed verbatim, then uploaded into a data mining software.

Data analysis

To analyze the data, we used a qualitative general inductive approach (Miles & Huberman, 1994; Thomas, 2006). The analysis process included a repetitive cycle of individual review of transcripts followed by group discussions wherein we systematically cross-validated our codes and paired segments to ensure accurate understanding of coding definitions and interpretation of the data (Barbour, 2001; Creswell, 2002; Miles et al., 2014). Once the master-list of codes was created, we divided the transcripts in half, allowing teams of two researchers to independently code their half of the transcripts and then cross-validate it

with one other researcher. We identified significant themes that emerged from the most frequently expressed codes. The final step involved a comprehensive review of the data to determine whether the themes appropriately answered the research questions.

Findings

Six themes were identified from the interviews and focus group transcripts. Each theme corresponds within two of the four stated stages of the socialization process as described by Weidman et al. (2001) - the

Table 1
Demographic information of participants

	Characteristic	Total	
		N	%
Gender			
	Male	2	10
	Female	19	90
Age			
	Under 30	3	14
	30-50	10	48
	Over 50	5	24
	No Response	3	14
Ethnicity			
	Asian	0	0
	Black/African American	3	14
	Hispanic/Mexican American	2	10
	White	16	76
Student Location			
	Face-to-face Student	14	67
	Distance Student	7	33
Enrollment			
	Full-time Student	17	81
	Part- time Student	4	19

formal and informal stages. The discovered themes that highlight the needs of doctoral students in the college of education in the data are: (1) a clear pathway, (2) course availability, (3) faculty feedback, (4) research embedded coursework, (5) approachable and knowledgeable faculty, and (6) relationships and cohorts. The first four themes fit within the Formal Stage of the role acquisition process of graduate socialization, and the last two themes fit within the Informal Stage.

Formal stage

Within the Formal Stage of graduate socialization, students primarily are concerned with learning cognitive knowledge and skills that will apply to their future career of choice (Weidman et al, 2001). Students are often task oriented while in this stage, and their needs reflect that. They primarily focused on learning new information and taking advantage of opportunities for academic growth. Participants specifically highlighted the need for explicit and obvious formal guidance and procedures to feel as though they were progressing in their professional identity.

A clear pathway. Participants were quick to mention challenges resulting from the imprecise nature of their programs. Students felt that the lack of communication with their advisors about a clear path of coursework distracted them from the knowledge and skills they should have been learning. Students perceived that the development of their professional identity was hindered because of their inability to obtain straightforward, concise answers regarding the courses and methods of their programs. These ambiguous expectations seemingly produced uncertainty with doctoral students (McAlpine & Amundsen, 2009). One student explained the concern of disorganization further, saying, "I am just nervous that I might make a wrong turn somewhere and go down a curriculum pathway that I am not really prepared to go down." To successfully progress through their programs, students believed that they need the path to be specific and need a designated person to contact when questions arise about which classes to take and other next steps. A student expressed her desire for a point person, saying, "I wish there was somebody that I could just go to. Instead of me trying to chase down all

this information." Having the appropriate supports in place along with the requirements laid out specifically would address one of the challenges of building professional identity in a doctoral program.

Course availability. One of the challenges that emerged throughout the interviews within the Formal Stage of socialization was insufficient course availability. The inconsistency of face-to-face courses being offered and the semesters in which they were available was a concern. Frustration arose when students were unable to take courses either because they were not offered or cancelled. Irritation was expressed by one student who said, "I was looking forward to taking one particular course. It has been cancelled twice because of low enrollment." The frustration was compounded by anxiety that arose when a student's degree and timeline was interrupted or extended causing them to "keep re-arranging" or "redoing [their] degree plan." Cancelling a class, whether intentional or by courses not meeting enrollment requirements, impacts students' development of the discipline-specific, core knowledge, which hinders students from feeling they are adequately progressing towards their desired professional career. The lack of consistent and available courses was perceived as a significant challenge for doctoral students as they progressed toward their degree. The Formal Stage of role acquisition signifies doctoral students looking for specific instructions and models to follow. When there is confusion about program requirements or courses being offered, students often felt "left behind" (Ali & Kohun, 2006, p. 24).

Faculty feedback. Faculty are often looked at by students to be the primary person to socialize students and model professional roles (Cockrell & Shelley, 2010). Students aired their challenges about the lack of specific feedback from faculty in relation to the courses they were taking but were overall satisfied with the communication with faculty about non-course-related issues. Students felt that feedback was often not thoughtful, provided too late, or completely absent. One student expressed how the lack of feedback made her feel:

> "I mean I value the feedback. I almost get upset if I don't get any feedback because I spent so much time writing, so if they aren't reading my work or giving me feedback, then I feel like it was kind of a waste of time."

A lack of thoughtful feedback impacts role acquisition as it hinders the development of knowledge and skills as well as provides a poor model for the students.

Overall, most students spoke positively about their interactions with faculty. These socialization experiences helped solidify the professional trajectories of several students in both positive and negative ways. Feedback should be more than correcting writing errors but should be "intertextual and multivoiced" (Aitchison, 2014). This is explicitly stated in the data: "My professors here are my role models" and "I always consult with [my faculty member] before making any decisions." One student unknowingly explains the importance of moving from the Formal Stage to the Informal Stage, "[The faculty] are willing to help me with research with issues or questions, and that has kind of helped me get through the anxious stage..." While this socialization by faculty was often noted in a positive way, some doctoral students attributed personal growth and in direct response to the lack of socialization by faculty. One student explains how the lack of socialization was positive: "And honestly, I know that because of the trials that I have had in my doctoral program, I know that it will make me a much better faculty member in the long run, because I know that I never want a student to feel the way I had had to feel." She goes on to explain, "I know that I have been pushed to figure out things on my own, that, I know if I had had a more responsive faculty member, that I may not have chosen certain routes to figure things out." Developing the knowledge and the skills required to become an independent researcher is critical to the doctoral process (Gardner, 2008) and necessary for students to develop their professional identity, regardless of their professional discipline.

Research embedded coursework. Weidman et al. (2001) discusses the primary concern of students in the Formal Stage as centering "around task issues such as the difficulty and success of mastering

academics as well as maneuvering successfully through the university environment" (p. 26). This held true in the current study. Students felt the development of their professional identity was challenged by the lack of hands-on opportunities to conduct discipline-specific research as a part of the program. Often students expressed a desire to do as much as they could during their time at the university so that they could be "competitive in the job market." Students looked to their advisors to guide them through various research proposals, projects, and dissemination of research. For instance, one student noted "leading an independent research project for the first time, you are going to encounter some challenges. I think a lot of that is really dependent on your advisor..." Overall, students viewed these research opportunities as available only to research assistants or the "lucky few" with highly engaged advisors.

In alignment with the Formal Stage of socialization, doctoral students felt a need for "more opportunities to carry out research" to "apply what we have learned in an authentic situation." For instance, one student stated that "I think at this level you should be comfortable with [Institutional Review Board], you should be able to produce those things fairly quickly…actually incorporate the research process within the class." Students noted in various courses that they had written research proposals, which was helpful, but they never got to conduct the research and "play with" the data. In the Formal Stage, students should feel comfortable and empowered through growth and change. Students seeking out additional opportunities to practice and become a researcher displays growth and desire to assimilate into their desired professional culture.

Informal stage

The Informal Stage of socialization is influenced by faculty, but this stage primarily hinges on relationships with peers and other networks. During this stage, students begin to feel more like professionals aspiring to be in their fields and less like students (Gardner, 2008). Passing through this stage comes with anxiety, trepidation, and finally, relief when students make it to the next stage (Wideman et al., 2001). The challenges doctoral students face in this stage are numerous, with the dissertation, finishing coursework, and qualifying exams. Doctoral

students in this study expressed their dependence on faculty, peers, and networks to be successful in developing their professional identities.

Approachable and knowledgeable faculty. While the general perception of faculty was high, it was evident not all faculty were the same in terms of depth of knowledge and approachability. Students even highlighted their faculty as being a role model. One participant showed how interaction with faculty solidified their professional identity. "Some good professors I have in mind: I want to be like them. Those professors have a deep understanding [of] knowledge on their expert area as well as they care...I want to be…a scholar like them..." Thus, it is apparent the importance of the adviser's role, and when a student feels that missing, it is a massive challenge to their professional identity development. One student talked about the challenges to her professional identity when her dissertation chair did not agree with the direction she wanted to go. She explained, "I want to do something that can benefit down the road, I don't want it to be something that I just do and that's done, and I move on." The student followed up with stating that the lack of support led to her spending more time than planned on the dissertation writing process. When faculty failed to provide students with meaningful support and connections needed, students expressed the ability to find support through peers.

Relationships and cohorts. Doctoral students were challenged in making connections with their peers. Some doctoral students, not part of cohort model programs, lamented the fact that they did not have meaningful relationships with their fellow classmates. However, for non-cohort students, good interactions with non-classmate peers and work colleagues facilitated their professional identity development. One student described the impact of work colleagues by saying, "we have developed a comfortable relationship within my colleagues, which helped me to discuss research projects and class assignments." These students also emphasized their personal networks, including family and friends, who encouraged them to overcome their challenges effectively. Another student said, "I have a co-worker...she's just helped me find all

the research I need and just helped me with presentations and she's just been such a huge help. I don't know how I would have gotten through this first year without her." Those students who don't have a cohort seem to look outside the College of Education and seek other relationships to help them build their professional identity.

Conversely, students enrolled in cohorts spoke of both social and educational benefits of having parallel experiences with their peers. The program model of a cohort, defined as a group who starts and moves through a program concurrently, helps students through the informal stage of their professional development (Paisley et al., 2010). Full time participants who were part of a cohort expressed that cohorts enhanced their learning and helped them progress. One student described it by saying, "I think the cohort is a critical key to keeping students together and building that collegial relationship. It is very useful, personally and professionally." While cohorts are a beneficial support system for some, for non-traditional or part-time students they can cause confusion. Overall, the connections and relationships students lean on through the informal stage can be made up of faculty, peers, or other personal or professional contacts. The important factor was that students needed to be able to communicate with others about and through their evolution into their professional identities.

Discussion

In this study, we highlighted a few challenges doctoral students experience as they develop their professional identities. Each challenge identified as an overarching theme in the data is attributed to either the Formal or Informal stage of socialization. While these stages of socialization aligned well with the first couple of years of coursework, students move fluidly through the stages, and that these stages can vary depending on the student and the challenge they face.

Summary of findings

The formal stage. The Formal Stage encompasses the necessary acquisition of the cognitive knowledge and organizational standards

of the program. Students in this phase are challenged with the lack of a clear procedure to follow, ineffective feedback, and the inability to conduct research while in their courses. Faculty, staff, and administrators must be intentional about clearly communicating their expectations to students throughout this stage. Since students in this stage need to affirm their fit, having clear guidance would help students feel more comfortable in this stage (Sweitzer, 2009). Students in the Formal Stage wanted more guided direction, rather than loose suggestions. Vague program direction could be enhanced by adopting the cohort model or by specifically providing more information to students in a format wherein they can ask questions and get advice. Increasing streamlined program direction and information dissemination could allow college personnel to address these perceived challenges.

    The informal stage. The Informal Stage of Socialization primarily focuses on the building of relationships and confidence by doctoral students, as they increase in their autonomy. Less significant in the data was who students received the confidence, support, and encouragement through, but rather that they had support and encouragement. Ideally, all students should be connected to faculty, peers (through a cohort or through individual relationships), and personal or professional networks. Students who discussed positive relationships with work colleagues external to the College of Education felt more confident in participating in actions that developed their professional identity. Intentional guidance and support in this stage could help reduce the anxiety and the difficulty of transitions students feel in this stage (Weidman et al., 2001). The data collected in this study suggests that students nearing the completion of their degrees did not discuss feeling lost or a lack in guidance, but rather they focused on how their faculty advisors were helping guide them through the dissertation process. Therefore, previous experiences of the program may have no longer felt significant to students as they neared graduation. Regardless, doctoral students discussed the importance of interactions with faculty. Therefore, departments should focus on allocating more time to both structured and unstructured mentorship. Specific focus by departments could be on helping students define

beneficial goals for their future careers. While many students who complete doctoral degrees in the College of Education go on to become faculty, there are many who work in areas outside of academia, and this platform could give students an additional opportunity to enhance their professional development.

Future research

Findings from this study indicate that doctoral students' impressions of the program change as they progress. Further research focusing on the differences in graduate student perceptions by the phase or progress of their degree could be beneficial in exposing additional challenges for different levels of students. Additionally, it would be beneficial to identify challenges faced by different types of students: international, distance (primarily online), and students in various phases of their doctoral degrees.

   The data in this study indicated most challenges evolving in the Formal and Informal stages; however, a future study could focus on the Anticipatory Stage and the Personal Stage of socialization for graduate students. Studies aimed at the Anticipatory Stage could focus on students who are interested in pursuing a graduate degree, or who have been accepted but not actually started. Studies focusing on the Personal Stage could specifically look to explore the challenges of doctoral candidates.

Limitations

A limitation that should be noted is the demographics of the participants. Although our participant representations did reflect the general body of education students (Institute of Education Sciences, 2018), efforts should be made to survey more men and more students from underrepresented groups. Additionally, most of the participants in the study were working in the beginning stages of their programs and were not yet to the dissertation stage, which could show an underrepresentation of themes that would affect students about to enter their post-doctoral degree careers.

Conclusion

Highlighting the challenges doctoral students feel within the Formal and Informal stages of socialization can provide valuable insight for universities looking to better prepare their doctoral students for the academic and non-academic job market. A variety of institutions have focused on the challenges in undergraduate student retention; however, we suspect that few institutions have taken time to understand the causes of doctoral student concern and drop-out. Understanding these challenges and addressing them with creative solutions that encourage professional identity development could significantly reduce doctoral student drop-out (Trede et al., 2012) and increase persistence and degree completion. We hope that this study and the related findings are used by college personnel to nurture the development of graduate students with high professional readiness—to look beyond coursework and dissertation—to understand and encourage their professional identity to be developed.

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Latino/a culture

Latinas rising and growing together through mentorship

Angela Perez
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Abstract

A systematic review of literature was conducted to determine the unique needs of Latina doctoral students pertaining to mentorship as they navigate and complete doctoral programs. A mentoring conceptual model that focuses on Latina doctoral students is offered. The model provides guidance to higher education leaders in their endeavors to improve the success of Latina doctoral students. More specifically, it emphasizes the need to incorporate cultural beliefs and values into a formal mentoring program that capitalizes on the nuances of the Latina/o culture.

While research on mentoring has been extensive (Crisp et al., 2017; Zalaquett & Lopez, 2006), it has primarily examined mentoring at the undergraduate level. What warrants further examination is mentoring within the context of Latina doctoral student success. Universities must do a better job of understanding the role of mentorship for Latina success in advanced graduate studies, as Latinas are members of the largest growing ethnic population (Alarcon & Bettez, 2017). What follows is a review of definitions of mentoring, the methodology, and the thematic findings that emerged from a comprehensive literature review of mentorship as it pertains to undergraduate students, doctoral student success, and Latina doctoral student success. The intent of this systematic review of literature is to extend existing mentorship models to provide a conceptual model to better understand the role of mentoring in the success of Latina doctoral students.

Defining mentorship

The extent of existing literature offers multiple definitions of mentoring. Some scholars define mentoring as a form of structured or formal interaction between mentor and mentee (Mireles-Rios & Garcia, 2019; Torres & Hernandez, 2009), a valuable support system in which mentors guide and validate mentees as they develop and progress (Mendez-Morse, 2004; Murakami & Nunez, 2014), while focusing on creating a relationship that may enhance a mentee's personal and professional growth (Mendez-Morse, 2004; Zalaquett & Lopez, 2006). Mentoring is also defined as a dyadic relationship in which an individual with more experience shares knowledge, guidance, and insight with an individual with less experience (Acevedo-Gil & Madrigal-Garcia, 2018; Torres & Hernandez, 2009) that may result in positive professional and personal relationships and academic competence (Zalaquett & Lopez, 2006). Others, like Villasenor and colleagues (2013) define a non-traditional type of mentoring that creates relationships through formal and informal collaboration that incorporates general, academic, and interpersonal contact. Still, Zalaquett and Lopez (2006) define formal mentoring as an established program where mentor and mentee are paired by a third party from within the program and usually have set procedures, goals, and

training for mentors. Informal mentoring requires initiative on behalf of the mentor or mentee to cultivate a mentoring relationship that yields personal and professional collaboration (Zalaquett & Lopez, 2006). For this systematic review, we offer the following definition of mentoring: a formal or informal program that provides the necessary guidance and skills to help Latina doctoral students to successfully matriculate through the doctoral program and transition into a career by utilizing the beliefs and cultural assets of Latina doctoral students.

Methodology

A systematic literature review was conducted to better understand previous research through the examination of various independent studies (Jesson et al., 2011) regarding mentorship and its positive effects on the persistence and completion rates of Latina undergraduate, graduate, and doctoral students (Cavazos, 2016; San Miguel & Kim, 2015). A literature review is defined as a written work that reviews existing knowledge about a particular subject (Jesson et al., 2011). This systematic literature review includes a discussion of previous studies regarding the need to mentor Latina undergraduate, graduate, and doctoral students to ensure success at all levels. It also reviews the best practices for implementing mentoring programs with a focus on the success of Latina doctoral students and the need to include academic, professional, and personal aspects within the mentoring program (Villasenor et al., 2013). This review of literature serves as a framework to create a conceptual mentorship model that accounts for the nuances warranted for Latina doctoral student success.

For this review, the databases ERIC via EBSCO, Education Full Text, and Google Scholar were searched for relevant work. We included educational reports, journal articles, conference papers, dissertations, and books. The criteria for inclusion include journal articles and studies that contained information relevant to the mentoring of undergraduate, graduate, and Latina doctoral students. Research that focused on mentoring of Latina faculty members as peers was excluded from the research.

Search terms

Specific phrases and keywords were sought out by the first author. The following search terms and/or phrases were used to locate relevant reports, articles, papers, dissertations, and books pertaining to mentoring in higher education via the databases. "Mentoring of undergraduate students" produced 106 search results, "mentoring of graduate students" resulted in 159 search results, "mentoring of doctoral students" resulted in 67 search results, "mentoring of Latina students" resulted in seven search results, "mentoring of Latinas in higher education" produced three results, and "mentoring of Latina doctoral students" presented 657 results. Of these results, 23 articles were reviewed and synthesized in the Findings section below.

These 23 articles were chosen for review based on relevant keywords and content. The keywords that were focused on included "mentoring," "mentoring programs," "minority higher education students," "Latina undergraduate students," "Latina graduate students," and "Latina doctoral students." The chosen articles focused on mentorship or mentorship programs and how they positively impact the success of undergraduate students, graduate students, doctoral students, and increase the likelihood of program completion (See Table 1). While this conceptual model focuses on mentoring of Latina doctoral student success, the systematic review includes mentorship of undergraduates to establish the mentorship needs of this population as they matriculate throughout the entire higher education pipeline to a terminal degree.

Findings

What follows is a systematic synthesis of the review of literature based on the methodology noted in the previous section, as framed around the research themes of *Closing the cultural and academic gap via mentoring of undergraduate students*, *Building faculty into the role of mentoring doctoral students*, and *Investing in diverse faculty to capitalize in mentoring of Latina doctoral students*.

Table 1
References used in review of literature

References	Keywords	Summary
Acevedo-Gil, N. & Madrigal-Garcia, Y. (2018).	mentor, Latina, doctoral students	The researchers found that Latina student participation in the program display a strong commitment to Latin communities to develop bonds between the doctoral students. Spiritual mentor-activism, a national mentoring network emerged.
Alarcón, J. & Bettez, S. (2017).	mentoring, Latina	Establishes the support of peer mentoring for Latinas to increase their retention rates.
Bordes, V. & Arredondo, P. (2005).	mentor, Latina, under-graduate	Students who had a mentor reported more positive perceptions of the university environment; Hypothesis 5 predicted that Latina students would report having higher levels of cultural congruity and more positive perceptions of the university environment than Latino students

Closing the cultural and academic gap via mentoring of undergraduate students

A positive strategy for increasing retention rates is mentoring programs for undergraduate students (Crisp et al., 2017). Still some posit that not all mentoring programs are created equal, and many lack what is needed to serve all students, especially minoritized undergraduate students (Crisp et al., 2017). This is particularly relevant in the disaggregation of literature dedicated to exploring mentoring of Latina/o undergraduate students.

Nationally, Latina higher education students have some of the lowest enrollment and degree attainment rates in higher education (Bordes & Arredondo, 2005; Villasenor et al., 2013). Many Latina students begin their undergraduate college experience dependent on financial assistance, adding to feelings of inadequacy and stress, making it more

difficult to create the necessary connections that lead to persistence in undergraduate education (Crisp et al., 2017; Crisp et al., 2015; Mireles-Rios & Garcia, 2019; Zalaquett & Lopez, 2006). Programs such as the Educational Opportunity Program (EOP) have improved the retention of low-income and first-generation students, including Latina undergraduates, via the implementation of academic advising and mentoring programs (Garcia & Okhidoi, 2015). Undergraduate students who participated in formal or informal mentoring experiences not only showed a positive correlation to grades, but also an improvement of retention through to degree attainment (Bordes & Arredondo, 2005; Crisp et al., 2015). Participation in undergraduate mentoring programs results in improved education outcomes that likely contributes to a higher quality of life (Zalaquett & Lopez, 2006). Despite an increasing number of mentoring programs to aid in the persistence of undergraduate students, these programs often lack social and academic services critical to first-generation and/or low-socioeconomic Latina students (Bordes & Arredondo, 2005; Cavazos, 2016; Ek, Quijada Cerecer et al., 2010; Mireles-Rios & Garcia, 2019; San Miguel & Kim, 2015). Moreover, these programs lack culturally sensitive support necessary when Latinas leave their homes and familial support (Cavazos, 2016; Ek et al., 2010; Mireles-Rios & Garcia, 2019). The dissonance between the culture of higher education and Latina/o families creates a disconnect between Latinas and the institutions they attend. As such, incorporating cultural aspects into mentoring programs that focus on positive supportive relationships with peers and faculty mentors can help increase Latina student motivation and academic success and, in turn, improve the undergraduate college experience and persistence to degree attainment (Bordes & Arredondo, 2005; Ek et al., 2010; Mireles-Rios & Garcia, 2019; Murakami & Nunez, 2014; Villasenor, Reyes, & Munoz, 2013). This increase in persistence may come as a result of common beliefs and values that result from the similar cultural backgrounds of Latina mentors and their Latina mentees that lead to an enhanced sense of trust and support (Bordes & Arredondo, 2005; Ek et al., 2010; Mireles-Rios & Garcia, 2019; Murakami & Nunez, 2014; Villasenor et al., 2013).

Building faculty into the role of mentoring doctoral students

One important aspect of the graduate doctoral student experience is the opportunity for interaction between faculty and student (Acevedo-Gil & Madrigal-Garcia, 2018; Curtin et al., 2016; Dedrick & Watson, 2002; Lechuga, 2011; Mireles-Rios & Garcia, 2019). Research has shown that relationships with peers, faculty, and staff improves the persistence and graduation rates of doctoral students (Acevedo-Gil & Madrigal-Garcia, 2018; Curtin et al., 2016; Dedrick & Watson, 2002; Mireles-Rios & Garcia, 2019). This interaction aids in increasing the likelihood of student success within the graduate program and beyond, including an increase in employment opportunities and the development of professional skills and growth (Curtin et al., 2016; Lechuga, 2011; Dedrick & Watson, 2002; Torres & Hernandez, 2009). Doctoral students are traditionally socialized and guided through doctoral programs by faculty mentors who provide mentorship as a type of apprenticeship that is designed to help these students navigate their journey (Acevedo-Gil & Madrigal-Garcia, 2018; Curtin et al., 2016; Dedrick & Watson, 2002). Faculty mentors have the opportunity, as Curtin and colleagues (2016) explain, to provide doctoral students with important information regarding their academic performance, encouragement during the times when it is needed, and the knowledge needed for future success in the student's field (Spivey-Mooring & Apprey, 2014; Torres & Hernandez, 2009). Through the use of formal or informal mentoring, faculty mentors impart the knowledge doctoral students require for navigating through doctoral programs and provide socialization skills for succeeding in the world of academia, all while guiding students towards a successful career after degree completion (Curtin et al., 2016; Dedrick & Watson, 2002). Mentoring relationships between higher education faculty members and doctoral students, Curtin and colleagues posit, increase the feelings of competency and self-confidence of mentees pertinent to goal-setting and goal-attainment within the doctoral program and beyond. The relationships built between faculty and doctoral students from advising and mentoring facilitate the completion of the doctoral program due to positive program experiences and a heightened sense of belonging (Curtin et al., 2016; Spivey-Mooring & Apprey, 2014).

Investing in diverse faculty to capitalize in mentoring of Latina doctoral students

Acevedo-Gil and Madrigal-Garcia (2018) explain that Latinas in doctoral programs continue to experience cultural isolation and the need to prove themselves, while also dealing with feelings of disrespect. Many Latina doctoral students must deal with challenges that arise while trying to balance family and community responsibilities with their doctoral studies (Acevedo-Gil & Madrigal-Garcia, 2018). Challenges to Latina doctoral student success is evident in statistics that show only .06% of Latina/os earned doctorates in 2016-17 (NCES, 2018). As such, Latina doctoral students are less likely to earn doctoral degrees compared to their peers, and less than half of those who begin doctoral programs are expected to persist through to doctoral degree attainment (Acevedo-Gil & Madrigal-Garcia, 2018). As Latina students begin their doctoral programs, it is likely that they will encounter issues with racism and negative social experiences (Acevedo-Gil & Madrigal-Garcia, 2018). While research has shown that relationships with peers, faculty, and staff can aid in alleviating some of the challenges Latina doctoral students face and increase the likelihood of persistence for Latina doctoral students, many find themselves lacking access to faculty members who might mentor them (Acevedo-Gil & Madrigal-Garcia, 2018; Bordes & Arredondo, 2005; Mireles-Rios & Garcia, 2019). When access to faculty member mentors is available to Latina doctoral students, it is rarely a Latina faculty member (Acevedo-Gil & Madrigal-Garcia, 2018; Bordes & Arredondo, 2005; Mireles-Rios & Garcia, 2019).

Latina students benefit from role models that include peer and faculty mentors, and mentoring relationships with a focus on the quality and frequency of interactions with mentors of similar backgrounds can have a positive effect on student grades (Acevedo-Gil & Madrigal-Garcia, 2018; Bordes & Arredondo, 2005; Crisp et al., 2015; Mireles-Rios & Garcia, 2019) and improve persistence in higher education programs, graduation rates, and future career and professional development (Bordes & Arredondo, 2005; Byars-Winston et al., 2015; Villasenor et al., 2013). This is of particular significance in that four percent of faculty identify as Latina (Alarcón, & Bettez, 2017; Murakami & Nunez, 2014).

There is proactive need for universities to hire and diversify faculty that reflect student demographics (Mireles-Rios & Garcia, 2019; Murakami & Nunez, 2014), as Latina doctoral students have little to no interaction with Latina/o faculty members that can serve as role models or mentors (Acevedo-Gil & Madrigal-Garcia, 2018).Mentoring programs that focus on bridging academic, professional, and personal cultural values to help create more meaningful mentoring relationships can improve the persistence and graduation rates of Latina doctoral students (Acevedo-Gil & Madrigal-Garcia, 2018; Villasenor et al., 2013). Graduate student mentors of similar backgrounds have qualities that make them an ideal choice for mentoring other Latina doctoral students. They are more approachable and might be more likely to create strong mentoring relationships than faculty members due to their current experiences in graduate education (Mireles-Rios & Garcia, 2019). Acevedo-Gill and Madrigal-Garcia (2018) explain the importance of peer and step-ahead mentoring relationships between doctoral students and Latina faculty mentors. With their wisdom, knowledge, and experience, Latina faculty mentors are in a position to offer support and give advice to Latina mentees (Byars-Winston et al., 2015).

Discussion

The thematic results of this systematic literature review yield the following discussion and conceptual model (See Figure 1) to better understand aspects of mentoring that are integral for Latina doctoral student success. Findings suggest the need for formalized doctoral mentoring programs to improve the retention and doctoral degree attainment rates of Latina doctoral students (Cavazos, 2016; Villasenor et al., 2013). Institutions often focus on the development and implementation of mentoring programs for first year, undergraduate college students (Crisp et al., 2017; Crisp et al., 2015). These programs provide undergraduate students guidance in academic advising and emphasize connections with peers, staff, faculty, and the institution. While these aspects may benefit undergraduate students, these programs are typically missing the cultural aspects and values that Latina undergraduate students benefit from (Crisp et al., 2017; Mireles-Rios & Garcia, 2019).

Those who journey to earn graduate degrees encounter new challenges on the road to degree completion. These challenges can be easier for graduate students to navigate with guidance from a faculty mentor with a similar background (Acevedo-Gil & Madrigal-Garcia, 2018; Curtin, Malley, & Stewart, 2016; Dedrick & Watson, 2002; Mireles-Rios & Garcia, 2019). Although informal or formal mentoring can be utilized in mentoring Latina doctoral students, implementing a formal mentorship program can be beneficial for both mentors and mentees, as Latina faculty mentors may feel inadequate in mentoring capabilities without the structure and guidance offered in a formal program (Esposito, 2014). Defining the roles of mentors, explaining expectations for meetings, and providing opportunities for socialization between all mentors and mentees participating in the program (Spivey-Mooring & Apprey, 2014) ensures that both mentors and mentees fulfill their duties within the

Figure 1
A formal mentoring program model for Latina student success

For *Closing the Cultural and Academic Gap Via Mentoring of Doctoral Students* *Focus on Latina/o culture, background, and beliefs when guiding Latina doctoral student mentee(s). * Consider Latina doctoral student values when supporting Latina doctoral student mentee(s) through doctoral program.

Formal Mentoring Program Model for Latina Doctoral Student Success

Investment in a Diverse Faculty to Capitalize in Mentoring of Latina Doctoral Students *Latina students can thrive with role models to help them successfully navigate the terminal degree terrain.

Building Faculty into the Role of Mentoring Doctoral Students *Providing outlined duties, meeting schedules, and opportunities for socialization with other mentors and mentees in the program. *Provide training in guiding Latina doctoral student mentee(s) through doctoral program

program, improving the likelihood of student success (Cavazos, 2016; Villasenor, 2013).

The findings also suggest that institutions must be intentional about recruiting and hiring more Latina faculty members to serve as role models and mentors for Latina doctoral students. As mentors, Latina faculty members can create greater connections with Latina doctoral students, through similarities in familial backgrounds and cultural beliefs (Acevedo-Gil & Madrigal-Garcia, 2018; Bordes & Arredondo, 2005; Mireles-Rios & Garcia, 2019). The findings also suggest that retention and completion rates of Latinas in doctoral programs increase when cultural beliefs and family values are included (Acevedo-Gil & Madrigal-Garcia, 2018; Bordes & Arredondo, 2005; Mireles-Rios & Garcia, 2019) a mentoring program.

Recommendations for practice

Based on the synthesis of the thematic results, what we offer next are recommendations for practice.

Utilizing ethnic and cultural backgrounds in mentorship programs. *There is a need for Latina doctoral students to have mentoring relationships that acknowledge and utilize ethnic and cultural backgrounds* (Acevedo-Gil & Madrigal-Garcia, 2018; Lechuga, 2011; Villasenor et al., 2013). Although one of the best ways to accomplish this goal is to pair Latina doctoral students with Latina faculty mentors (Acevedo-Gil & Madrigal-Garcia, 2018), this can be a challenge given underrepresentation of Latina faculty members who can serve as mentors for Latina doctoral students (Alarcón, & Bettez, 2017; Lechuga, 2011Villasenor et al., 2018; Reyes, & Munoz, 2013). This suggests that institutions must be adamant about hiring diverse faculty. Latina doctoral students often build coalitions among themselves to gain a sense of belonging and navigate their way through doctoral programs in academia (Acevedo-Gil & Madrigal-Garcia, 2018). The creation of familial bonds combined with validation in student work, Acevedo-Gil and Madrigal-Garcia (2018) explain, help mentoring relationships create academically successful Latinas while maintaining cultural integrity.

Supporting the rising number of Latina higher education students. *There is a need for an increase of Latina faculty members to support the rising number of Latina doctoral students* (Alarcón, & Bettez, 2017). Without Latina faculty mentoring, many Latina doctoral students miss opportunities to successfully navigate doctoral programs (Acevedo-Gil & Madrigal-Garcia, 2018). Although cross-race mentoring has been found effective (Stanley & Lincoln, 2005), the likelihood of successfully completing a doctoral program increases when a mentor understands the reasons behind warranted decisions and the challenges one must overcome (Acevedo-Gil & Madrigal-Garcia, 2018; Mireles-Rios & Garcia, 2019). The research illustrates a need that institutions of higher education can no longer in good faith admit Latina students without role models to help them successfully navigate the terminal degree terrain.

Understanding the role of cross-race mentoring. *Regardless of the demographics of faculty, departments must invest in professional development opportunities that bring to the forefront the cultural and racial need to understand the role of cross-race mentoring.* As doctoral programs seek to create formal mentoring programs, there is an ethical and moral responsibility to cultivate the success of Latina students. In doing so, it is critical that departments require faculty professional development to build a culture that integrates the role of cultural and familial bonds into mentoring approaches. Such professional development should incorporate strategies to alleviate the gap between culture and academic success as it pertains to doctoral degree attainment for Latina students.

Conclusion

Despite the exponential growth of the Latina/o population, Latinas remain underrepresented in doctoral degree attainment. While extant literature highlights the importance of mentoring for student success, the mentoring framework needs to be inclusive of culture and familial bonds. The aforementioned is a critical aspect of Latina student success (Villasenor et al., 2013). Latinas who earn their doctoral degrees become

leaders in society and can improve social equity while addressing issues that arise from social, educational, and economic inequality (Fernandez, 2018; Murakami & Nunez, 2014; Villasenor et al., 2013). It is time for departments to provide formalized mentorship opportunities for Latina doctoral students that not only integrate the nuances of culture but strategically places faculty in positions where they can serve as role models. Antiquated models of student success can no longer remedy the need for today's Latina doctoral success.

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13

Identidad invisible: Hispanic-Serving Institutions operating as predominantly white institutions

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Abstract

The role and shaping of identity *for Hispanic-Serving Institutions (HSIs) has been arbitrary in contrast to the missions of other Minority-Serving Institutions. Since 1992, 523 HSIs have surfaced (Excelencia in Education, 2019) to acquire the designation because of demographics shifts and geographic proximity to Latino populations. However, scholars (Bourke, 2016) have suggested that HSIs operate in* invisibility *due to dominant frameworks of Predominately White Institutions (PWIs). This study utilized a LatCrit (Solórzano & Delgado Bernal, 2001) theoretical framework and document analysis to examine the alignment, if any, of the espoused and enacted missions of HSIs. The study concluded that many HSIs reflected the definition of PWIs (Bourke, 2016) based on student enrollment. However, many of the HSIs' espoused missions did not align with their enacted identities as reflected in their mission statements, campus climate, faculty demographics, and graduation rates.*

Identidad invisible: **Hispanic-Serving Institutions operating as predominantly white institutions**

Members of underrepresented racial groups are underrepresented not only numerically but also systemically through social structures and the ways in which power is situated among groups.
> —Brian Bourke, Meaning and implications of being
> labeled a predominately white institution, 2016.

Introduction

The role and shaping of identity for Hispanic-Serving Institutions (HSIs) has been arbitrary in contrast to the espoused missions of Historically Black Colleges and Universities (HBCUs), Tribal Colleges (TCs), Asian American, and Native American Pacific Islander-Serving Institutions in serving specific populations (Calderon, 2015; Mendez et al., 2015). Since 1992, 523 HSIs have surfaced (Excelencia in Education, 2019) and acquired the designation as a result of legislation, demographic shifts, and geographic proximity to Latino (used interchangeably with Hispanic in keeping with the original language [Instituto Cervantes, 2018] and context of the term) populations (Garcia, 2019; Mendez et al., 2015; Torres & Zequera, 2012). Consequently, HSIs have operated in conferred dominant frameworks of Predominately White Institutions (PWIs) (Freeman, 1999; Johnson, 2018) rather than the enacted mission of sense, purpose, and cultures as those of traditional Minority-Serving Institutions (Mendez et al., 2015; Renn & Patton, 2017). According to Greene and Oesterreich (2012), "HSI is simply a moniker based on Latino student body count used for public relations and privileged access to funding rather than practices connected with mission and purpose" (p. 169). As a result, HSIs have operated with invisible identities (Contreras et al., 2008) as opposed to a more central institutionalized identity that is reflective of Latino cultures. Therefore, this study focused on the alignment of the espoused and enacted missions of HSIs derived from mission statements, campus climate, faculty demographics, graduation rates of 24 HSIs, in relation to a principal HSI identity. The research questions for this study addressed:

> **PRQ:** What identity, if any, do institutions with HSIs designations ascribe?

RQ1: In what ways, if any, do institutions with an HSI designation convey through digital tools such as university websites, campus climate?

RQ2: What representation if any, do Latino faculty have on HSI campuses?

RQ3: What outcomes if any, exist for Latino students at HSIs?

Understanding the institutional frameworks of PWIs and HSIs

Scholars (Garcia, 2019; Hirt, 2006; Renn & Patton, 2017) refer to institutions of higher learning by type or by their granted federal designation known as Minority-Serving Institutions (MSI) (U.S. Department of Education, n.d.). Often MSIs are contrasted to Predominately White Institutions (PWI) which is neither an institution type nor federal designation (Bourke, 2016; Renn & Patton, 2017). PWIs represent the dominant grouping of white student enrollment and dominant institutional ideology (Bourke, 2016; Griffin, 2017; Hutcheson, 2008; Johnson, 2018; Renn & Patton, 2017), irrelevant of institution type or federal granted designation. HSIs represent 17% of all institutions of higher learning and enroll 66% of Latino undergraduates (Excelencia in Education, 2019). Unlike traditional Minority-Serving Institutions such as HBCUs and TCs that were legislated (Hirt, 2006; Renn & Patton; 2017) to serve underrepresented populations, nominal institutions were established to serve or educate Hispanics (Hirt, 2006; Mendez et al., 2015). The demographics of HSIs are significant in understanding the role that HSIs have in educating the majority Latinos undergraduate students (Santiago & Andrade, 2010).

There are several significant factors that contribute to the increased development of HSIs but primarily the racializing of Hispanics in higher education (Carr & Kutty, 2008; Cobas et al., 2009; Contreras & Contreras, 2015; Garcia, 2019; Greene & Oesterreich, 2012). Scholars (Garcia, 2019; Rodriguez, 2002) suggest that historically predominantly white institutions, have been abruptly minoritized through legislation in an attempt by the United States government to create ethnic categories for Hispanic and Latino populations. Additionally, Garcia (2019) posits that the racial category "Hispanic" is highly subjective and socially

constructed. Moreover, the creation and federal recognition of both terms, Hispanic and Hispanic-Serving Institutions, ultimately has had its consequences (Garcia, 2019; Mendez et al., 2015).

Mission statements and HSIs

Institutional mission statements offer insight into what institutions and organizations value most (Tierney, 1988; Wilson, 2012). Additionally, institutional mission statements are influenced by considerations relating to but not limited to history, tradition, heritage, geographical location, culture, designation, and relationship within and to the residing state (Hirt, 2016; Renn & Patton; 2017). HSIs, like their MSI counterparts, are comprised of a variety of colleges and universities with a smorgasbord of institutional identities related to the institution type (Hirt, 2006). Unlike HBCUs or TCs, HSIs were an afterthought on the landscape of higher education and therefore, very few institutional mission or mission statements will reflect a mission to serve Latino populations (Greene & Oesterreich, 2012; Hirt, 2006; Mendez et al., 2015).

Campus climate and university websites

Scholars (Griffin, 2017; Museus, 2017; Renn & Patton; 2017) suggest that behavioral settings influence the interactions of individuals who inhabit them and reflects an institution's values; and that students of color are more likely to report issues with racism than their white peers, leading to negative assessments of campus climate. In recent years, institutions have moved toward digital tools, such as university websites (Museus, 2017; Wilson et al., 2012) to convey institutional information with regard to campus climate but also to increase the reach and interest of potential students. How universities communicate values of diversity and inclusion through digital tools such as websites and university social media has a direct influence on campus culture and a presumed collective identity about the university, its constituents, and overall campus climate platforms (Griffin, 2017; Museus, 2017). Scholars (Renn & Patton, 2017) also suggest that components of campus climate can influence both positive and negative academic outcomes for minoritized populations, even for Latinos who attend HSIs. How HSIs communicate

opportunities for student development and support contributes to the persistence and positive academic outcome for Latino students. Opportunities for Latino student development and support are promoted on university digital platforms (Museus, 2017) and include but are not limited to:

- Social Support Networks – faculty/student mentoring programs, academic support groups inclusive of all disciplines within the university, articulation agreements with commerce and Latino communities.
- Cultural Enhancement - cultural celebrations, academic pro-graming reflecting diverse perspectives of Latinos cultures, student organizations, and cultural centers.
- Student Development Opportunities - academic achievement celebrations, grant initiatives (e.g., Title V), and Hispanic funded scholarships.
- Institutional Support – inclusion in university mission state-ments, strategic planning, the promotion of HSI task force, institutional infrastructure and dedicated physical space on campuses supporting Latinos initiatives (e.g., Hispanic Affairs and Hispanic cultural centers).

Faculty demographics at HSIs

The academic environment remains challenging for Latino students in higher education, as research is limited on the demographics of faculty representation at HSIs (Anaya & Cole, 2001; Banda, 2017; Hirt, 2006; Santiago & Taylor, 2017). Latino faculty have doubled their presence as professors and instructors since 2013 within higher education campuses (Santiago & Taylor, 2017); still, the segmentation of educational barriers for Latino faculty leading up to hiring, tenure, and promotion standards continues to contribute to the dearth of Latinos in the professoriate (Benitez et al., 2017; Gutierrez, 2020; Padilla & Perez, 2003).

Faculty are instrumental in the maximization of Latino student learning efforts and educational outcomes (Anaya & Cole, 2001; Ching, 2019). Scholars (Anaya & Cole, 2001; Ching, 2019; Garcia, 2019) contend that Latino student-faculty interactions on HSI campuses

occur on socially constructed environments that incorporates race, not as a categorical factor, but as an aspect of persistence to Latino undergraduate degree completion. The faculty role at HSIs is an important element in student persistence, as "students who experience a high degree of faculty interaction take a more active role in their education than other students" (Castellanos & Alberta, 2003, p. 8). Additionally, the non-cognitive factors Latino faculty contribute include the representation and presence of those who have succeeded within the educational system, proving to Latino students they can also succeed academically (Castellanos & Alberta, 2003).

Graduation rates

Latino enrollment in higher education has more than doubled over the last two decades (U.S. Census, 2017). However, Latinos continue to graduate at lower rates than students of other racial/ethnic backgrounds. As an example, 6-year graduation rates for all first-time and full-time undergraduate (FTU) students attending public 4-year degree-granting institutions from fall cohort 2012 was 61.2%; additionally, the graduation rate for Latinos was 55.6% compared to 64.3% for whites (National Center for Education Statistics [NCES], 2019). Furthermore, the U.S. Census (2017) data suggests that bachelor's degree attainment for Latino adults, 25 and above, is substantially lower (16%) in comparison to all other ethnicities (32%) (Pew Research Center, 2019). Findings of studies (American Council on Education, 2017; Contreras & Contreras, 2015; Laden, 2001, 2004) that have examined graduation rates of students from HSIs have reported inconsistencies and mixed findings from institutional data. Additional studies (Laden, 2001, 2004) have suggested that Latinos graduate at higher rates at HSIs in comparison to non-HSIs but that these findings can be inherently justified by a higher proportion of Latinos attending HSIs in comparison to non-HSIs. In contrast, other studies (e.g., Contreras & Contreras, 2015) found lower college completion rates for Latinos attending HSIs. Therefore, conclusions on the effectiveness of HSIs relating to graduation rates is currently inconsistent.

Theoretical framework

This study employed Latino Critical Race (LatCrit) theory to inform both the analysis and interpretation of the findings (Crenshaw, 1989; Solórzano & Delgado Bernal, 2001). LatCrit acknowledges the intersectionality of the historical realism of lived experiences that have been shaped by social, political, cultural, economic, sexism, classism, ethnic and gender values racism, and other forms of oppression (Glesne, 2016; Lincoln & Guba, 2000). Such intersectionality has further impacted the experiences of people of color, with LatCrit specifically placing Latino ethnicity at the forefront (Solórzano & Delgado Bernal, 2001; Torres, 2011). LatCrit emphasizes that educational outcomes for Latinos are innately influenced by institutional racism and negative stereotypes and are not reflective of individual motivation or effort (Núñez, 2014).

Methods

Under a qualitative research methodology, a document analysis was conducted to systematically examine espoused and enacted missions of institutions and the HSIs federal designation. As proposed by Prior (2003), document analysis is utilized to inform a field of research in its naturalistic form. Through this procedure, the researchers find, select, make sense of, and synthesize data gathered from documentation, which contains text and images previously recorded without researchers' intervention (Bowen, 2009). In this study, the document analysis relied on several data sources such as websites, institutional reports, and social media platforms that were relevant to the researched problem and questions (Bowen, 2009; Prior, 2003). The following sections (1) *Data collection*, (2) *Data analysis*, and (3) *Trustworthiness* further detail the procedures researchers used in this study.

Data collection

For this study, websites of HSIs from the six highest Latino populated states were analyzed, New Mexico (48%), California (39%), Texas (39%), Arizona (31%), Nevada (28%), and Florida (21%) (Stepler & Lopez, 2016). Guided by the Hispanic Association of Colleges and Universities' (2020) member directory, all 4-year public institutions

located in these states were recorded in a Microsoft Excel spreadsheet. To select a random sample from the population, researchers utilized the random selection formula (=RAND) to select four institutions from each state except for Nevada as it only has three 4-year public HSIs. To reach the desired sample size of 24 institutions, the same random formula was used to select an additional institution from another state (TX-HSI_5). The Excel formula (=RAND) was intentionally utilized to systematically organize data and reduce any biases throughout the process of data collection.

Data analysis

The first step in analyzing the data was to examine the mission statements from each institution. After reviewing the published mission statements and corresponding literature, researchers identified and collected data reflecting the enacted missions of each institution. The selected data included: (1) campus climate consisting of social support networks, cultural enhancement, student development opportunities, and institutional support; (2) faculty demographics; and (3) graduation rates. The information that was not available from institutional websites was sought in other public databases (e.g., NCES). The data was then recorded on a spreadsheet, and a numerical score was assigned for each analyzed component. For example, mission statements were copied and pasted to an Excel spreadsheet; researchers then engaged in discussions on how to assign scores on a scale of 0–4 representing a visualization for each category. Finally, researchers assessed each mission statement, decided on a score, and recorded it within the document. Further details pertaining to the analysis of the categorical data and scoring of each component are discussed in the Findings section.

Trustworthiness

Within this study, the researchers employed the techniques of credibility, prolonged engagement, audit trail, peer debriefing, and transferability, utilizing multiple data sources, multiple data-collection, and multiple investigators to ensure trustworthiness. Prolonged engagement denoted reviewing digital tools such as websites, social media, and electronic

public reports. Through audit trails, researchers were transparent throughout the study by way of referential adequacy materials such as fields notes and spreadsheets. Peer debriefing referred to researchers removing themselves from the context studied and analyzed the data with a professional familiar with the content. Lastly, transferability, which triangulated multiple data sources to increase the rigor of the study, provided a thick description of the data being analyzed to ensure trustworthiness (Erlandson et al., 1993; Lincoln & Guba, 1985).

Findings

The findings of this study were organized in five categories of data: (1) mission statements, (2) campus climate, (3) faculty demographics (4) graduation rates, and (5) the overall assessment of categories combined (See Table 1 for the summary of findings and categories). What follows is a thorough discussion that emerged from the data analysis, which included the unitized data and categories that yielded individual institutional scores. Institutional scores were determined and assigned based on the quality and transparency of public institutional data made available and specific to each category. Additionally, the scores reflected a systematic review of the alignment of the espoused and enacted mission of HSIs derived from mission statements, campus climate, faculty demographics, graduation rates.

Mission statements

Mission statements were assessed and then given a score ranging 0–4, with 4 being the standard that most evidenced an HSI designation and 0 not reflecting an HSI designation. Mission statements that exhibited specifications to diversity, community, and social justice were scored higher, as these social constructs indicated potential inclusion for Latino populations. The average score for an institution was 2; none of the 24 examined institutions earned either a 4 or a 0. Of the states compared, institutions from Nevada earned the highest average score ($n = 2.27$) while Arizona received the lowest average score ($n = 1.5$).

Table 1
Summary of findings

*Institution	HSI/PWI Based on Student Enrollment	Mission State-ments	Campus Climate	Faculty Demo-graphics	Gradu-ation Rates	Total
AZ-HSI_1	PWI	1	3	3	0	7
AZ-HSI_2	PWI	1	3	3	4	11
AZ-HSI_3	PWI	1	4	3	0	8
AZ-HSI_4	HSI	3	4	3	N/A	10
CA-HSI_1	HSI	1	2	3	0	6
CA-HSI_2	HSI	3	3	2	0	8
CA-HSI_3	HSI	2	3	3	0	8
CA-HSI_4	PWI	2	3	3	0	8
FL-HSI_1	HSI	2	3	0	4	9
FL-HSI_2	HSI	2	1	3	0	6
FL-HSI_3	HSI/PWI	2	1	1	0	4
FL-HSI_4	HSI	1	2	0	0	3
NM-HSI_1	PWI	1	2	1	0	4
NM-HSI_2	HSI	2	3	4	4	13
NM-HSI_3	HSI	2	4	4	0	10
NM-HSI_4	HSI	2	2	4	4	12
NV-HSI_1	HSI	3	3	0	0	6
NV-HSI_2	HSI	3	3	1	4	11
NV-HSI_3	PWI	2	4	2	0	8
TX-HSI_1	PWI	2	3	0	0	5
TX-HSI_2	HSI	3	3	4	0	10
TX-HSI_3	HSI	2	3	3	0	8
TX-HSI_4	PWI	3	4	0	0	7
TX-HSI_5	HSI	2	3	2	4	11

Researchers' selected pseudonym

Campus climate

University websites were analyzed to assess whether institutions' campus climate aligned with the HSI designation and cultural identity central to Latino student populations. Specifically, researchers looked for evidence of social support networks, cultural enhancement, student development opportunities, and institutional support. Each component had a weight of 1 point associated with it; thus, institutions could earn a maximum score of 4 within this category. The average score for all institutions was 2.875, suggesting that this category was the highest among the findings. Four institutions scored a 4; no institution earned a 0 and only two institutions earned a 1. Among the states, Arizona had the highest average score ($n = 3.5$), followed by Nevada ($n = 3.33$), and Texas ($n = 3.2$). Notably, Florida had the lowest average score ($n = 1.75$).

Faculty demographics

Each institution's website was analyzed to identify the full-time tenured and tenure-track faculty demographics by race/ethnicity. Due to the lack of reported data by majority of the examined institutions, researchers evaluated the NCES's (2020) reports for each institution. First, figures of total Latino full-time faculty and total White full-time faculty were recorded. Next, percentages for FTU Latino students and FTU White students were recorded to determine student to faculty accessibility; all data collected for faculty demographics represent the 2018-2019 academic year. Next, calculations were made to better understand the available opportunity Latino students have to engage with Latino faculty at the examined HSIs; the same was calculated for White students and White faculty. For the examined institutions, the average available opportunity Latino students have to engage with Latino faculty was 127 to 1; for White students, it was 15 to 1 for the opportunities for them to engage with White faculty. As a result, a scoring rubric was created to reflect each institution's possible Latino student engagement-to-Latino faculty. The rubric is as follows: 1 to 63 Latino students per 1 Latino faculty (4 points), 64 to 126 students (3 points), 127 to 190 students (2 points), 191 to 254 students (1 point) and 255 or more students (0 points). As such, the data revealed that HSIs with the lower Latino student-to-Latino

faculty scored the highest given that Latinos students had a higher potential to interact and engage with Latino faculty at these institutions.

The average score for all institutions was 2.16. Institutions from New Mexico had the highest average score ($n = 3.25$) followed by Arizona ($n = 3$). In contrast, Nevada and Florida had the lowest average scores ($n = 1$). A total of five institutions received 0 in this area while four universities earned the highest score of 4.

Graduation rates

Lastly, researchers analyzed 4-year, 5-year, and 6-year graduation rates for full-time Latino and white students from 2008–2020. Given the disparities of reported data on institutional websites, researchers aggregated 6-year graduation rates from the 2012 cohort as listed in the NCES (2020) database. Researchers then compared the graduation rates of Latino and White students for each institution. Institutions that graduated Latinos at higher rates than whites received the score of 4 while those who graduated White students at higher rates received a score of 0. If the graduation rate contrasted within +-1%, the institution received a score of 2. Therefore, the scoring rubric for this category excluded the scores of 1 and 3. Notably, the average score for all institutions was the lowest among all the analyzed categories ($n = 1.04$). Six institutions earned a score of 4; the majority ($n = 17$) graduated Latinos at lower rates than whites and earned a 0. One institution in the sample did not receive a score as the graduation rates were not publicly listed on the institution's website nor was it reported to NCES. The state comparison revealed that California ($n = 0$) and Texas ($n = 0.8$) scored the lowest in this category; New Mexico had the highest average score ($n = 2$).

Overall assessment

At the conclusion of the data analysis, a final combined score from the four categories was determined for each institution. The maximum possible score was 16 while the minimum was 0. The average score among all institutions was 8.04. AZ-HSI_2 had the highest score ($n = 11$) while FL-HSI_4 scored the lowest ($n = 3$). Of the states examined, New Mexico had the highest average score ($n = 9.75$) while Florida scored

the lowest ($n = 5.5$). The overall higher scores between 9-16 suggested that institutions operate as HSIs while overall scores of 0-8 (lower half) implied that institutions operated more closely as PWIs. Most institutions ($n = 15$) scored 8 points or below; only nine institutions scored 9 points or higher and was determined that these institutions operate closer to an HSI.

While all institutions examined had the federal designation of an HSI, researchers also compared the overall enrollment of Latino students to that of White students to determine if the scholars' (Bourke, 2016; Griffin, 2017; Museus, 2017) definition of an HSI versus a PWI is solely based on student enrollment. The findings indicated that eight institutions fell short of the PWI definition, 15 were HSIs, and one had equal enrollment of both Latino and White students. Next, researchers compared the overall score of the HSI designation with how scholars (Bourke, 2016; Griffin, 2017; Museus, 2017) determine PWI's status based on enrollment. When compared to the overall scores, the data evidenced that the institution with the highest overall score (n = 11) was associated with the PWI scholar (Bourke, 2016) definition, while the lowest score (n = 3) was associated with the HSI federal definition. As a result, three individual institutions scored in the lower half but had high Latino student enrollment and was determined that the HSI designation aligned with the overall espoused mission of the institution.

Discussion of findings

This study found that institutions with HSI designations ascribe to the mission of their institutional type (e.g., research institution, community college or liberal arts) (Hirt, 2006) as opposed to a more central identity in serving Latino populations. This finding is consistent with the theoretical framework (Solórzano & Delgado Bernal, 2001), which suggests that educational outcomes for Latino students are innately influenced by institutional culture. Furthermore, literature (Bourke, 2016; Griffin, 2017; Hutcheson, 2008; Johnson, 2018; Renn & Patton, 2017) posits that the PWI institutional ideology is the dominant framework for espoused missions and is often in contrast to the HSI designation.

In terms of digital tools (Museus, 2017; Wilson et al., 2012), this study discovered that institutions with HSI designations largely displayed their commitment to educating Latinos. However, the institutional infrastructure contrasted the messaging found on university websites in communicating the support and development of Latinos students as reflected in the paucity of Latino faculty and Latino student graduation rates. This is problematic in that HSIs have operated in the espoused frameworks of PWIs rather than the enacted mission of sense, purpose, and cultures of whom the HSI designation is intended to serve (Greene & Oesterreich, 2012; Mendez et al., 2015).

Latino faculty play an intricate role at HSIs for Latino students as they impact persistence to educational outcomes (Anaya & Cole, 2001; Castellanos & Alberta, 2003; Ching, 2019). Regrettably, this study found that Latino students have a 127 to 1 opportunity to engage with Latino faculty as oppose to their White counterparts who have a 15 to 1 opportunity to engage with White faculty. Given the disparity of Latino faculty representation at the examined HSIs, the educational outcomes for Latino students could be greatly affected; as research suggests, the non-cognitive factors of Latino faculty's representation evidences to Latino students that they can succeed academically (Castellanos & Alberta, 2003).

HSIs play a critical role in providing access and postsecondary educational opportunities for 66% of all FTU Latinos students (Excelencia in Education, 2019). However, this study found that the majority of the examined HSIs graduated Latinos at lower rates in comparison to White students. This is problematic as the increasing number of occupations requiring postsecondary education for the stability and economic growth for the U.S. is largely dependent upon the number of citizens who obtain degree completion. With the overall lagging graduation rates (NCES, 2019) at universities and the projected increases of Hispanic growth (U.S. Census, 2017), it is imperative that HSIs generate positive educational outcomes for Latino students.

While this study examined institutions with HSI designations, it was evident that many of the HSIs reflected the definition of PWIs based on student enrollment (Bourke, 2016). Further examination of the HSIs also

evidenced that many of the HSI espoused missions did not align with their enacted identities as reflected in the mission statements, campus climate, faculty demographics, and graduation rates of the institution. The findings indicated that eight institutions fell short of the PWI definition, 15 were HSIs, and one had equal enrollment of both Latino and White students. This finding aligns with what scholars argue in that HSIs operate in invisible identities (Contreras et al., 2008) as opposed to an espoused mission in serving Latino populations.

Implications for practice

1. *Institutions must engage in continual assessment in evaluating alignment between the institution's overall mission and the HSI designation.* This study used a critical theoretical framework and assessment tool to identify how institutions with HSI designation communicate inclusion on their campus for Latinos students. As the findings of this study concluded, the institutional infrastructure of universities should align with the mission of HSI designation to serve Latino populations.

2. *Institutions must re-evaluate hiring policies of faculty at HSIs to reflect the needs of Latino student populations.* This study identified a gap in that Latinos students have minimal opportunity to engage with Latino faculty at HSIs. HSIs could further be strengthened by an intentional effort in increasing the diversity of faculty at these institutions while improving on Latino student learning efforts and educational outcomes.

3. *Institutional efforts must examine the existing educational outcome disparities between Latino and White students at HSIs.* Institutional leaders must recognize their active role in perpetuating a system, supported by institutional policies, which has affected the individual academic outcome for Latino students. The academic successes of this dynamic demographic are highly depended on how well Latinos are educated, leading to the economic progress for Latino populations.

Conclusion

As Latinos continue to increase in proportion to the U.S. population, HSIs play a critical role in providing access and postsecondary educational opportunities for this population. The findings of this study addressed the paucity of information in relation to the role and identity of HSIs by examining the alignment of the espoused and enacted missions of these colleges/universities, campus climate, faculty demographics, and graduation rates. As it stands, traditional frameworks for conferred dominate groupings such as PWIs have been the anachronistic framework in which HSIs have operated. The systemic inundation of PWI frameworks has contributed to the invisibility in which HSI institutions have operated and will continue unless higher learning institutions take a more active role in aligning the espoused mission of their institutions with that of the HSI designation.

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STEM

14

Self-efficacy, belongingness, self-identity, and women's persistence in undergraduate STEM majors: A review

Yichen Zhao

Abstract

This chapter presents a review of the studies in recent years that assess associations between three important psychological factors (self-efficacy, belonging, and science identity) and women's persistence in STEM majors. Findings of the gender gap and ethnic differences were addressed in the paper.

Throughout the history of the United States, science, technology, engineering, and mathematics (STEM) have been the foundation for discovery and technological innovation. Ensuring access to a common STEM education is vital for meeting diverse workforce demands and thereby, to maintain economic prosperity and competitiveness (Executive Office of the President, 2018).

Women, representing roughly 50% of the population, have been widely regarded as one of the underrepresented groups in STEM education, science and engineering (S&E) bachelor's degree awards, and employment (American Association of University Women, 2010; Executive Office of the President, 2018; National Science Board, 2018). From 1997 to 2016, the percentage of women earning bachelor's degrees in computer science, as well as mathematics and statistics, declined by 8% and 4%, respectively. Bachelor's degrees in engineering still had among the lowest share of female degree recipients, at just 21% in 2016 (National Science Foundation, 2019).

Also, it is necessary to discuss the difference across race and ethnicity. Due to the lower representation and lower degree completion, people who are Black/African-American, Hispanic or Latino/a, American Indian, and/or Alaska Native were considered underrepresented racial minorities (URM) in STEM. The shares of Hispanic or Latino women and African-American women earning bachelor's degrees in STEM were all below 4% (National Science Foundation, 2019).

There is still a lack of research of underrepresented groups in STEM compared to other fields, like social sciences. Considering that not accessing and persisting in the college STEM majors is the root cause of underrepresented position in the STEM fields, understanding why women leave STEM majors is particularly important.

Theoretical framework

This section presents the definitions and the theories of STEM persistence and the three constructs. A conceptual model is established based on the integration of the theories and practice for understanding the relationships between the factors and women's STEM persistence.

STEM and persistence

STEM fields include a broad range of disciplines. The most common guideline that many U.S. organizations and institutions use is the National Science Foundation (NSF), in which STEM is defined as the subjects in fields of natural sciences, computer and information sciences, engineering, mathematics, and some subjects from social sciences and psychology (Gonzalez & Kuenzi, 2014). Considering that women are overrepresented in social sciences and biological sciences, this review only collected the studies examining the fields where women are underrepresented, such as computer sciences, engineering, mathematics, and physics.

Persistence was defined as "a student's postsecondary education continuation behavior that leads to graduation" (Arnold, 1999, p.5). Differing from retention, which is a large and institutional-level measure of re-enrolling the sophomore year, persistence focuses on the personal or student-level measure of continuing in a certain field of study (Hagedorn, 2005). In this paper, persistence refers to individual students' continuation on their STEM majors in postsecondary education.

Previous research has examined how psychological factors influenced students' persistence in STEM fields. As underrepresented groups, women and minoritized students, even if high-achieving, may experience biases in STEM fields and have lower levels of confidence, belongingness and science identity. Thus, the current review focuses these three constructs and their associations with women's STEM persistence.

Self-efficacy, sense of belonging, and science identity

Self-efficacy is the central role in social cognitive theory (Bandura, 1986). It is defined as "belief in one's capability to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3), that is, people's perspective on their abilities to deal with various situations or pursue an achievement. According to the theory, self-efficacy has diverse influences on people's thinking and the choice of behavior, including their thought patterns, the amount of efforts they will give, and their persistence when facing difficulties or failures

(Bandura, 1997). Stronger self-efficacy is associated with more active efforts (Bandura, 1977).

Sense of belonging is a key component that can connect people and their environment. According to Maslow's Hierarchy of Needs Theory (1954), love and belonging represent the third level of human's basic needs, referring to friendship, intimacy, family, and sense of connection. Hagerty et al. (1992) defined sense of belonging as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p.173). People are fundamentally motivated by their need of belongingness, and the sense of belonging affects human's emotion, cognition, and behaviors (Baumeister & Leary, 1995).

In terms of the Identity Theory, one's identity is defined as "the set of meanings that define who one is when one is an occupant of a particular role in society, a member of a particular group, or claims particular characteristics that identify him or her as a unique person" (Burke & Stets, 2009, p.3), referring to that one attributes self to a specific role (e.g. scientist). One of the focuses of identity theories is how perceived identities relate to people's behaviors (Stets & Serpe, 2013). Burke and Reitzes (1981) thought that if students perceived themselves as having a high academic responsibility, then they would act accordingly to make themselves close to that role.

Conceptual model
Integrating the fundamental theories, the theoretical framework for this review includes three paths. The conceptual model for this review is shown in Figure 1.

Current study and search process
The objectives of this study are to (1) investigate the associations between the three factors (self-efficacy, belongingness, science identity) and persistence in STEM majors; (2) identify the gender gap and ethnic difference; (3) and critically review studies to contribute implications for future studies. Accordingly, four main research questions addressed in this study include:

Figure 1

Conceptual model of the relationship between the three factors and STEM persistence
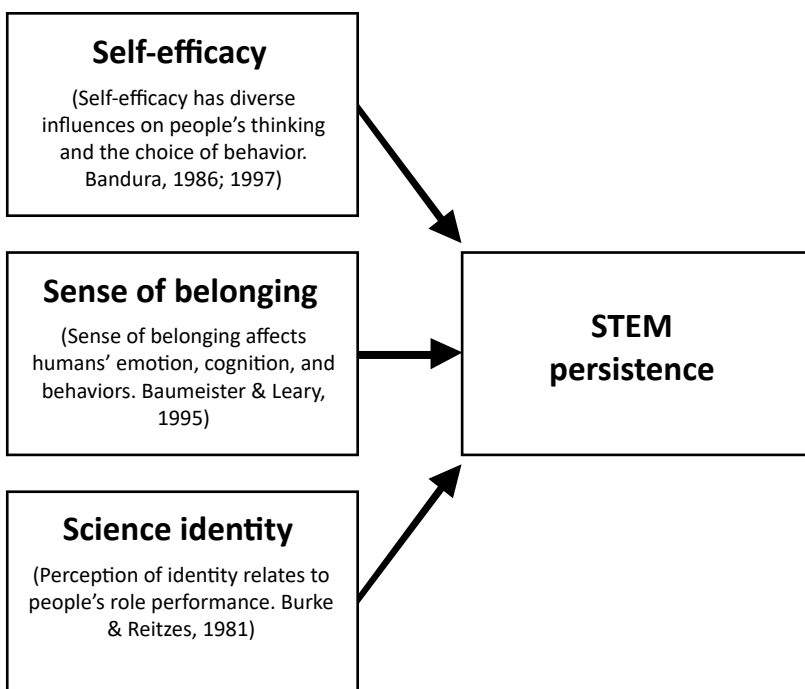
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┌─────────────────────────────┐
│       Self-efficacy         │
│  (Self-efficacy has diverse │ ─────────┐
│ influences on people's      │          │
│ thinking and the choice of  │          ▼
│ behavior. Bandura, 1986;    │   ┌─────────────────┐
│ 1997)                       │   │                 │
└─────────────────────────────┘   │      STEM       │
┌─────────────────────────────┐   │   persistence   │
│     Sense of belonging      │ ─▶│                 │
│  (Sense of belonging affects│   │                 │
│ humans' emotion, cognition, │   └─────────────────┘
│ and behaviors. Baumeister & │
│ Leary, 1995)                │
└─────────────────────────────┘
┌─────────────────────────────┐
│      Science identity       │ ─────────┘
│ (Perception of identity     │
│ relates to people's role    │
│ performance. Burke &        │
│ Reitzes, 1981)              │
└─────────────────────────────┘
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1. How do self-efficacy, sense of belonging, and science identity differ across gender, race, and ethnicity?
2. How do self-efficacy, sense of belonging, and science identity contribute to women's persistence in undergraduate STEM majors?
3. How are URM women different in self-efficacy, belongingness, and science identity to persist in STEM from their white and Asian female peers?
4. What factors influence women's self-efficacy, belonging, and science identity? How does self-efficacy, belonging, and science identity mediate the associations between influential factors and STEM persistence?

Inclusion criteria

The 2007 "National Action Plan for Addressing the Critical Needs of the U.S. Science, Technology, Engineering, and Mathematics Education System" (National Science Board) emphasized the national need to enhance STEM education. Considering it was a milestone year in the history of STEM education development, the current review incorporates the relevant existing literature from 2007 to the present. To select the studies for review, the following inclusion criteria were established:

1. Assessing persistence in computer sciences, engineering, mathematics, and physical sciences;
2. Focusing on the effects of self-efficacy, sense of belonging, and science identity on STEM persistence;
3. Focusing on general undergraduate women and the URM women in STEM;
4. Empirical and data-based;
5. Published in peer-reviewed journals and conferences in recent years (2007– 2020).

A three-step process

A three-step process was used for searching and organizing eligible articles. First, a searching of full-text literature was conducted in the relevant databases (e.g. Google Scholar, Education Source, ERIC, Web of Science). The second step was to read the full text of articles to narrow down the initial selections into the final pool for this review. Finally, to aid in the analysis of the selected articles, an Excel spreadsheet was constructed to catalogue articles.

Results

In this section, findings were critically discussed for each research question.

Research Q1: How do self-efficacy, sense of belonging, and science identity differ across gender, race, and ethnicity?

Self-efficacy. The majority of included studies showed that women had significantly lower levels of self-efficacy than men, although women in some studies had similar or even higher academic abilities as their male peers (MacPhee et al., 2013). For example, in a series of studies focusing on the gender gap in self-efficacy, women receiving an A grade in physics classes reported similar self-efficacy as men who received a B or C grade (Kalender et al., 2019; Marshman et al., 2018).

According to the literature, women's self-efficacy significantly decreased in the freshman year (Jones et al., 2010; Marshman et al., 2018). Marshman et al. (2018) found that women had much lower self-efficacy than men at the beginning of their freshman year. After taking the two-semester introductory physics courses, the gender gap of self-efficacy became larger, particularly among the high-achieving students. It indicated that female students, especially high-achieving women, had experienced some barriers in their first-year learning, and it led women to feel less confident in academic abilities and skills.

URM women reported lower self-efficacy than other racial or ethnic groups. Litzler and colleagues (2014) found significantly lower level academic self-efficacy among URM women. Thus, female students, no matter whites or URM women, had significantly lower self-efficacy than white men.

Sense of belonging. In general, STEM female students expressed a significantly lower level of belonging to their major than STEM male peers (Banchefsky et al., 2019; Good et al., 2012; Lewis et al., 2017), and women's sense of belonging linearly declined over time (Good et al., 2012; Marra et al., 2009; Sax et al., 2018). London et al. (2011) highlighted the changes of belonging in the first year of college. In the beginning of their second year, women's senses of belonging were significantly lower than that in the first year. These findings indicated that the first year of college was a particular difficult time period for female students to maintain their belongingness to STEM majors.

The racial or ethnic difference in women's belongingness was also found by previous studies. Using a national representative database, Espinosa (2011) found that, on average, women of color had a lower

average sense of belonging than white women. Marra et al. (2009) examined women's feelings of inclusion across two years of college using representative data of women in engineering majors, and the study found that African-American women showed a decline in their sense of belonging compared to other ethnic groups.

Science identity. Previous research has found that men reported higher levels of science identity than women (Godwin et al., 2016, Hazari et al., 2013; Lock et al., 2013; Young et al., 2013); that is, men felt more comfortable to identify themselves as scientists than their female counterparts in STEM majors (Williams & George-Jackson, 2014). Also, similar to the changes of academic self-efficacy and sense of belonging, scientific identification decreased over the first year for both men and women (Jones et al., 2010).

The sense of scientific identity also showed differences across race and ethnicity. Using a national large-scale dataset of randomly selected U.S. colleges and universities, Hazari et al. (2013) found that, among 7,505 students in STEM, Hispanic female students had the weakest science identity compared with Black and white females. It indicated that URM women felt least comfortable to identify themselves as scientists.

Research Q2: How do self-efficacy, sense of belonging, and science identity contribute to women's persistence of the undergraduate STEM majors?

Self-efficacy. For women, STEM self-efficacy has been found to be a major factor that influenced their decisions of persisting in STEM majors (Ellis et al., 2016; Green & Sanderson, 2017). Using the national representative data of Beginning Postsecondary Students (BPS) longitudinal study, Green and Sanderson (2017) found that self-efficacy had a positive impact on women's persistence in STEM majors. Ellis and colleagues (2016) found that women had lower academic self-efficacy and higher odds (approximately 1.5 times) of leaving mathematics than men.

Previous studies also found that the relation between self-efficacy and STEM persistence was stronger for women than men. Concannon

and Barrow's work (2010) showed that self-efficacy positively predicted women's persistence in engineering, and high self-efficacy was a better predictor for women's degree completion in engineering compared to men.

Sense of belonging. Sense of belonging has been found to be a positive predictor of undergraduate student persistence to STEM majors (Banchefsky et al., 2019; Dennehy & Dasgupta, 2017; Good et al., 2012; Lewis et al., 2017), and this relationship was stronger for women than men. Using a large nationally representative sample, Lewis et al. (2017) showed that in physics, the relationship between belonging and persistence was only statistically significant for women. Banchefsky et al. (2019) also found that in physical science, technology, engineering, and mathematics (pSTEM) fields, the relation between belonging and intentions to persist was roughly two times stronger for women than men. These findings indicated that women with a stronger sense of belonging would be less likely to switch or drop out of physics majors. Furthermore, sense of belonging played a more important role in women's STEM persistence than in men.

Science identity. Generally, science identity was a significant predictor for women's persistence in STEM majors (Hernandez et al., 2017; Lock et al., 2013). Using a nationally representative dataset, Lock et al. (2013) found that women were less likely to choose physics careers than men; however, when adding mathematics and physics identities to the analysis model, this gender difference disappeared. It indicated that women having a higher level of STEM identification were less likely to change their majors.

Unlike self-efficacy and belonging, findings on the strength of association between science identity and persistence for women was different. By analyzing over 6,000 engineering students, Godwin et al. (2016) found that the relations between mathematics and physics identities and engineering persistence were weaker for women than men. Therefore, even though the included studies demonstrated that self-efficacy, sense of belonging, and identities were all predictive to women's persistence

in STEM majors, seeing themselves as a scientist was not a motivation as important as self-efficacy and sense of belonging for women to persist in STEM fields.

Research Q3: How are URM women different in self-efficacy, belongingness, and science identity to persist in STEM from their white and Asian female peers?

Self-efficacy. The significant relation between self-efficacy and STEM persistence was found among URM students. Cech et al. (2010) illustrated that URM students who had a higher level of confidence would be more possible to persist in engineering. Specifically, Black and Hispanic women's self-efficacy showed positive effects on their persistence in STEM majors through the relation of outcome expectations (Navarro et al., 2019); that is, URM women's high self-efficacy would increase their persistence via stronger outcome expectations.

Sense of belonging. Previous research highlighted the important role of belonging in women of color's persistence in STEM fields. Espinosa (2011) found that although women of color had positive relationships between sense of belonging and persistence in STEM majors, the relationship for white women was not significant. This finding emphasized that a sense of belonging to STEM was important to women of color, which may bolster the chances of persisting in their majors.

Science identity. The relations between science identity and persistence were different for women of color and white women. Espinosa (2011) measured science identity by five dimensions, and two of them, research program involvement and academic self-concept, were positively related to racial/ethnic minority women's STEM persistence. Compared to white women, women of color had weaker associations between academic self-concept and persistence but stronger relations between research involvement and persistence than white women. Therefore, this research emphasized that science identity in research

programs and high academic self-concept were important for women of color in STEM.

Research Q4: What factors influence women's self-efficacy, belonging, and science identity? How does self-efficacy, belonging, and science identity mediate the associations between influential factors and STEM persistence?

Self-efficacy. Instructional practices and strategies played important roles in the increase in women's self-efficacy. MacPhee et al. (2013) demonstrated that with an effective mentorship, women's academic self-efficacy had greatly increased to be equivalent to males' self-efficacy. Espinosa et al. (2011) found that in a physics class with active teaching, female students' post-semester physics self-efficacy was significantly higher than their pre-semester physics self-efficacy; moreover, the gender gap of self-efficacy disappeared by the end of class. Therefore, an effective school program can bolster underrepresented students' academic confidence and self-efficacy in their STEM major.

Some included studies explored the mediating effect of self-efficacy on students' STEM persistence. Findings showed that students' engineering self-efficacy positively mediated the influences of environmental supports, resources, positive feelings, and emotions on persistence in engineering majors (Lent et al., 2013; Navarro et al., 2019), suggesting that that supports from the environment and an individual's positive feelings could increase students' self-efficacy, and in turn, promote them to persist in STEM majors.

Self-efficacy showed disparate mediating effects across gender, race and ethnicity. Lee et al. (2015) found that self-efficacy partially mediated the relation between pre-college academic achievement and persistence for women only. The relationships between scientific community involvement and persistence mediated by self-efficacy were stronger for URM students. It suggested that higher-achieving female students felt more confident and had stronger educational goals; thus, they would be more likely to complete a STEM degree than males. Also, if URM students engaged more in science community activities, they would gain

higher STEM self-efficacy to persist in their current majors than students from other ethnic groups.

Sense of belonging. Studies have found many influential factors of women's sense of belonging. For individual level, academic self-efficacy, confidence to STEM degree completion, STEM identification, and prior academic experiences were important personal factors showing positive impacts on women's belonging (Marra et al., 2012). Environmental factors, such as social supports and female role models, would also foster women's sense of belonging (Dennehy & Dasgupta, 2017; London et al., 2011; Sax et al., 2018). By contrast, environmental biases and negative stereotypes significantly decreased women's sense of belonging to STEM (Good et al., 2012), representing that the more women endorsed the stereotype, the less they felt like they belonged in STEM.

Women's belongingness also showed mediating effects on persistence. Good et al. (2012) found that perceiving higher academic ability and less stereotype biases would help women gain stronger belongingness to persist in their mathematics majors. Dennehy and Dasgupta (2017) found that women with female mentors maintained stable senses of belonging and self-efficacy than those without mentors and those with male mentors. It indicated that female mentors effectively protected women's belonging and self-efficacy; and in turn, predicted women's persistence in STEM majors.

Science identity. Environmental factors played a vital role in women's scientific identification. Women who experienced stereotype threat or who stereotyped science as masculine reported a low level of scientific identity and weaker belongingness than their male counterparts (Young et al., 2013). By contrast, women in a comfortable environment with less stereotype concerns reported a higher STEM identity (Ramsey et al., 2013). Positive factors were also illustrated by studies. Williams and George-Jackson (2014) found that women perceived recognition from a faculty member as an important component of their science identification, and they worked harder than peers to identify themselves as scientists. Also, women with female mentors showed a stronger sci-

ence identity and were less likely to consider scientific environment as masculine (Young et al., 2013).

Science identity also showed mediating effects on women's STEM persistence. Stereotype threat predicted lower persistence intentions through lower science identity among women (Cundiff et al., 2013). Hernandez et al. (2017) found that science identity positively mediated the association between mentorship support and intentions to persist in STEM among undergraduate women, revealing that women with an effective mentorship had higher science identity than those without, and in turn, were more likely to persist in STEM majors.

Discussion

In general, this review indicated that women showed lower levels of academic self-efficacy, sense of belonging, and science identity than men. URM women were less efficacious, expressed a weaker belongingness to STEM, and felt less comfortable to identify themselves as a scientist than white and Asian students.

The changes of self-efficacy, belonging, and identity highlighted the importance of transition to college among women. Many included studies found significant declines in STEM women's academic self-efficacy, sense of belonging, and science identity during the freshman year of university, revealing that transition to college STEM major was particularly difficult for female students. Therefore, future studies are recommended to find out what factors in women's freshman year negatively influenced their perceptions of ability, belongingness, and STEM identification. More effective interventions and strategies need to be developed and implemented for women to enhance their positive feelings of STEM, and in turn to increase their STEM persistence.

All three psychological factors positively predicted women's persistence in STEM, indicating that women with higher levels of self-efficacy, stronger sense of belonging, and stronger identification as a scientist were more likely to stay in their STEM major. The associations of self-efficacy and belongingness were stronger for women than men. However, the relation between science identity and persistence was weaker for women. Therefore, when deciding to persist in a STEM ma-

jor, women would rely more on their confidence and feelings of belonging to their major, and seeing themselves as a scientist was not a primary factor as important as self-efficacy and sense of belonging to persist in STEM fields.

Studies investigating mediating effects provided important implications on bolstering women's self-efficacy, belongingness, and scientific identity, in turn, improving women's persistence in STEM. While women's individual psychological factors played an important role, environmental factors are particularly important predictors of women's persistence. For example, women's efficacy, belongingness, and scientific identity would be fostered if they received appropriate instructional practices and strategies in class, perceived more social support from school and family, had helpful female mentors or female role models, or experienced fewer gender biases or stereotypes of ability in STEM classes. Therefore, educators should strive to establish an inclusive learning environment for all students, particularly underrepresented groups, to increase their likelihood to stay in STEM fields.

However, fewer studies examined the three paths among URM women, leading to insufficient evidence that could be used to answer research question 3. Considering that URM women reported average lower self-perceptions than white and Asian women, it is highly recommended that future studies investigate these associations among URM women. It would help educators and instructors to develop more effective interventions or strategies to improve URM women's persistence in STEM.

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LGBTQ

15

The impact of GSAs, school size, and geographic location on school climate in South Texas

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Jonathan McPhetres
Frank Hernandez

Abstract

While gay-straight alliances (GSAs) play a role in improving the well-being and sense of safety for LGBTQ students, additional factors such as school size, geographical location, and the community climate at large may have more controlling implications for school diversity and acceptance. This survey research type, quantitative study, investigates the retrospective responses of subjects from two Hispanic-Serving Institutions to examine the impact of GSAs, school size, and geographic location on school climates in rural South Texas high schools. Results suggest that the effect of GSAs on school diversity and acceptance may be diminished in a conservative, rural setting. Other factors (school size, geographic location, and community climate at large) may play a greater role in establishing school diversity and acceptance. Further research is warranted to uncover the mechanisms that drive school diversity and acceptance in conservative, rural geographical locations like South Texas.

As the intersection of differences, especially around lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) students, becomes more visible in schools, understanding school climate has become increasingly necessary. Especially given that the current social-political climate condones discrimination against students who identify with differences (Beirich, 2010; Grygiel, 2009; Traywick, 2010). Bullying remains a serious problem in learning communities; as frequent targets of bullying, LGBTQ students, remain a vulnerable population whose safety and welfare need protection (Campos, 2017). Educators often assume they do not have sufficient agency to advocate for students who identify with difference (Hattam & Every, 201; Kilman, 2007; Nord, 1995; Yeung, 2008), and student advocacy groups such as GSAs are typically not present in all schools. This study then seeks to document the school climate, regarding the treatment of LGBTQ students in high schools. Specifically, we focused on an under-studied geographic region—the southwest United States—and recruited students from two small, Hispanic-Serving Institutions that largely serve non-traditional students (delayed enrollment, part-time, working, financially independent, married/parent, or earned a GED) from rural school districts.

Literature review

Factors that might contribute to school climate in conservative rural settings include the implication of outness, school size, geographic location, and the presence of a GSA.

The implication on outness from socio-political environment and other variables

Disclosing one's sexual orientation (being "out") has generally been understood as part of the identity development of LGBTQ individuals and has been shown to improve self-esteem, school performance, and psychological well-being and to reduce anxiety among LGBTQ adolescents (D'Augelli et al., 2005; Ueno, 2005). One's "coming out" process is typically understood as disclosure along a continuum from high to low risk across distinct groups (e.g., family, friends, work, peers, public). Outness is fluid and is conceptualized as levels and modes of

visibility. It is a process that varies among individuals, occurring most often between 14 to 16 years of age (Ryan et al., 2009). While being out can result in more support and acceptance, due to homophobia and heteronormativity, it can also result in more harassment and risk (Kosciw et al., 2012). Culture and community context contribute to outness and acceptance (Saewyc, 2011). Family factors, such as parents' attitude toward LGBTQ issues, can impact whether a child comes out and whether that child will be accepted and feel safe (Ryan et al., 2009).

Geographical location also influences LGBTQ youths' ability to be out and find acceptance. Dillon and Savage (2006) found that urban areas have a more positive response and provide more resources for out LGBTQ students, whereas suburban and rural communities may offer less support and fewer resources. A 2014 study by Kosciw et al. found that students who had high levels of outness had higher self-esteem and decreased depression but also reported higher levels of victimization. Authors specific comparison of community context found that an "increase in victimization associated with outness was substantially larger for rural youth than for urban and suburban youth" (p. 174). The study also found that the connection between depression and lower academic outcomes were stronger for rural students than for urban students. Rural schools in the Southwest, in states with policies or practices that discriminate against LGBTQ people, tend to exacerbate hostility (Loftus, 2001; Seltzer, 1992). Attention to the variables inside and outside of rural schools in this region is warranted, especially since negative attitudes about homosexuality are more prevalent in small towns and rural areas of the country (Dillion & Savage, 2006; Pew Research Center for the People and the Press, 2008).

School size and location as a determinant of climate
Evidence suggests that schools can significantly improve climate and the well-being of LGBTQ students by implementing affirming policies and practices that serve to create a culture of support that address LGBTQ students' unique needs and elevated risks (Hanson et al., 2019). However, schools do not exist in a vacuum. The socio-political climates of rural settings may affect the impact of school-based interventions for LGBTQ

students, such as GSAs. A 2018 study conducted in rural California found that the presence of a GSA was associated with lower levels of LGBTQ student safety (De Pedro et al., 2018). Instead, what improved LGBTQ student safety was direct peer and teacher intervention. Another Colorado study found that increased access to supportive adults rather than the presence of a GSA increase student engagement (Seelman et al., 2015).

Indeed, culture and norms in rural communities may have a greater impact on school climates than GSAs. Adam (1998) maintained that behavioral norms are contingent upon place and often determine who is sacrificed for the perceived greater good of the group: "When kinship codes constitute the primary mechanism whereby the means to survival are produced and distributed, then homosexual relationships may be marginalized as irrational, subversive, or inconsequential to the predominate social code" (p. 176). Foucault (1979) conceptualized this behavior as a panoptical force where every member of the community is expected to adhere to the norms and assist in regulating the behavior of others. In other words, the development and performance of identity is highly influenced by the regulatory gaze of the community in which one lives. Schools are direct microcosms of their local communities and reflect the climate outside of them; in order to study school climate, one must examine the larger climate in which the school exists.

Variables outside of the school building have been explored for their impact on climate as it pertains to safety of LGBTQ students. For example, Kosciw et al. (2009) reviewed the effect of geographical, school district-level, and community-level variables and determined that rural communities and communities with lower adult educational completion may foster hostile school climates for LGBTQ students. Such was the case in Drumheller and McQuay's (2010) study, which found that the LGBTQ community perceived their rural context as unsupportive and a barrier to community building. Moreover, Goodenow et al. (2006) found that sexual minoritized youth were more likely to have experienced violence if they attended smaller schools, suburban schools, or schools with little or no racial and economic diversity.

The tight-knit social composition present in smaller and homogenous schools exposes and magnifies difference, especially among LGBTQ students (Kazyak, 2011). In large urban and suburban schools, students are afforded the opportunity to blend into a diverse crowd (Miceli, 2005). Conversely in rural settings, LGBTQ students are more visible and thus are increasingly prone to victimization (Galliher et al., 2004; Poon & Saewyc, 2009). Although, larger urban schools have historically been associated with higher rates of behavioral problems and student alienation (Anderman & Kimweli, 1997; Cotton, 1997; Haller, 1992), schools within urban contexts have been found to be more supportive for LGBTQ students than schools situated in rural settings (Jones, 2015).

Gay-straight alliances and climate

Gay-Straight Alliances, or GSAs, are often credited with improving school climate for LGBTQ students. The presence of a GSA is associated with fewer reports of victimization and better academic and health outcomes for students (Goodenow et al., 2006; O'Shaughnessy et al., 2004; Szalacha, 2003). According to Szalacha (2003) GSAs have the most salient influence on school climate for gender nonconforming and LGBTQ students. Concurring, Heck et al. (2014) found that LGBTQ youth in schools with a GSA were less at risk for drug use. Others have shown that the presence of a GSA is associated with safe school climates for all students (O'Shaughnessy et al., 2004; Russell et al., 2009).

While research on GSAs suggests that they are associated with positive youth development and increased safety, little qualitative information exists on the reasons why GSA groups are effective (McCormick et al., 2015). For example, McGuire et al. (2010) found that policies, practices, level of personnel support at a campus, and presence of a GSA all factor into formulating a school climate for LGBTQ students. And connections and relationships with adults—whether on campus or at the district level—played the greatest factor in whether LGBTQ students felt safe overall. Perhaps, then, a school climate conducive to learning for LGBTQ students is contingent upon the relational aspect between

teacher and student, not only the presence of a GSA, as is traditionally suggested by many scholars (Mayberry et al., 2011).

In summary, there is important research on school climate and its impact on LGBTQ students' senses of belonging and safety. However, most research does not consider the school climate as characterized from the perspective of students after they have left the environment in question and have had a chance to reflect upon it. Furthermore, missing from prior studies has been an analysis of information from rural regions in Texas from the perspective of both LGBTQ students and non-LGBTQ students.

The present study

Though the research survey was conducted at institutes of higher education, the results focus on experiences during respondents' final years in high school. For the purposes of this study, we hypothesized that schools with a GSA (GSA schools) would have climates conducive to accepting LGBTQ students compared to schools without a GSA (non-GSA schools). Second, we hypothesized that GSAs schools would be more diverse than non-GSA schools. Because we are interested in student experiences, we operationalized these variables of interest by measuring student perceptions of the demographics and climate at GSA and non-GSA schools. However, we also expected variables indicative of community sentiment, such as school size and location, to influence the climate toward LGBTQ students and teachers. While there has previously been comprehensive analysis of school climates and attitudes towards LGBTQ students in K–12 settings (e.g. GLSEN, 2014), much can still be learned by analyzing data from a range of sources and identifying defining characteristics of schools, such as size, demographics, and location. Previous literature has praised the role of GSAs in building safer schools; however, our results indicate that school size and location are a greater predictor of school diversity and acceptance than the presence of a GSA. This research comes at a time when unjust policies and practices are leading to increased harassment of LGBTQ students at public schools (Aragon, et al., 2014; Crary, 2010; Dragowski et al., 2011; Friedman, 2010; Martinez, 2010; O'Hare, 2010). We argue that

diversity and acceptance would not be initiated in such areas where the overall community climate condones discrimination.

Methods

This survey research type, quantitative study, investigates the retrospective responses of subjects from two Hispanic-serving institutions to examine the impact of GSAs, school size, and geographic location on school climates in rural, South Texas high schools. We hypothesized that GSA schools would have a climate conducive to accepting LGBTQ students, compared with non-GSA schools. Second, we hypothesized that GSA schools would be more diverse than non-GSA schools. The following research questions were investigated: Does the presence of a GSA serve as a predictor for school climates that are more accepting of LGBTQ students? Is the presence of a GSA correlated with increased school diversity? Do other factors, such as school size and geographic location, serve as better predictors of school climates that are more accepting of LGBTQ students? A one-way ANOVA with post-hoc analysis using Tukey's procedure was used to test the hypotheses.

Respondents

Respondents were recruited from freshman and transfer student populations of two southwestern Hispanic-Serving Institutions. These universities serve non-traditional populations, and it is not uncommon for students' hometowns to be within 100 miles of the university. The National Center for Education Statistics defines nontraditional students as meeting one of seven characteristics: delayed enrollment into postsecondary education; attends college part-time; works full time; is financially independent for financial aid purposes; has dependents other than a spouse; is a single parent; or earned a GED (U.S. Department, n.d.). More recent variables that have been used to identify non-traditional students include race, gender, and being enrolled in non-degree occupational programs (U.S. Department, n.d.).

All freshmen and transfer students at these universities were invited to participate via e-mail invitation. The e-mail described the study as a "survey of school climates related to issues around sexual orientation

and gender, race, and religion," and included a link to the online survey (I. Aguilar, personal communication, October 1, 2015). A total of 476 surveys were returned, resulting in a response rate of about 25%.

Exclusion criteria. Many surveys (31%) were missing some or all demographic information and were excluded from analysis. This resulted in 327 respondents used in the final analysis. However, it is important to note that, because responses to all questions were not required, many respondents skipped some responses. Finally, some questions offered a "don't know" response option, and these responses were excluded from analysis. Therefore, the number of actual responses and degrees of freedom differ between analyses.

Demographics. While most respondents (75%) graduated in the last two years, 25% of respondents reported graduating more than two years ago. However, according to a series of t-tests on all variables analyzed in this study, responses did not differ significantly ($ps > .05$) between those graduating more than or less than two years prior to data collection. As such, these respondents were included in all analyses. The mean age of respondents was 20 years old ($SD = 1.28$).

Respondents could identify with as many or as few gender identifiers as they chose. The majority (95%) identified with a single gender category and the remaining 5% identified with more than one, so note that there is some overlap (N = 15) in reported gender categories. As a result, categorical gender definitions resulted in 232 females (70%), 98 males (29%), 10 transgender students (.03%) and two who selected "other" but declined to specify. The majority of respondents reported being white (40%) or Hispanic/Latino (28%), with the remainder identifying as Black/African-American (7%), Asian/Pacific-Islander (4%), or Native American (3%); only three respondents selected "other" (< 1%) and 17% of respondents declined to self-identify. Finally, 69% of respondents identified their religious affiliation as Christianity, 14% identified as atheist/agnostic, and 15% identified as "other;" Jewish, Hindu, and Muslim respondents comprised the remaining 2%.

Respondents also responded to a range of questions regarding the

high schools from which they graduated. Schools were somewhat evenly represented as being urban (39%), suburban (36%), or rural (25%). Thirty percent (30%) of respondents reported having graduated from large schools with a graduating class size of 500–1000 students. Only 2% reported that their graduating class was larger than 1000. The rest of the respondents came from schools with graduating classes of 300–500 (15%), 150–300 (10%), 50–150 (12%), or fewer than 50 people (9%). Most respondents graduated from public (92%) non-charter (83%) schools. Sixteen percent of respondents graduated from charter schools, both public and private. The rest of the schools reported were religious (2%), other types of private or independent schools (4%), or "other" (2%). A small percentage of respondents (14%) described their school as a magnet school.

Instrumentation

The survey instrument was obtained from the Gay, Lesbian, and Straight Education Network (GLSEN, 2014) and modified to function as a comprehensive survey of high school climate regarding religion, gender, sexual orientation, and race. The survey was mixed-format and included both Likert-type scale and short-essay response questions. The survey obtained from GLSEN (2014) examined the experiences of LGBTQ students regarding the following indicators of negative school climate:

- Hearing biased remarks, including homophobic remarks, in school;
- Feeling unsafe in school because of personal characteristics, such as sexual orientation, gender expression, or race/ethnicity;
- Missing classes or days of school because of safety reasons;
- Experiencing harassment and assault in school; and
- Experiencing discriminatory policies and practices at school.

Research protocol

The following research protocols were submitted to the Institutional Review Board. After approval, e-mails were sent out once a week for four weeks containing a short description of the study as well as a link to the online consent form and survey instrument. During the survey, respondents were asked to reflect on their final year of high school.

Time to complete the survey was about 20 minutes. For the purposes of this study, we analyzed only data related to sexual orientation and the demographics of the school (school size, location, race, religion).

First, respondents completed a series of questions discussing their experience with negative remarks about people's sexual orientation, such as homophobic remarks. Respondents also responded to a series of questions about their experiences with negative remarks related to gender expression, such as masculinity or femininity. These questions asked about the frequency of such comments, as well as the location at which they were heard. Respondents were also asked if either students or teachers were present when such comments were made and if either were likely to intervene. Examples of questions include "How often did you hear the expression 'that's so gay' or 'you're so gay' in school?," "How often did you hear these remarks from other students?," and "When these remarks were made, how often were teachers or staff present?" Respondents responded on a Likert-type scale, with options ranging from 1 (never) to 5 (frequently).

Finally, respondents answered a series of questions related to the school from which they graduated. This included descriptive questions, such as the size of their graduating class (school size), and the location of the school as either urban, suburban, or rural (school location). Respondents were also asked if their school had a Gay-Straight Alliance and if their school had openly gay/lesbian teachers or teachers that were supportive of LGBTQ students. Response choices were Yes, No, and Don't Know. This section also included demographic questions, such as the number of LGBTQ students, which was estimated on a scale ranging from 1 (1–2) to 5 (more than 20), and percentage of students representing different religions, which was estimated on a scale from 1 (10% or less) to 10 (100%).

Results

Presence of a gay-straight alliance
A one-way ANOVA was used to test the hypothesis that GSA schools would be more accepting than non-GSA schools. Researchers began

by analyzing variables dependent upon the presence of a Gay-Straight Alliance (GSA). First, we compared the indicators of school climate between GSA and non-GSA schools. GSA and non-GSA schools differed only on one variable. Specifically, students from non-GSA schools expected to "hear homophobic remarks in college" more than students from GSA schools. This would suggest that students likely expect the college environment to mirror that of high school. Means and inferential statistics are displayed in Table 1.

Next, we compared the descriptive variables between GSA and non-GSA schools. Schools that had a GSA (51%) were no more likely than schools without a GSA (49%) to have openly gay or lesbian teachers or staff. Similarly, schools with a GSA (47%) were slightly less likely than schools without a GSA (53%) to have teachers or staff supportive of LGBTQ students. Finally, the presence of a GSA did seem to make students more aware of other LGBTQ students. For example, students at schools with a GSA reported a higher number ($M = 5.42$, $SD = .82$) of LGBTQ students than did students at schools without a GSA ($M = 4.11$, $SD = 1.59$), $t(199) = 8.31$, $p < .001$, $d = 1.03$. More specifically, 60% of students who attended a school with a GSA reported "more than 20" LGBTQ students, whereas only 27% of students with no GSA reported the same. However, while the presence of a GSA may make other students more aware of diversity, it does not appear to impact acceptance. Students who attended a school with a GSA (18%) were slightly less likely as those who attended a school with no GSA (29%) to report that they "believe it is wrong to be gay/lesbian/bisexual based on religious reasons" but this difference was not statistically significant, $\chi^2(244) = .09$, $p = .12$.

One explanation for these results may be that climate is largely driven by the demographics of students at the school. For example, students attending schools with no GSA estimated significantly higher ($M = 6.80$, $SD = 1.94$) percentages of Christian students than did students from schools with a GSA ($M = 5.80$, $SD = 1.84$), $t(244) = 3.53$, $p < .001$, $d = .52$. Likewise, estimates on percentages of students belonging to other religions (e.g. Jewish, Muslim, Hindu) were higher for schools with GSAs ($M = 2.62$, $SD = 1.39$) than without GSAs

Table 1
Comparison of responses between students from GSA and non-GSA high schools

Item	Non-GSA	GSA	*t*	*p*
How often did you hear the phrase "That's so gay" or "You're so gay"?	2.12 (1.27)	2.11 (1.11)	.089	.92
How often have you heard other homophobic remarks used in school (e.g. faggot, dyke, queer)?	2.43 (1.28)	2.62 (1.32)	1.0	.31
How often did you hear these remarks from students?	2.47 (1.27)	2.48 (1.23)	.04	.96
How often did you hear these remarks from teachers or staff?	4.61 (.63)	4.64 (.67)	.29	.76
When you heard these remarks, how often was a teacher or other school staff person present?	3.09 (.70)	3.11 (.63)	.76	.81
How often did a teacher or staff person intervene?	2.69 (1.01)	2.69 (1.01)	.03	.97
How often did another student intervene?	3.40 (.69)	3.30 (.71)	.96	.33
How often do you expect to hear homophobic remarks in college?	2.73 (.85)	2.46 (.80)	**2.18**	**.03**
How often did you hear comments about a student not acting masculine enough?	3.08 (1.26)	3.27 (1.21)	1.05	.29
How often did you hear comments about a student not acting feminine enough?	3.36 (1.17)	3.54 (1.19)	1.06	.28

(continued)

Table 1, continued

Item	Non-GSA	GSA	t	p
How often to you expect to hear sexist remarks in college?	2.90 (.88)	2.72 (.95)	1.43	.15

Note: Responses were made on a Likert-type scale format with options ranging from 1 (never) to 5 (very often/frequently). Means for GSA and non-GSA schools are shown, standard deviations are in parentheses. T-tests compared GSA to non-GSA schools; significant value is in bold.

($M = 1.65$, $SD = 1.16$) a GSA, $t(91) = 4.97$, $p < .001$, $d = .75$. Finally, estimates on percentages of atheist/agnostic students were higher for schools with GSAs ($M = 2.32$, $SD = 1.65$) than for schools without GSAs ($M = 1.61$, $SD = 1.18$), $t(83) = 3.12$, $p = .002$, $d = .49$.

These results provide mixed support for the hypothesis that schools with GSAs are more diverse or inclusive overall. Further, on the majority of the questions in the survey, respondents from schools with a GSA responded similarly to those from schools without a GSA. *T*-tests (see Table 1) indicated marked similarity between the two. This seems to suggest that the presence of a GSA by itself is not sufficient to explain school climate. School climate, as it relates to diversity and acceptance of LGBTQ students, may be better explained by other variables.

Geographic location of school

To test our hypothesis that school diversity and acceptance would be influenced by other variables, we began by examining school area as an explanatory variable. Additionally, we expected that demographics and sentiment would differ between urban, suburban, and rural areas. Echoing results from previous research, our results indicate that schools in urban (30%) and suburban (33%) areas are more likely to have GSA than schools in rural (6%) areas, $\chi^2(246) = 15.67$, $p < .001$, $v = .25$. Similarly, schools in suburban areas had more openly gay teachers and staff (55%)

than did schools in urban (33%) or rural areas (12%), though these differences were not statistically significant, $\chi^2(130) = 5.89$, $p = .20$. However, a significantly larger proportion of teachers and staff in suburban areas (54%) were supportive of LGBTQ students than were teachers in urban (34%) or rural areas (12%), $\chi^2(132) = 16.80$, $p < .001$, $v = .35$.

While 40% of students from suburban schools and 45% of students from urban schools indicated that their high school had "more than 20" LGBTQ students, only 10% of students in rural areas responded this way. Students from rural areas were more likely to indicate that their high school had a specific number of LGBTQ students, with 39% reporting "between 2 and 5." A one-way ANOVA, using school location as the independent variable and estimate of LGBTQ students as the dependent variable, also confirms that these differences are statistically significant, $F(2, 310) = 20.27$, $p < .001$, $\eta^2 = .11$. Post-hoc analysis using Tukey's procedure indicates that students in rural schools ($M = 3.44$, $SD = 1.46$) reported lower numbers of LGBTQ students than students in both urban ($M = 4.58$, $SD = 1.68$), $p < .001$, and suburban schools ($M = 4.79$, $SD = 1.34$), $p < .001$.

School size

Finally, we investigated the effects of school size. There were some noticeable differences between students from large and small schools. The variable describing graduating class size was dichotomized using a median-split, so that a graduating class of fewer than 500 was categorized as "small" and a class size of 500 or more was categorized as "large." Large schools are more likely than small schools to have a GSA, $\chi^2(246) = 33.53$, $p < .001$, $v = .36$. Further, students from small schools ($M = 3.27$, $SD = 1.34$) were more likely than students from large schools ($M = 2.02$, $SD = 1.10$) to hear the expressions "That's so gay" and "You're so gay" at their high school, $t(319) = 2.50$, $p = .01$, $d = 1.01$. This heightened level of awareness might be expected in a smaller, close-knit environment.

Fewer students at small schools (22%), as compared to large schools (78%), reported the presence of openly gay/lesbian/bisexual teachers or

staff, $\chi^2(99) = 9.89$, $p = .002$, $v = .31$. Similarly, fewer students at small schools (30%), as compared to large schools (70%), reported the presence of teachers and staff who supported LGBTQ students, $\chi^2(133) = 13.24$, $p < .001$, $v = .31$.

Not surprisingly, students at large schools were more aware of the presence of other LGBTQ students than were students at small schools. Respondents from large schools reported a higher percentage ($M = 5.20$, $SD = 1.07$) of LGBTQ students than did students from small schools ($M = 3.58$, $SD = 1.67$), $t(63) = 5.46$, $p < .001$, $d = 1.15$. However, a similar proportion of respondents from both large (20%) and small (15%) schools identified themselves as LGBTQ, $\chi^2(324) = 1.82$, $p = .11$. These results may indicate that the presence of a GSA simply makes LGBTQ students more visible, even in large school environments. However, it is left to future research to uncover whether LGBTQ students are more visible at these schools because the GSA empowers them to be more visible or because the community is more aware of the GSA's presence.

Finally, the dynamics of school size appear to influence school climate and expectations of school demographics in various ways as could be expected in homogeneous environments. For example, estimates regarding the percentage of religions represented at one's school differed between large and small schools. Students from small schools estimated a higher percentage ($M = 6.95$, $SD = 2.29$) of Christian peers than did those at large schools ($M = 5.94$, $SD = 1.76$), $t(95) = 2.42$, $p = .01$, $d = .49$. Similarly, students at small schools estimated fewer peers ($M = 1.45$, $SD = .81$) from other religions (Judaism, Muslim, Hinduism) than did those at large schools ($M = 2.44$, $SD = 1.56$), $t(90) = 4.10$, $p < .001$, $d = .79$. However, the estimates of atheists/agnostics did not differ between small ($M = 1.62$, $SD = 1.40$) and large schools ($M = 2.05$, $SD = 1.53$), $t(96) = 1.39$, $p = .16$. Following these estimates, a larger proportion of students at small schools (60%) expressed disapproval towards being gay/lesbian/bisexual based on religious reasons when compared to students at large schools (40%), $\chi^2(96) = 4.20$, $p = .04$, $v = .21$. While it should be noted that these estimates and sentiments may be largely geographical, as this survey was conducted in a particularly conservative region, these results nonetheless help shed

light on factors driving acceptance and diversity in rural, conservative regions of the Southwest.

Discussion

This survey research type, quantitative study, investigated the retrospective accounts of school climate at South Texas schools. Our results provided mixed support for our hypothesis that GSA schools would be safer and more diverse than non-GSA schools. Overall, these results indicate that there are many dynamics involved in creating diverse, inclusive, and supportive environments for LGBTQ students. These factors include school location, school size, and school demographics, which are closely tied to the socio-political climate of the region.

The results indicated that GSAs contributed to the awareness of LGBTQ students and possibly helped with outness, albeit not acceptance. The difference between awareness and acceptance, was marked in the data. For example, our results showed that while students at GSA schools were more aware of the presence of LGBTQ students, we still found that many respondents had moral reservations about sexual orientation. This discrepancy suggests that outness (or awareness of diversity) is not necessarily correlated with acceptance, and that the presence of a GSA contributes more to outness and awareness than to acceptance—a paradigm driven largely by public sentiment (Hackimer et al., 2015; Poteat et al., 2015). However, our study did not investigate why students at schools with GSAs are more aware of LGBTQ students. One possibility may be that GSAs empower students to be more visible. Alternatively, another possibility may be that GSAs are simply more visible in smaller, homogeneous, conservative environments and, therefore, students at these schools are more aware of LGBTQ students even if they are not accepting. This is an important topic for future research.

Differences between GSA and non-GSA schools surfaced when comparing school size and school location. Students in larger, less homogenous communities are more likely to be exposed to diverse lifestyles, whereas students from small communities may feel more pressure to "hide" (Baams et al., 2018; Kazyak, 2011). As suggested by the data,

homogenous schools in rural areas are less likely to have GSAs and visibly out LGBTQ students (Poteat et al., 2016). Rural communities may avoid thinking about sexuality, and by doing so, avoid labeling LGBTQ behaviors and identities, or otherwise having to face the fact that this kind of difference exists in their community (Dahl et al., 2015; Gray, 2009). This type of avoidance behavior may serve as a defense mechanism, allowing for the preservation of a "traditional community" and the ability to avoid changes brought on by acknowledging the heterogeneity of their community. Hence for LGBTQ students in rural, in less diverse and supportive, communities, the risk to be out may be deemed too great (Poteat et al., 2016).

Our results are consistent with other studies (Dahl et al., 2015; Galliher et al., 2004; Goodenow et al., 2006; Hall et al., 2017; Kosciw et al., 2013; Poon & Saewyc, 2009) which identify specific problems present in smaller, rural schools. Specifically, we hypothesize that these smaller, more traditional communities may be more resistant to acceptance and diversity—an issue which manifested itself during our investigation of GSA schools in these regions. That is, the intrinsic nature of communities in these areas may limit the benefits of GSAs seen in larger, more diverse schools (Calzo et al., 2018; Dahl et al., 2015; Hackimer et al., 2015).

Limitations to the study

The current research does have some limitations. First, this survey was conducted at two Southwestern, Hispanic-Serving Institutions and the generalizability of these results is likely limited to this context. However, this region is relatively under-studied, and these results provide valuable information for leaders at schools in these regions. Second, the e-mail invitation to this study described it as a survey investigating "sexual orientation, race, gender, and religion" and students who elected to participate in this study may have responded more positively to our questions. Finally, our research focused specifically on the students' retrospective perceptions of the demographics and climate of their schools. While perceptions and memories may sometimes bias responses, respondents here responded consistently, whether biased or not. Still,

we did not investigate teachers' perceptions of school climate. Future research should implement other ways to identify LGBTQ faculty and staff members to correlate the school environment with that of the community and local demographics (Graybill et al., 2015).

Conclusion

We believe that this research adds to the continuing discussion on how to make schools safer and more inclusive for sexual minority students. While these results are no doubt troubling, they provide an honest picture of rural, Southwestern school environments, which are largely neglected in the literature. We expect that these results are best generalized to other Southwestern areas and communities. While this study has helped clarify the roles and interactions of some important variables, we have left many questions unanswered and have raised additional questions. In particular, we hope that school leaders view these results as opportunities to enact and expand leadership for social justice (Steck et al., 2016). Because change would not be initiated in such areas where the overall community climate condones discrimination, leadership thus becomes an important factor in facilitating change. We look forward to continued discussion on, and progress toward, making schools and communities safer, especially those schools in remote, rural areas which are often overlooked by those of us in larger, metropolitan areas.

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Policy & administration

Navigating barriers: Exploring career pathways of women in higher education administration*

*The word "women" refers to all people who identify as women.

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Abstract

With the passing of Title IX of the Education Amendments Act of 1972, federal law prohibited discrimination against women in higher education. Nevertheless, there remain significant barriers to the progression of women in higher education administration, leading to continued inequality in their representation in administrative roles (Klenke, 2018; Redmond et al., 2017). Only 30% of leadership roles in higher education administration are filled by women (Burgman, 2018). The percentage drops significantly when exploring women in high education administration at the top tiers of leadership, such as provosts or presidents (Clark & Johnson, 2017; Burkinshaw, 2015). This study explores the pathways of women in higher education administration through semi-structured interviews using an intersectional feminist lens. Allowing participants to critically reflect, three categories of observations emerge: destiny and fit, complexities of social practices, and advocates/allies.

While research has focused on women in educational leadership at secondary schools (Clark & Johnson, 2017; Edwards, 2018), district school boards (Carlson Reis, 2015), and superintendent-level positions (Glowacki-Dudka et al, 2016), an identified gap in research surrounding the persistence and endurance needed for women in higher education administration roles remains (Swain & Lien, 2017).

Clark and Johnson (2017) indicated that "despite prolific enrollment in educational leadership programs, once in the field, women certified as school administrators are not obtaining upper-level administrative positions at the same rate as men" (p. 3). With a pipeline of experienced and educated women in the United States, something is preventing them from reaching top leadership (Diehl & Dzubinski, 2016). Klenke (2018) notes that "relatively small numbers of women...progress up the academic career ladder or become institutional leaders" (p. 403). Many causes have been identified that lead to the lack of women in leadership roles, including "socialization practices," "societal opportunities," lack of role models, and demands of family life (Klenke, 2018, p. 403). Through this study, the pathways and personal navigation of barriers specifically for women in higher education administration will be explored.

Purpose

To understand what career barriers exist for women and how they are navigated, researchers must create spaces for hearing the voices of successful women in higher education administration. This study provides a space for women in higher education administration to critically reflect on their career pathways and inform women, as well as their advocates/allies, on the systematic and societal barriers plaguing these pathways.

Additionally, a discussion of future implications and action-oriented support is highlighted to push forward women's leadership within the academy. As Burgman (2018) notes in her critical reflection, "we see small slivers or a narrow portion of women and women leaders daily. The more we share stories, the more we know about the status and prospects for women in higher education" (p. 24). The sharing of stories, pathways, and realities is vital for traction toward equitable

leadership. The purpose of this study is to qualitatively explore how women leaders in higher education critically reflect on aspects of their career trajectories. Through this study, the pathways and personal navigation of barriers specifically for women in higher education administration will be explored and shared.

Research questions

This study explores the following three research questions to gain understanding about the unique experiences of women in higher educational administration:

1. What are the pathways (including but not limited to professional experience, decision-making process, and motivations) for women in higher education administration roles?
2. What are the primary self-identified barriers of women in higher education administration?
3. How do women navigate through self-identified barriers successfully?

Literature review

Though there is a pipeline of experienced and educated women in the United States, something is stopping them from reaching the top. When examining the literature surrounding the success of women in leadership in higher education, a myriad of barriers emerge. In Diehl and Dzubinski (2016), one of the more extensive explorations in published work of barriers women face outlined 27 individual barriers for women in educational leadership. For this exploration, three themes that emerged in the literature and the data analysis will be examined: *destiny and fit*; *complexities of social practice*; and *advocates/allies*.

Destiny and fit

Throughout history, the narratives of women leaders have included the concepts of individual choice and destiny (Klenke, 2004). The concept of destiny for the purpose of this exploration aligns with the definition that author-psychiatrist Viktor Frankel provided. Destiny is "the call of a potential meaning waiting to be fulfilled" (Frankl, 1959, p. 127).

Tied close with a mission-driven pathway, destiny is highlighted by numerous authors as a key component of individuals' understanding of their experiences (Curry, 2000; Jaworski, 1998). Researchers also suggest that a sense of destiny provides women leaders with more resilience, power of choice, and positive outlook when encountering pathway barriers (Glowacki-Dudka et al., 2016; Redmond et al., 2017; Lowe, 2011). Intermixed in the concept of destiny is a component of fit including value, impact, and job satisfaction. Burgman (2018) highlights destiny in her work specifically for women in higher education space, "working within higher education has a transformation story that connects to institutional mission, vision, and values" (p. 21). Women who find their personal destiny and mission align with the institutions' have demonstrated persistence and dedication in the face of institutional social, and cultural barriers.

Complexities of social practices

The breadth of work published around gender, societal practices, and inequity in navigating a society of historical gendered roles is extensive but not exhaustive. Diehl and Dzubinski (2016) write that although research is often recommended, "little research has moved beyond the organization to take into account the broader social context in which women live and work" (p. 182). The second shift, which refers to the additional workload that women have above men specifically in domestic and child-rearing domains, is a term coined by Hochschild (1990) in her book by the same name. Recent work has also noted the issue of not only parenting but also caretaking for partners and family members (Perrakis & Martinez, 2012).

The "glass slipper effect" coined by Ashcroft (2013) refers to a lack of fit between professional identities of a leader and that of a woman. As women in higher education administration roles are at an intersection of identities, specifically through traditional gender roles within the academy and outside, the burdens of other second shift, family care taking, and gender norms still weigh heavily on their daily lives and career advancement.

Advocates/allies

Bandura (2006) highlights that "people do not live their lives in individual autonomy. Many of the things they seek are achievable only by working together through interdependent effort" (p. 165). Women leaders, no matter the environment, do not exist in a vacuum. Shifts in leadership require advocates/allies within their environments (Clark & Johnson, 2017; Curry, 2000; Lowe, 2011; Reis, 2015). The importance of mentors, networking, and coaching have been the focus of research about women leaders (Diehl & Dzubinski, 2016; Redmond et al., 2017). Having a strong professional network is critical for leaders and has been touted as a key recommendation for development for women in educational leadership (Eagly & Carli, 2007).

Those women who have successfully achieved higher leadership roles within education have done so with the support of others (Glowacki-Dudka et al., 2016; Klenke, 2004; Polka et al, 2008). Burgman's (2018) call to action highlights this need: "Who is necessary to increase the number of women leaders?... Everyone is necessary to increase the number of women leaders within higher education" (p. 22). Shifting the dominant demographics of higher education administration must be a collective effort. There is a vital need for advocates and allies, both male and female, to counterbalance the systemic structures within the academy. To gain lasting leadership roles within senior administration roles, those with power must also be willing and diligent in creating opportunities and supporting women as they navigate the systemic barriers.

Study design and methodology

An intersectional feminist lens (Carastathis, 2014) was used to investigate how women in higher education administration reflect upon their journey. Intersectionality hinges on the concept that the known barriers to women's career advancement in higher education are not the same among all women or even among all women with the same racial identity (Breslin et al., 2017). The intersecting categories highlighted through the lens of intersectionality represent a "dynamic interaction between individual and institutional factors" (Hancock, 2007, p. 64). Dill (2002)

highlights how intersectionality can be used as "an analytical strategy, an approach to understanding human life and behavior rooted in the experiences and struggles of disenfranchised people" (p. 6). Additionally, using intersectionality as a theoretical framework, researchers can insist on examining the many dimensions of the complexity of human experience, which in this case is being a woman in a male-dominated leadership space.

This study of higher education administration was a qualitative phenomenological study designed to assemble the experiences of successful women. A qualitative research design was selected to allow space for participants to co-construct meaning to critically reflect on their pathways (Merriam & Tisdell, 2016). Based in an interpretivist epistemology, this study holds that participants develop the meanings of their own experiences (Creswell, 2009).

Data collection

Using convenience sampling, three women in higher education roles were selected to participate through a series of two 30-minute semi-structured interviews. All data were collected under IRB process, and all participants were assigned a pseudonym. During the interviews, participants were encouraged to critically reflect on their personal experiences and process in becoming successful women in higher education, including motivations, barriers, navigation of barriers, and their pathways compared to others, through a protocol of open-ended questions.

The three interview participants are white women, between 50–70 years old, each with 20 or more years of professional experience in the mid-Atlantic region, now employed at the same private, predominantly white institution. All participants have worked within multiple university systems and hold terminal degrees. Two participants have adult children between 20–30 years old. Their individual intersecting identities as women, mothers, daughters, leaders, and researchers, along with their unique experiences, illustrate the complexities of the phenomena studied (Collins & Bilge, 2020). Table 1 provides an additional snapshot of the participants.

Table 1
Profiles of participants

Pseud-onym	Age range	Race	Type of institu-tion	Experience in higher ed. admin.	Role description
Fey	60–65 yrs.	White	Research I, PWI	24 years	Supports the faculty and curriculum by providing leadership to university's campuses and academic programs
Mary	65–70 yrs.	White	Research I, PWI	37 years	Responsible for providing strategic direction for neighborhood and civic engagement initiatives
Quinn	60–65 yrs.	White	Research I, PWI	17 years	Manages administra-tive functions and strategic components of the college, as well as leading fundraising and donor cultivation

Data analysis

Interviews were completed via video conference as recommended during the COVID-19 pandemic, after approval from the researcher's internal review board. Guidelines and suggestions for video conference interviewing provided by Seidman (2019) were followed, including conveying the "genuine interest in and wish to connect with the participants despite the physical distance" (p. 119). Interviews with the permission of participants were recorded, transcribed, and then broken into their smallest possible units for coding (Saldaña, 2015).

While preparing the data, notes were taken on emerging themes (Saldaña, 2015). After processing the interview data, the first round of hand-coding in the form of open coding was completed. Open coding is

the process of "breaking down qualitative data into discrete parts, closely examining them, and comparing them for similarities and differences" (Saldaña, 2015, p. 100). For this study, open coding was a combination of in vivo coding and values coding. In vivo coding was used to capture the process aspect and explain how participants processed the experience while preserving the participants' meaning (Saldaña, 2015). Values coding, also used as part of the open coding process, is considered an effective coding method when investigating human experiences, as it focuses on the individual's values, attitudes, and belief systems (Saldaña, 2015).

During open coding, 22 codes were identified. Utilizing code mapping and landscaping (Saldaña, 2015) a word cloud was created for the frequency of occurrence of each code and to begin creating categories and relationships between codes. For the second round of coding, axial coding, three parent categories were determined, each with four to six child codes. The identified codes used for axial coding were (1) *destiny and fit*, (2) *complexities of social practice*, and (3) *advocates/allies*. Axial coding "relates categories to subcategories [and] specifies the properties and dimensions of a category" (Charmaz, 2006, p. 60). Data and codes that did not speak to the determined categories were discarded for this research study.

Trustworthiness

Trustworthiness, as defined by Lincoln and Guba (1985), is vital for evaluating qualitative research and consists of four elements: credibility, dependability, transferability, and confirmability. To ensure trustworthiness, the researcher engaged in reflective journaling using analytic memos during the coding process as outlined by (Saldaña, 2015). Additionally, the researcher participated in peer debriefing, including workshopping codes and categories with Ph.D. student colleagues as suggested by Saldaña (2015). Identified themes and findings were triangulated with memos. To ensure transferability, the researcher provided "thick description" through field notes, including detail and description when collecting data (Billups, 2019). This was aided in the use of Zoom web conferencing software as a medium for observation and conducting

interviews, since all were video recorded to review as needed for data immersion.

Researcher positionality

Reflexivity in critical research, according to Merriam and Tisdell (2016) is instrumental to describe how the researcher and process can shape the data due to previous assumptions and experience. The researcher for this project is a white female second-year Ph.D. student with a background in K–12 administration and nonprofit leadership. Having experienced sexism and similar obstacles in her own career pathway, the researcher approached the collection of data aware of her possible bias. The researcher interacted with two of the three participants prior to this study. Participant comments at the end of each interview indicate that participants viewed the researcher as not only an ally but as a potential future fellow women leader in higher education administration.

Findings

The women in this study have achieved high roles within academia and "lived the labyrinth" (Eagly & Carli, 2007) of navigating personalized, social, and institutional barriers. For these women, the labyrinth was formed through sexism, life situations, and gender norms. Their critical reflections on their labyrinths are valuable for informing research on the lived experience of women in higher education and offering knowledge for future women leaders. In these interviews, three themes emerged through the analysis of the interviews to understand their experiences. Those themes, (1) *destiny and fit*, (2) *complexities of social practice*, and (3) *advocates/allies*, will be discussed below.

Destiny and fit

Each of the three women in this study noted that they did not aspire to hold a position in higher education administration, nor did they have a consciously mapped pathway. All highlighted that there was uncertainty about their career plans. One participant, Mary, reflecting on her numerous career crossroads, muses, "and I think as I look at my career... It makes sense looking back, but it certainly didn't make any sense looking

forward" (MaryInt1). Although a shared pathway was followed to attain their roles, each of the participants noted that in higher education administration they feel a sense of fit. Fey phrased it succinctly when asked about her motivation to work in higher education, "I don't know, it's just where I felt like I belonged" (FeyInt1).

This sense of belonging ties directly to two other patterns that emerged in the interviews. First that the participants are mission-driven individuals, dedicating their careers to their values. This is demonstrated in this excerpt from Mary's interview: "I'm very motivated by that same idea that the purpose of higher education should be to provide solutions for the public good…exactly the job that I have" (MaryInt1). The second pattern emerging in all interviews was job satisfaction. All three women discussed their satisfaction in their role and accomplishments in higher education administration. Quin addresses the sense of destiny and fit through her career satisfaction in saying, "I've been very lucky to be able to get at the issues that really interest me and drive me" (QuinInt1). These experiences suggest that these women's destiny and fit, allowed for persistence and dedication as they navigated the labyrinth of complex social practices.

Complexities of social practices
While all three women feel that sense of destiny and fit in their roles, they have also had their career trajectories shaped by complexities of social practices. These complexities vary in influence for each woman but were individually addressed throughout the interviews. Each of these complexities is created by societal practices and norms that have shifted the pathways for these women. For instance, Fey addresses how her choices have been formed around *care for others* as she reflects, "I have been all about taking care of other people, my children, my students, organizations that I support…" (FeyInt1).

Care for others ties directly to the second social practice, *familial and partnership responsibilities*. Two examples of how familial and partnership responsibilities impacted these women's careers are:

Fey: Then I got married and my husband got a job that took us to California, and I took a job as a college counselor and admissions person at a secondary school. (FeyInt1)

Mary: And I had three children, and it was a great place to have three children. I had paid maternity leave, and I didn't have to work evenings. I didn't have to travel. I had a very clear arrangement with my boss that was acceptable. (MaryInt1)

In contrast to these experiences for women, research has demonstrated that family and partners positively impact a man's career (Eagly & Carli, 2007). Another closely tied but distinct social practice is the concept of *second shift* for women. In the above quote, Mary hints that child-rearing is an additional burden for her and thus an organization that allows for that prioritization is appealing. During her second interview, Fey explains the second shift and its realities through this example of household duties that take extra energy during this pandemic:

The level of work and the level of what I have had to contend with is completely different than most of my male colleagues…especially at the highest level because people have wives. …And even if their wives work, you can bet your bottom dollar that they not going to the supermarket… And so my work, my life is dramatically different. And yeah, and I say going to the supermarket as a metaphor, as a placeholder for every other activity… (FeyInt2)

The time and energy put into care for others, familial and partnership responsibilities, and second shift prioritizes others and obligations over self. Both Mary and Fey addressed a hard lesson learned for them that there is burden of *self-care* required for success that is not instinctual for some women. All three participants highlighted this area specifically. Fey describes the need for a "my mask first" approach (FeyInt1) in the following excerpt:

I had to put my mask on first. As a mother…the idea that if I was on a plane that was going down, that the first thing I would do would not be to help my child is like, 'You've got to be joking…'

> But the truth of the matter is that you have to take care of yourself,
> put your own mask on first, before you can help anybody else.

Mary has taken self-care a step further to integrate it into her team meetings recognizing that other women need to find time to be accountable for their self-care by starting meetings with centering activities and authentic check-ins (MaryInt1).

A final complexity that was distinctly noted through the interviews was the complexity of *home/work separation*. As noted earlier, these interviews were conducted during the COVID-19 pandemic, which forced anyone who was able to work from home through institutional mandates. Quin addresses this new complexity for her:

> Well, the hardest thing about being an administrator is dealing with
> personnel. So, learning how to deal with personnel issues and not
> take them home with you, to separate. And what's really hard for
> me working at home, is my entire life I've separated my home life
> from my work life. And so I'm finding it very hard to have every-
> thing in my home. (QuinInt1).

The *home/work separation* was also observed during the interviews by the researcher as each interview was interrupted by a family member sharing the physical space and blurring the line of home/work separation. The previously existing separation between home and work has become nearly nonexistent not only physically, but mentally. Mary highlighted how having her adult children home changes the dynamics of how her time can be spent simply due to sharing space with others (MaryInt1). Fey also noted having to share office space with her husband and the lack of space for focused work time (FeyInt1). Lucy also mentioned seeing this as a need for her staff:

> Parents need to be able to be parents. So I think it's particularly
> hard for some of the young women who want to act as if there's no
> biggie, when in fact it's insane and it is a biggie, and they should be
> allowed to have the support that they need for that (LucyInt2).

In totality, five complexities of societal practices care for others, familial and partnership responsibilities, second shift, self-care, and home/work separation greatly impacted the career pathways of these women. Their decisions and commitments formed their trajectory.

Advocates/allies

During their interviews each of the three women referenced the importance of advocates/allies for helping them achieve success. Specifically, Mary and Fey verbalized their appreciation of family members/partners supporting them. Mary mentioned how her family cheers her on: "They are like, 'You go, Mom.' And they are my biggest fans" (MaryInt1). The support and efforts that have helped these women succeed have not only come from family and partners but also from men in the field. By providing networking opportunities and hiring women, men have been essential advocates for these women. They mention male role models and supervisors that encourage them, as demonstrated in this quote from Quinn: "Men also have to recognize the abilities that women have in administration and make a decision that to sometimes pick the woman over the man, even if they're both qualified" (QuinInt2). Fey notes, "encountering men who are powerful and having them be…allies or supporters or whatever, is huge" (FeyInt1). Fey also explains how men in allyship have embraced strategies to ensure equal voices for their women colleagues with this example:

> In meetings, you know how a lot of times a woman will say
> something, and then some guy will say it, and then it'll be like,
> 'Oh, [Tom] said that.' He would be the one who would say, 'Didn't
> [Fey] just say that a minute ago? I think [Fey] said that' (FeyInt1).

The importance of advocates/allies is not strictly gendered. All participants highlighted the impact that other women had on their pathway. Quin put it simply, "I think women are willing to be generous to each other" (QuinInt1). Specifically, they emphasized the idea of sending the elevator back down for other women through mentorship, encouragement, and purposeful resource allocation. Mary explains how she experienced this herself:

> I was actually the beneficiary as a graduate student of the old girl
> network… there was certainly a network of women who were reaching
> down to graduate students and pulling them along (MaryInt1).

> While advocates/allies have helped clear pathways for these women, when asked about gender issues in higher education currently, the women's resounding message was that there has been progress, but far from

enough. Each woman discussed that they still need advocates/allies, and in turn that they themselves must be advocates and allies for all women.

Discussion

Informed by these interviews, discussion of the presented research questions is below. It should be noted that through an intersectional lens, each woman's experience is as unique as her intersections of self (Breslin, 2017). But through analysis, similarities may amplify the individual voices of each woman and their simultaneous shared experience.

RQ1: What are the pathways (including but not limited to professional experience, decision-making process, and motivations) for women in higher education administration roles?

Each woman's pathway was unique and varied. Not all moved through traditional pipelines, all crossed schools of study, and each brought different professional experiences. All highlighted that their pathway felt predetermined and though unpredicted lead to a strong fit with their roles. They also shared a commonality of being mission-driven in their careers.

RQ2: What are the primary self-identified barriers of women in higher education administration?

In critically reflecting on their pathways, all three women noted the impact and persistence of social practice on their pathway including: care for others, familial and partnership responsibilities, second shift, self-care, and home/work separation. For this study, those social practices have been demonstrated through a concept of complexities of social practices, which displays how these norms impact decision making, create barriers, and form portions of their journeys. This is consistent with the findings of studies on women in leadership (Carlson Reis, 2015; Diehl & Dzubinski, 2016; Klenke, 2018).

RQ3: How do women navigate through self-identified barriers successfully?

But just as there are barriers, the women highlight that there are advocates/allies who are instrumental in the progression of their career pathways. From family supporting them to men ensuring their voices are not overlooked and providing networking connections, to other women's encouragement, these women all benefited from advocates/allies driving for equity within leadership and their pathways. These women recognized that the lack of gender equity is a continuous reality. In turn, they as women leaders know that they must send the elevator down to assist fellow women in the field as highlighted in the literature (Bergman, 2018; Glowacki-Dudka et al., 2016; Polka et al, 2008; Klenke, 2004).

Limitations and implications for future research

The researcher recognizes that this small-scale study has limitations. The small sample size and convenience snowball sampling may mean that the results are not as transferable to the nature of the convenience sample. But the findings from this study do align with prior studies and research in the field of women in leadership. While the individual stories are unique, there are universal shared components.

While the field of research on women in leadership is emerging and holding attention in the social sciences, there is more to be done. Feminist intersectionality implores us to ensure research in this vein is moving forward by exploring similar research questions with women of color, within the LGBTQA+ community, and of varying abilities. Their unique intersectionality holds insight for women entering higher education and for those working to create a more equitable field. Additionally, by viewing social practices as a complex web of burdens rather than smaller independent individual burdens, researchers may be able to impact understandings of the weight of these practices and work on dismantling them (Hancock, 2017).

Recommendations

The findings of this study provide additional insight for women in higher education administration and those aspiring to these roles to know the similarities that exist within their shared experiences. In addition, the study outlines the realities of these women's experiences for others who

are not in these roles to attempt to inform and call on their advocacy/allyship for women in higher education.

For future women leaders in higher education, two recommendations emerge through these interviews. First, each participant highlighted the importance of having roles in which you can be passionate about the work and do quality work. Additionally, there was focus on building authentic connections at all levels of leadership. These two recommendations are how women can increase their advocates/allies while navigating the barriers they will face in higher education administration.

The researcher acknowledges the roles of leadership in higher education do not exist in a vacuum, but rather in the context layers of systemic power of the institution. While Redmond et al. (2017) recommend that "institutions should involve both men and women in the efforts to combat gender inequalities that negatively impact society" (p. 347), this must be extended for full intersectionality of women including but not limited to race, sexuality, and ability. These embedded barriers are strong in the academy and must be addressed to support women leaders.

Conclusion

This qualitative study was based on the semi-structured interviews of three women in higher education administration. The findings of this study provide insight for women in higher education administration and those aspiring to these roles to know the similarities that exist within their shared experiences. In addition, the study outlines the realities of these women's experiences for others calling for advocacy/allyship for women in higher education. While this research has shed light on the complexities of the experiences of women in higher education, there is much more to be done. Future research needs to explore the specific ways women with additional marginalized identities navigate leadership positions in general and within the power dynamics of the university.

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Equitable input or policy lip service? Stakeholder engagement in equity policy purpose/rationale

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Abstract

This study examines the value of stakeholder input as operationalized in the federal Equitable Access Toolkit, and State Plans to Ensure Equitable Access to Excellent Educators through an integrative theoretical lens of critical policy analysis and a three-dimensional social justice framework. The three dimensions of justice were distributional, procedural, and interactional. The study seeks to answer if any conception of social justice undergirds federal and state equity policy. Texas and Colorado were selected for state-level analysis for representing diverse social, cultural, historical, political, and economic contexts. A broad theme of stakeholder engagement was used to begin a textual explication of the policy documents, and that data was coded according to three dimensions of social justice. Findings indicate a lack of fidelity to the social justice framework presented in this study.

Equitable input or policy lip service? Stakeholder engagement in equity policy purpose/rationale

Recent trends in federal and state initiatives and policy reform appear to reflect a significant shift to strengthen school-community relations (e.g. U.S. Department of Education, Excellent Educators for All (2014); Every Student Succeeds Act of 2015) in which schools working with various actors and stakeholders integrate explicit consideration of equity in administrative and teaching decisions, as well as practices, programs, and process. However, as can often be the case, exercises such as stakeholder involvement can quickly become prescriptive tasks of compliance, especially when policy is designed absent of any integrity to social justice outcomes, focused on eliminating inequities. In other words, policy is geared to show compliance rather than a means to learn and respond to equity issues rooted in the complexity of local, social, cultural, historical, political, and economic contexts (Yamagata-Lynch, 2010).

As pointed out by Anderson (2012), equity as operationalized in policy is "cast in aspirational terms as a means to an end" and this approach reflects the "prevailing political and ideological perspectives set out by state and federal mandates" (p. 136). As a result, power relations and certain groups may be privileged over others, thus undercutting the opportunity for equity outcomes through policy (Molla, 2021). Following Skrla, McKenzie, and Scheurich's (2009) contention that work toward educational equity is continuous, and auditing and remediating inequity is a process that should be customized according to contextual factors, not a spreadsheet, two questions become evident: What conception of social justice undergirds state education agencies' (SEA) equity plans? And, intricately connected to this, what implications do equity exercises mandated by SEAs have for collective leadership teams to ensure social justice for students living in poverty and students of color? Typically, policy analysis focuses on policy development process (Fowler, 2013); this study examines the way specific intentions of equity policy are carried out and operationalized from the federal to the local level. In this paper, the author chose to present a cross-state policy analysis using Colorado and Texas to examine patterns of equity practice, and asking whether or not there is some agreement on a certain logic of a social justice framework relative to their equity plans. In particular, this analysis investigates the federal policy requiring states to draft plans

to ensure equitable access to excellent educators, as well as the equity plans created by Texas and Colorado in response to the federal policy. A cross-state policy analysis can be useful in identifying equity discourse that moves practice beyond compliance.

Literature review

Federal equity policy

Federal equity policy is handed to states, and SEAs are given some interpretive wiggle room for how they will define and measure the terms within the policy. The interpretation and eventual implementation of equity policy underscores not only the apparent linear design of educational policy, but also how policy is challenged by roles and responsibilities that arise from environments and organizations (Hazi & Arredondo Rucinski, 2009; Nakamura & Smallwood, 1980). For example, disproportionality policy, which is intended to address over-representation of students of color labeled as disabled under the Individuals with Disabilities Act (IDEA), allows states to determine what constitutes significant disproportionality (Voulgrides, Fergus, & Thorus, 2017). In addition, states are also responsible for deciding how they will hold local education agencies (LEA) accountable for monitoring compliance with disproportionality policy; leading some SEAs to require extensive monitoring and some to require very little (Albrecht et al., 2012). The result of ambiguity of terms and monitoring at the federal policy level can be seen in the pervasive and ever-present over-representation of students of color being identified for disability services at the local level (Hyman, Rivkin, & Rosenbaum, 2011). As a result, ambiguous policy language underscores the complexity between policy and practice, especially when attempting to build equity decision-making capacity by including underrepresented stakeholders.

Voulgrides et al. (2017) discuss the problematic nature of undefined terms in federal policy. In IDEA the varying degrees of disproportionality and compliance monitoring, as defined by SEAs and subsequently enforced by LEAs, inhibits disproportionality policy from accomplishing the social justice goal of correcting the inequitable proportion of

students of color identified for disability services. One can surmise that this negative cascading effect that results from ambiguous or undefined expectations in federal policy occurs in many other equity policies as they are handed down into practice by the state to local agencies.

Stakeholder engagement

Engaging a variety of voices for the purpose of gaining influence of divergent views and interests in policy decisions is problematized by systemic hegemonic relationships in school and community dynamics; which prevent traditionally marginalized groups from sharing input as stakeholders. Diverse stakeholder engagement in decision-making to improve student achievement gaps is a well-understood concept among principals (Leithwood & Mascall, 2008; Louis et al., 2010; Ni, Yan, & Pounder, 2017). Stakeholder—specifically parental—engagement provides a conduit for voice in school policy and benefits a child academically and/or socially (McGrath & Kuriloff, 1999). While links between parental involvement and better child academic outcomes (Jeynes, 2005) are well documented, most studies remain gendered, typically assessing mothers' engagement (Deslandes & Bertrand, 2005), within heteronormative school settings (Goldberg et al., 2017). In addition, the degree and diversity of parental engagement may be shaped by dominant parent members (e.g. depending on racial/ethnic background, social class position, sexual orientation) of a school community, thus marginalizing and deterring involvement from vulnerable parent members. In these cases, Barton et al. (2004) reported that marginalized parents may encounter power differences, conflicts, invisibility, and scrutiny in relation to schools, and where "being ignored and being humiliated [represent] different sides to the same coin" (Crozier, 2005, p. 52).

Given the explicitly contested nature of socio-cultural interface that focuses on families to seek remediation of their child's poor learning outcomes, parental engagement itself presents a legacy of each communities' collective experiences of the history of underachievement, expulsion, and exclusion (Munss et al., 2006, 2008). These conditions characterize long-running issues of inequities that suggest that diversity in stakeholder engagement remains limited when there should be vari-

ability in who is engaged, how, to what extent, and when. In some cases, important contextual factors may necessitate a different role for stakeholder engagement – one that leverages expertise and diverse experiences. Policy rhetoric that invites parents to participate as stakeholders does not work to address the various social barriers that continue to disenfranchise parents of color and those who live in poverty.

Building capacity: A social justice perspective

Social justice can be hard to define in actionable terms. It is believed that the term social justice was first used in 1840 by a Sicilian priest, Luigi Taparelli d'Azeglio who stated that we should treat all equally well (Zadja, Majhanovich, & Rust, 2006). Social justice discussions have been popularly contemporized since Rawls' theory (1971), which focused on a hypothetical group of individuals and ways in which they came to a consensus regarding the social and economic arrangements of a hypothetical society. Rawls posited that humans could function under a "veil of ignorance" under which they are ignorant of existing social positions (1971, p. 12).

There have been many criticisms of Rawls over the years (Frolich, Oppenheimer & Eavey, 1987; Greene, 1998; Singer, 1977) wherein critics have argued the viability of a veil of ignorance when it comes to individuals' perceptions of how economic and social commodities should be distributed. Frolich, Oppenheimer, and Eavey (1987) conducted a study replicating Rawls' hypothetical group with actual individuals, giving them hypothetical situations within to decide the distribution of social and economic commodities in their society; they found that social and economic status weighed heavily on the decisions individuals made.

Stakeholder arrangements. These theories and criticism are important to the conception of the stakeholder arrangement in shared decision making. If we view Rawls' and Frolich et al.'s hypothetical groups as being similar to a stakeholder group in an educational setting, we can see the absolute need of distributing representation from a variety of social, cultural, and economic positions within a particular community in order to carry out social justice objectives. Several national and com-

munity-based organizations offer different approaches to improve and increase communication and relationships between ethnic minority parents and school officials. For instance, in the 2010 Minority Parent and Community Engagement: Best Practice and Policy Recommendation for Closing the Gaps in student Achievement report from the Mexican American Legal Defense and Educational Fund and the National Education Association, policy recommendations were presented to ensure that within communities of color, more authentic partnerships occur between parents and schools. Some of their recommendations included having parental engagement as a key component of any strategic plan, enact a Parent Engagement Act that creates and supports standards that "take into account diversity, race, class, immigration, history, regional differences, politics, and cultural competency" (p. 41).

   Isomorphic paradoxes. Political cultures have influence over decision making. Elazar (1966) identifies cultures of influence over political ideology. These cultures can be tacitly or explicitly held by politicians, organizations, or general public; and are manifested in patterns of orientation and action. Each political culture represents an ontological relationship between the government or organization and the social commodities that it seeks to protect. For example, a traditionalist political culture operationalizes the governing organization for the purpose of protecting the elite, and maintaining the status quo which benefits the elite class (Elazar, 1966). Realms of influence such as political culture can result in likeminded individuals with similar values to disregard the concerns of groups with different values. An important implication of involving a variety of stakeholder input when attempting to effectuate social justice goals through policy is to avoid isomorphic paradoxes; wherein the decisions regarding structure and organization of an institution are influenced to reproduce previous or existing forms of structure and organization; within the institution there are three types of isomorphism: coercive, mimetic and normative (DiMaggio & Walter, 1983). Coercive isomorphism occurs when the institution pressures individuals to conform to the organization's norms and values; and mimetic isomorphism occurs when the individual's roles and goals are unclear forcing

them to conform to the behavioral roles of others in the institution (Mizruchi & Fein, 1999). Normative isomorphism occurs when individuals who share similar education, and values conform to one central identity as an organization or group, and this leads to unanimous forms of thinking and decision making (Katapol, 2015). Parents bring a unique set of interests and values which adds elements of subjectivity into group context for accomplishing the intention equity policy goals for engaging a variety of stakeholders.

These forms of isomorphism can put limitations on the level of input and subjectivity parents offer to the discussion (Mizruchi & Fein, 1999). Taken together with an institutional ethos that creates the context for how decisions around equity policy are to be carried out at the state and local level (Molla & Gale, 2019), it may be beneficial to educate parents explicitly regarding the intention of equity policy and their role in carrying out those objectives, thus, bringing them to a critical awareness of their vocation and interest as stakeholders in actuating social justice through equity policy implementation (Freire, 1968; Tiainen, Leiviskä, & Brunila, 2019).

Theoretical framework. This policy analysis is grounded in an integrative theoretical lens that incorporates critical policy analysis (CPA) and a three dimensions of social justice framework. Critical policy analysis (CPA) studies in education (e.g. Ball, 1990; Ozga, 2000) were utilized whereby equity-oriented policy is problematized by examining policies within their historical, social, economic, cultural and political context (Diem & Young, 2015; Yamagata-Lynch, 2010). Federal and state policy documents highlight the importance of equity and caution educators of possible consequences of not attending to those issues (No Child Left Behind, 2002; ESSA, 2015). In turn, policymakers have framed equity issues around principals' and teachers' actions, and in doing so continue to situate these educators as central policy actors (Heineke, Ryan, & Tocci, 2015; Spillane et al., 2002). For instance, a skilled school leader is often responsible for recognizing how policy measures and exercises (e.g. audits, walkthroughs, toolkits) are enacted (Waite, 2002). However, principals continue to struggle with how, or

if, collective leadership and equity-oriented policy and practice can be better integrated.

   This critical policy analysis, concerned with the intersection of stakeholder engagement and equity policy, attends to Lukasiewics and Baldwin's (2014) three-dimensional social justice framework: distribute, procedural, and interaction frames. Distributive justice refers to the set of values by which resources will be determined for distribution; procedural justice is the process of how decisions will be made; and interactional justice refers to the relationships between stakeholders in the decision-making process (Lukasiewics & Baldwin, 2014). For the purpose of this paper, the author orients these three dimensions of social justice to the stakeholder arrangement as follows: distribution of voices, procedural definitions, and interaction of parents as stakeholders. The distribution, procedure, and interaction of stakeholder voices is intended to grant input from a wide range of voices (Sorenson & Goldsmith, 2018). The author also situates the specific involvement of those whose needs depend most heavily on the outcome of the decisions as part of the distribution of resources (McFarlin & Sweeney, 1992).

Methods

 Critical policy analysis is a research method that studies education policy and exposes inconsistencies between what the policy says and what the policy does (Diem et al., 2014; Horsford, 2019; Tabron & Ramlackan, 2019). As such, this study is an analytic space of equity policy—the enacted world of federal policy and supporting documents—in two states, Colorado and Texas, to facilitate the comparison of commonalities and differences of state plans. Texas and Colorado were selected to represent data from two states with diverse demographic profiles as well as different political backgrounds. According to the 2019 United States Census Bureau estimates, of the 28,995,881 Texas residents, 78.7% are white, 12.9% are Black or African-American, 39.7% are Hispanic or Latino, and 2.1 are two or more races. Colorado, with only 5,758,736 residents, has 86.9% white, 4.6% Black or African-American, 21.8% Hispanic or Latino, and 3.1% two or more races. Texas is a state that has been carried by Republicans in the last four elections (2004, 2008, 2012,

and 2016), and Colorado have been carried by the Democrats in the three of the four past elections (Federal Elections Commission, 2020).

To examine the way federal policy is cast down and operationalized at the state level, one federal and two state policy reports were included in this two-state policy analysis as the anchoring documents for analysis. Also included was the *Equitable Access Toolkit* (EAT), funded by the federal Department of Education in 2015 and developed by the American Institutes of Research. This toolkit is designed to guide states through the requirement to draft a plan on how they address disparities resulting in low income and minority students being taught overwhelmingly by inexperienced and out of field teachers. The author included Colorado's and Texas' *Plan for Ensuring Equitable Access to Excellent Educators* (PEEAEE). The EAT is comprised of several documents and is recommended for the development of states' PEEAEE and includes the requirement that state and local education agencies involve stakeholders in the development of their plan for equitable access to excellent educators. A supplemental document titled, *State Plans to Ensure Equitable Access to Excellent Educators: Guidance and Examples for States* was created as an addition to the EAT for the purpose of helping SEAs complete their equity plan was also included in the analysis.

In examining the equity policies, three components within an analytical framework were developed: One for a broad theme of stakeholder engagement, one for textual a priori coding within each social justice dimension (distributive, procedural, and interactional), and one for synthesis of unique themes. Our analysis was two-fold. Textual analysis through categorization (Burnard, 1991) was performed, gradually developing higher order groups and unique themes within broader groups (Saldaña, 2003), framed by the three dimensions of social justice. Each social dimension was color coded; for example, in the dimension of distributive justice, all of the policy documents were examined for language that referred to the process of distribution of voices, and that text was marked in yellow. Next, the color-coded data were collapsed into categories and organized in a table, seen in Table 1; from this organization, five unique themes were synthesized and presented as findings. A visualization of this analysis is presented in Figure 1.

Table 1

Dimension (A priori codes)	Excerpt	Themes
Distributive	See Page 4 and Appendix 3 in Texas plan. Seeking to capitalize on the different strengths and perspectives of diverse stakeholders the Planning Team created a stakeholder process that solicited input from both state level policy and organizations as well as the local educators. The Planning Team assembled a Policy Stakeholder Group (Appendix 3) comprised of state-level organizations representing the policy and concerns of the following groups: - Teachers - Campus and district administrators - School Board Members - Parents - School Personnel - Small and rural community schools - Counselors - Civil Rights advocacy groups	Absence of parent stakeholder recruitment
Distributive	CDE solicited and received input from teachers, district human resources officers, district federal programs coordinators, higher education staff and faculty, superintendents, school board leaders, English learner (EL) instruction and policy practitioners, instructional technology leaders, family and community engagement leaders, and educator effectiveness practitioners and leaders. Many of the initiatives in this plan also are included in Colorado's ESEA Flexibility Waiver – the creation of which relied heavily on stakeholder input. (Colorado Plan, p. 6)	Absence of parent stakeholder recruitment

(continued)

Table 1, continued

Dimension (A priori codes)	Excerpt	Themes
Distributive	Finally, parents and students are important stakeholders to include because they can bridge the discussion between the education-based stakeholder perspective and the community-based stakeholder perspective. In addition, they are the stakeholders most immediately affected by the level of access to effective teachers and leaders. The perspectives of parents and students must be considered thoughtfully and deliberately. (EAT Moving Toward Equity Stakeholder Engagement Guide, p. 16)	Claiming representation, to what extent?
Interactional	When determining at what time each stakeholder group should be contacted, consider the steps (e.g., Step 2.1) outlined in the *Moving Toward Equity Stakeholder Engagement Guide* (http://www.gtlcenter.org/stakeholder_engagement_guide). In addition, when determining the best method for building communication loops to facilitate two-way communication, consider the strategies presented on pages 39–40 of the *Stakeholder Engagement Guide* as well as the channels of communication indicated on page 3 of this resource. (EAT, Four Key Steps for Equitable Access Communication Planning, p. 6)	Information is restricted from parents

(continued)

Table 1, continued

Dimension (A priori codes)	Excerpt	Themes
Interactional	"In addition, the amount of information shared may need to be modified depending on the audience and the timing of the communication. For example, due to their role and perspective, classroom teachers and school-level administrators may require a greater level of detail on certain points and at certain stages than parents or the public." (EAT, Four Key Steps for Equitable Access Communication Planning, p.1)	Information is restricted from parents and the public
Interactional	Parent organizations may provide an easier way to access this key stakeholder group; however, SEAs and LEAs should be mindful of full parental representation and be sure they are engaging the fullest capacity of parent opinions and involvement (EAT Moving Toward Equity Stakeholder Engagement Guide, p. 20).	Recycling perspectives of previously involved parents
Interactional	The group includes local and State union representatives as well as representatives from the State Board of Education and other local groups, such as parent-teacher associations, school administrator associations and leaders from DESE. Katnik taps into these recurring meetings to introduce stakeholders to the equity planning process, but he also does a significant amount of personal outreach to stakeholders to communicate the importance of their feedback to the process. (Supplemental Document Guidance and Example to States, p. 2)	Recycling perspectives of previously involved parents

Table 1, continued

Dimension (A priori codes)	Excerpt	Themes
Interactional	By taking stock of current initiatives (as well as the SEA staff and other stakeholders involved with those initiatives), the SEA team will be better positioned to create an educator equity plan that builds on and is aligned with existing initiatives. The meeting should take approximately two hours. (EAT, V Sample SEA Internal Team Meeting for Identifying Existing State Efforts and Stakeholder Groups, p. 1)	Recycling perspectives of previously involved parents
Procedural	Town Hall (50–200 participants). A large town hall meeting is best for the end of the planning cycle. This format is good for receiving feedback on the proposed plan from a diverse group of community members, such as parents, union members, and higher education partners all at once. (This format, however, is not good for collecting advisory information or for extended discussion.) Best for: all groups—teachers, professional associations, district leaders, parents, principals, other community members (EAT Moving Toward Equity Stakeholder Engagement Guide p. 20)	Parental engagement only in feedback phase

(continued)

Table 1, continued

Dimension (A priori codes)	Excerpt	Themes
Procedural	CDE has an ongoing commitment to stakeholder engagement and will continue to reach out to the groups listed above and others to inform the execution and improvement of our plan moving forward. All stakeholder groups consulted as a part of plan development are regularly engaged to provide input on other initiatives. As Colorado implements the plan to improve how equitable access is measured, reported, and supported, additional stakeholder groups, such as parents, special service providers, and other community members, will be engaged in order to deepen our understanding of what will work best for improving equitable access to excellent teachers. (Colorado's Plan p. 6)	Parents only involved in feedback phase
Procedural	LEAs with identified teacher equity gaps must address their gaps in their UIPs. CDE staff review and provide feedback on plans submitted by LEAs assigned plan types of Priority Improvement or Turnaround under the Colorado accountability system. Through this process, we are able to provide feedback on locally identified root causes of potential equity gaps, as well as locally chosen strategies. (Colorado's Plan p. 6)	At the local level districts are only required to include equity plan in campus improvement plan. There is no expectation of parental involvement.

Table 1, continued

Dimension (A priori codes)	Excerpt	Themes
Procedural	See Texas Plan p. 6 Explore options for gathering information on the nature and scope of mentoring and coaching services currently provided to first-year teachers by districts throughout the state either through revision to the statutorily mandated Campus Improvement Plans or the annual survey of principals regarding the preparation of first-year teachers.	There is no expectation of parental involvement at the local level.
Procedural	LEAs with identified teacher equity gaps must address their gaps in their UIPs. CDE staff review and provide feedback on plans submitted by LEAs assigned plan types of Priority Improvement or Turnaround under the Colorado accountability system. Through this process, we are able to provide feedback on locally identified root causes of potential equity gaps, as well as locally chosen strategies. (Colorado's Plan p. 6)	At the local level districts are only required to include equity plan in campus improvement plan. There is no expectation of parental involvement.

Table 1, continued

| Dimension (A priori codes)	Excerpt	Themes
Procedural	Although this guide is intended for use at the state level, the engagement of local education agencies (LEAs) and local stake-holders is critical. To solicit and ensure such participation at the local level, use Resource 12: Developing a Local Stakeholder Engage-ment Guidance Document for Your Local Education Agencies (http://www.gtlcenter. org/resource_12). This resource assists SEAs in translating the approaches suggested here into a local-level stakeholder engagement guide. Creating a stakeholder engagement guide for districts is one way that SEAs can provide support to LEAs in the equitable access planning process. (EAT Moving Toward Equity Stakeholder Engagement Guide, p. 3)	There is no expectation of parental involvement at the local level. (The docu-ment refer-enced here includes no expectation of parental involvement

Findings

Much of the findings are presented based on what Colorado and Texas were required to do when developing a *Plan for Ensuring Equitable Access to Excellent Educators* (PEEAEE), using other supporting fed-eral documents. In turn, these state plans were to help local education agencies address inequities. As a result, the findings are problematized at either the state and/or local level when trying to make connections between the dimensions of social justice, and stakeholder involvement as an equity-oriented policy exercise.

Absence of stakeholder recruitment

As each state prepares guidance for LEAs to address inequities, the SEA is also expected to engage in stakeholder engagement. In essence, they have the opportunity to model for their LEAs an interpretation of federal equity policy that has the potential for social justice of being

Figure 1
Framework for analysis
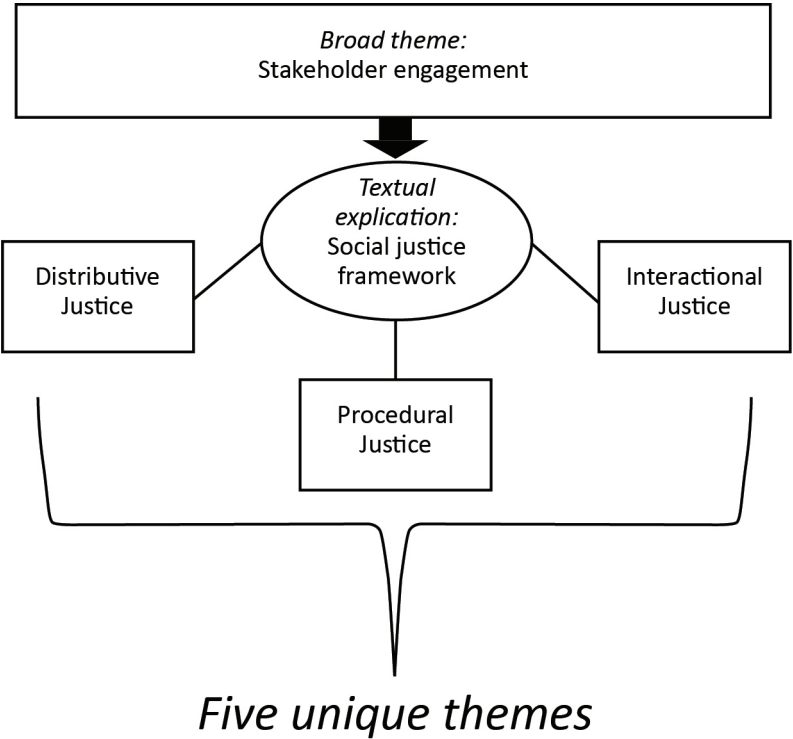
inclusive of parents who are not usually at the stakeholder's table. However, from this analysis, the data shows that despite that SEAs *should* "work with parent organizations to develop strategies to increase parent participation from underrepresented groups [and] [w]hen reaching out to traditionally underrepresented groups, be mindful about utilizing culturally competent SEA staff" (EAT, 2015, p. 17), there is little evidence within the existing plans of how SEAs actually did this work when creating their own state plans.

Colorado's PEEAEE shows no indication that parents were recruited at all to participate in the process. Whereas, Texas' PEEAEE does indicate that the interests of parents were represented by stakeholder groups but gives no other details about who represented the interests

of parents even though key stakeholders are identified as "teachers, principals, districts, parents, and community organizations" (EAT, 2015, p. 14). While this section in EAT does recognize that this *should* include a "range of demographic and socioeconomic groups" (p. 14), both Colorado and Texas did little to explain or describe their own processes of recruitment.

"Claiming" parental involvement – To what extent?
Despite vagueness in stakeholder recruitment and representation in the policy and state plans, SEAs and LEAs may still have engaged stakeholders. However, policy as currently written continues to strengthen a practice to limit who to engage as a stakeholder as well as limit information that is shared with them.

   Recycling perspectives of previously involved parents. The EAT contains a document titled *SEA Internal Team Meeting for Identifying Existing State Efforts and Stakeholder Groups*, which advises policy administrators to take stock of existing stakeholders to "create an educator equity plan that builds on and is aligned with existing initiatives" (p. 1). Both the EAT (*Moving Toward Equity Stakeholder Engagement Guide*, p. 20) and *State Plans to Ensure Equitable Access to Excellent Educators: Guidance and Examples for States* (p. 2) indicate the "ease" of involving parents who are already involved in parent associations as opposed to those parents of children who are likely to have experienced some form of social injustice.

   Information is restricted from parents. Within the EAT there is a document titled *Four Key Steps for Equitable Access Communication*, which guides policy administrators through the process of communicating with stakeholders. This document is geared to assist local education agencies with involving stakeholders in addressing inequitable access to excellent educators. For instance, within this document, it is stated, "classroom teachers and school-level administrators may require a greater level of detail on certain points and at certain stages than parents or the public" (p.1), administrators are advised to disseminate data and

information to stakeholder groups according to what they need to know, and when they need to know it (p. 6).

As a result, this document is merely a communication guide for engaging with stakeholders, it does not indicate which stakeholder groups should be involved.

Parental engagement: Feedback only. Colorado's PEEAEE includes the requirement of districts who are identified for equity gaps must address the issue in their annually mandated Unified Improvement Plan (p. 6). Texas also indicates that identified districts will address equity gaps in the statutorily mandated District and Campus Improvement Plans which are completed annually (p. 6). Perhaps most problematic is that within the federal policy and as illustrated in the state plans, there is no expectation of parental involvement at the local level, especially at the advisory stage, for policy development and enactment.

For example, as evidenced in the EAT, it is recommended that "townhall" meetings are best for engaging the public and parents in the feedback phase of policy drafting, and not for the advisory phase (*Moving Toward Equity Stakeholder Engagement Guide*, p. 20). Colorado's PEEAEE does not mention any inclusion of parents as stakeholders until after the policy has been drafted and implemented, wherein parents can be involved in a feedback process for monitoring plans' effectiveness (p. 6). Since Texas' PEEAEE includes no specific inclusion of parents as stakeholders, and only groups who represent their interests, there is an absence of parental involvement throughout the document in all feedback phases of the policy process.

Discussion and recommendations

Three dimensions of social justice framework were used to organize discussion and recommendations in light of our findings in order to answer what, if any, conception of social justice undergirds state education agency's (SEA) equity plans; and, intricately connected to this, what implications do equity exercises mandated by SEAs have for collective leadership teams to ensure social justice for students living in poverty and students of color? In terms of distributive justice, stakeholder repre-

sentation and level of engagement should be granted based on need. Students of color, who live poverty, who are learning the English language are labeled at risk for school failure by the system; therefore, they have the most need when it comes to educational resources. In order to draft a fair plan for something like the future distribution of excellent educators, there needs to be explicit recruitment and solicitation of input from marginalized groups as stakeholders (Corning, 2011); and yet absent from Texas and Colorado's PEEAEE is the call for school and district and state leaders to ensure an equitable representation of those most impacted by inequitable practices. Without diverse voices in stakeholder meetings, there is no conception of social justice undergirding SEA equity plans, and these plans are merely a compliance task.

In terms of interactional justice, there is no affirmative action in place to secure that stakeholder involvement will result in a sharing of diverse voices. Without affirmative credence paid to the voices of those who have suffered some form of inequity, the author expects the stakeholder involvement act to result in forms of isomorphism which will work to reaffirm the existing organizational structures for distribution of access (Mizruchi & Fein, 1999).Beyond inviting merely recycling the voices of parents; actionable steps should be in place to explicitly invite and inform previously uninvolved parents of what it means to be denied access to excellent educators and take part in the equity policy process. Bringing all stakeholders to a critical awareness of the effects of inequitable distribution can turn the stakeholder involvement act into one of conscientization, a humanizing effort to disrupt hegemony (Freire, 1968). The means to this end will not only result in an equitable interaction of voices under our social justice framework, but ultimately a more equitable distribution of educational resources, in this case teachers.

In terms of procedural justice, without fidelity to the intention of the policy as an outcome, federal policy which is intended to remediate inequity will not work. It is imperative that we examine, and re-examine the efficacy of equity policy against measurable terms which are grounded in principles of social justice. In light of our findings, involvement of parent stakeholders is limited to the feedback phase of the policy process, or in the case of Texas completely absent from the process alto-

gether. Perhaps expectations need to spelled out more explicitly, in terms that define and measure parental involvement, at the federal level so that much doesn't get lost in translation as it is handed down to SEAs, and then passed to the local level.

Finally, in order to make more conclusive argument regarding the conception of social justice which undergirds stakeholder engagement in equity policy more data needs to be gathered. This study took a look at one equity policy and its journey from the federal to the local level; and while it does grant us a perspective into the way policy goals are operationalized, more data is needed to begin to make more generalizable conclusions about stakeholder engagement in equity policy.

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STEAMing ahead with teamwork: Transferring administrative support to a virtual setting due to COVID-19

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Abstract

Due to the COVID-19 pandemic, many educational settings suddenly moved to a virtual setting. Administrators were faced with the challenge of supporting students and instructors amid continuously changing plans. In this study, four administrators shared their "lived experiences" (Seidman, 2019, p. 9) as they transitioned a summer STEAM program to a virtual setting. The summer STEAM program consisted of approximately 100 students from various schools in a large northeastern United States city and applied to be part of the program. Additionally, there were approximately 20 instructors and 10 administrators with varying degrees of educational experience. Through interviews, participant as observer observations (Billups, 2020), and document analysis, this research details the shift in existing and new support that administrators found to be valuable to instructors and students this summer.

Out-of-school programs have become a way to incorporate meaningful *science, technology, engineering and mathematics (STEM) integration* for students outside the confines of a school day. However, it is difficult for instructors to authentically blend the four disciplines together, and researchers are still exploring best practices (Kelley & Knowles, 2016). Furthermore, instructors in out-of-school programs are not always certified teachers and may not have a STEM degree. Administrators of out-of-school STEM programs (OSSPs) can support instructors by ensuring they have solid STEM content knowledge, creating STEM partnerships, and prioritizing STEM within the program so that instructors have higher levels of comfort with STEM programming and content (Cohen, 2018).

As such, it is important that instructors are supported because of the academic and behavioral benefits for students in OSSPs that utilize an inquiry-based approach (Cutucache et al., 2018; Gates, 2017; Roberts et al., 2018). While effectively supporting OSSP instructors is possible while programs can meet face to face, the fallout from the COVID-19 pandemic is uncharted territory. Many OSSPs utilize hands-on extracurricular activities that may not transition to a virtual setting easily. Yet, supporting instructors in providing effective OSSP STEM programming is more important than ever due to the academic repercussions of COVID-19 school closures akin to other disasters that have closed schools (Lamb et al., 2013).

In times of crisis, leaders and administrators should remain transparent, empower those around them to share leadership roles, and understand plans will continue to change given new information (Forster et al., 2020; O'Connell & Clarke, 2020). As the COVID-19 crisis is new and evolving, it is important for educational leaders to keep open lines of communication with all stakeholders, have an accountability structure that can be flexible, and understand that instructors, students, and families are struggling in a multitude of ways (Brelsford et al., 2020; O'Connell & Clarke, 2020). This study will provide an understanding of the ways that Pathways' Summer STEAM (Science, Technology, Engineering, Arts, and Mathematics) program continues to support instructors as in-person programming has transitioned to a virtual setting.

Transitioning these supports is vital for students as effective summer programming can help reduce the impact of summer slide (Smith, 2012). The aim of this article is to provide educational researchers and leaders with a synopsis of how a crisis event can impact the planning and implications process of educational programming.

Purpose and research questions

The purpose of this qualitative study is to understand how Pathways' Summer STEAM's administrative team transitioned their six-week summer program to a virtual setting. The study is guided by the following-questions:

1. How did the summer program's administrative team transition support systems (i.e., classroom support, instructor support) to a virtual space for instructors?
2. To what extent did Pathways' Summer STEAM administrators change the way they provide support to instructors?

Methods

This phenomenological study utilized participants as participant-asobserver observations (Billups, 2020), semi-structured interviews (Cohen et al., 2007; Merriam & Tisdell, 2016), and document analysis (Merriam & Tisdell, 2016) as processes for collecting data. Observations were conducted of professional development and weekly meetings via a web-based video platform. Semi-structured interviews, lasting approximately 30 minutes, were conducted via a web-based video platform with members of Summer STEAM's administrative team. A document analysis (Merriam & Tisdell, 2016) was conducted on the various artifacts throughout the study.

Site and participants

The site of this research was an organization called Pathways that provides in- and out-of-school STEAM programming for multiple grade levels both during the school year and the summer. One particular branch of Pathways brings together students in grades 5-9 from across a large northeastern city to participate in their summer STEAM program.

Typically, the summer STEAM program occurs in person and is taught
by educators who are certified teachers, teachers on an emergency certi-
fication, and undergraduates pursuing an education degree. Due to
COVID-19, the summer STEAM program transitioned to a virtual
space. Students participating in the summer STEAM program are all
enrolled in a mathematics course for their upcoming grade level and a
variety of electives such as journalism, engineering, or entrepreneurship.

The four participants of this study were members of the administra-
tive team for the Pathways' summer STEAM program. Their administra-
tive roles included academic support deans, student support deans, grade
team leads, and directors. In an attempt to preserve participant confiden-
tiality, participant quotes are shared from the perspective of the adminis-
trative team as a whole. As the participants frequently worked with one
another and referenced other members of the administrative team, the
direct quotes of participants will be shared as if the administrative team
is speaking as a single unit. The researcher had concerns that confidenti-
ality could not be upheld as he was a participant in the summer STEAM
program as an educator. As such, the researcher individually solicited
potential participants, utilized a password protected folder for research
documents, and stripped away identifying information from transcrip-
tion data and observational notes.

Data collection

The observations allowed the researcher to see participant's delivery of
programmatic supports. Observations helped with triangulation. It is
important to observe participants in their natural setting to compare what
is said in interviews and what is said during a programmatic meeting in
their own space (Billups, 2020). As the researcher is an instructor in the
summer STEAM program, all questions asked by the researcher during
meetings were recorded to allow reflection on how the presence of the
researcher could have impacted the meetings.

Semi-structured interviews were conducted with four administrators
of the summer STEAM program. Interviews allowed for participants to
explain their experiences regarding the shift to an online setting due to
COVID-19 in the summer of 2020. An interview protocol was created to

allow for the "lived experiences and the meaning they make of that experience" (Seidman, 2019, p. 9) to be explored. Furthermore, utilizing a semi-structured framework helped tie interviews to research questions while allowing for follow up and extending on important vignettes that emerged throughout the interview (Merriam & Tisdell, 2016). The interviews were used as another data point for the purposes of triangulation during data analysis.

The document analysis allowed the researcher to compare observation and interview data with what was sent out to instructors over the summer. For example, programmatic emails, the summer handbook, and weekly newsletters were reviewed to improve triangulation of the data (Merriam & Tisdell, 2016). The document analysis will be important to connect what was provided to all instructors versus individual support. Furthermore, the researcher will keep a weekly reflective journal to increase the trustworthiness of the study (Lincoln & Guba, 1985).

Data analysis

All interviews were digitally recorded and transcribed verbatim. The transcriptions were unitized by sentence to allow for the smallest possible unit of analysis while still retaining meaning (Lincoln & Guba, 1985). However, during this process there were some sentences that could not stand alone, and these were combined at the researcher's discretion. The researcher kept notes of when this was done and the rationale behind it to keep an audit trail (Merriam & Tisdell, 2016). Open and axial coding were used to analyze the unitized data to ensure participant voices were heard throughout the process (Billups, 2020; Saldaña, 2012). Throughout the coding process, the roughly thirty open codes fell into four emergent categories: instructor supports, planning, shift in support, and team mentality. These four categories connected to form the emerging themes of *supporting instructors to focus on teaching, everyone pitching in during a time of need, and creating new support structures*.

Trustworthiness

According to Lincoln & Guba (1985) trustworthiness can be enhanced
by addressing the issues of credibility, confirmability, dependability, and
transferability. This project utilized a member check of initial findings,
where the participants of the study reviewed the initial findings and gave
feedback to increase credibility (Cohen et al., 2007; Merriam & Tisdell,
2016). This provided the researcher with feedback on the participant's
thoughts on the themes and initial findings. The issue of confirmability
was addressed through utilizing an audit trail (Merriam & Tisdell,
2016). After each step of the process the researcher journaled to explain
decisions that were made during the research process. An example of
an audit trail was recording instances where sentences were combined
during data analysis. Triangulation was utilized to increase the depend-
ability of the findings. Multiple methods, observation and interviews,
were utilized to cross check data (Merriam & Tisdell, 2016). To increase
the transferability of the findings, a thick description (Geertz, 1973) was
created through the use of interview and observation data that allows the
reader to better understand the experiences of the participants.

Researcher positionality

The researcher for this study is a middle-class, white male in his mid-
30s. Being aware of the privilege that comes with the researcher's
background was important as his presence during interviews and obser-
vations could have an impact on participants throughout the summer.
Additionally, the researcher aligns with a post-positivist research stance
and utilized a constructivist approach for this study. Before observations
and interviews, and throughout data analysis, the researcher refreshed
his understanding of the constructivist paradigm to better represent the
lived experiences (Lincoln & Guba, 1985) of participants. Profession-
ally, the researcher has been a STEM student, STEM educator, and
administrator who has participated in and led STEM programming.
While the researcher has worked to create best practices for STEM
programming as a department chair and educator, he reduced bias by
reflecting throughout the process on his own experiences versus those of
the participants. Constantly reflecting on the process helped differentiate

between researcher bias and participants' experiences. Lastly, as an educator in this summer STEAM program, it was important to be transparent with potential participants throughout the summer.

Findings

The administrators made purposeful, informed choices throughout the planning and running of the summer STEAM program. Their choices were in response to the pressing nature of taking the summer STEAM program to a virtual setting. The administrative team worked collaboratively when possible to proactively generate solutions to issues throughout the program. The following three themes emerged after open and axial coding was completed: (1) supporting instructors to focus on teaching, (2) everyone pitching in during a time of need, and (3) creating new support structures.

Supporting instructors to focus on teaching

As instructors transitioned their classrooms to virtual spaces, there were many obstacles to overcome relating to content delivery, logistics, and technology. The administrators were aware of these challenges and actively tried to remove barriers observed during programming between March and June. Students originally signed up for an in-person program, and with the conversion to online programming, students having the technology to access online coursework became a top issue. One administrator noted that "the number of staff available to call kids, run computers to kids, just troubleshoot the problems that will come up... it's just one teacher without the flexibility of a nonprofit to have these unconventional roles." Pathways was able to offer computers to students who did not have access to technology and provide staff to deliver technology to the students as needed. Furthermore, another administrator noted that their role often consisted of helping "students having issues getting online or getting service or getting WiFi." Administrators offered support to students around issues of technology. For example, administrators would call students to help them get on the video conferencing software or upload assignments to the learning management system. These supports allowed instructors to focus on the students that were in

their classroom. The learning management system, Canvas, and video conferencing software, Bluejeans, were new to the program, and instructor supports will be discussed for them in a later section.

In previous summers, there was no determined need for a learning management system. Instructors had the opportunity to interact with students on a daily basis. Student work could easily be handed out and collected to be given feedback. However, students would be taking courses with up to three different instructors in the virtual space. The administrative team recognized the need to provide a learning management system to house all courses and be a home base for students and instructors to interact with throughout the summer.

> [The] idea of now that the world's blown up, there's a thousand options and being a leader, I have to choose one and like, "This is what we're doing." Because otherwise people are just like, "I can't do this." I definitely think it's just trying to continue to make decisions like that for the instructor so that you guys can focus on teaching and focus on getting to know students. Not focus on how should my Canvas page look.

Furthermore, instructors were provided a template for Canvas that was shared during professional development and through email. Instructors were able to easily insert their course information into the provided template so students would have a streamlined experience between courses and so instructors did not spend time designing their Canvas page. Canvas was chosen as the learning management system due to familiarity by some of the existing Pathways administrators. One administrator shared that "[senior management] are very familiar with Canvas so they know it well and they knew that a lot of us worked with Canvas, all kinds of being recent graduates or being in a college environment." Pathways' administrative team demonstrated that their choices were purposeful and based on the experience of administrators and instructors. Many instructors and administrators were experienced with Canvas, and providing a template allowed for instructors to move their content to a virtual setting quickly.

Everyone pitching in during a time of need

While the decision to move programming to a virtual space was still underway, administrators began exploring how a virtual schedule would differ from the traditional in-person program of previous summers. One administrator shared how they talked to teachers in the schools they already conducted programming in: "We talked to those teachers to see what their schools were doing and what they liked and didn't like, and that's kind of how [we] built the schedule we made in the summer program." The administrator also shared how student and instructor burnout was considered while developing the schedule for the summer.

I helped build a schedule that was friendly for the students and that the teachers could [get] behind as well, that wasn't draining the students of too much virtual time where we felt like they were staring in front of a screen the whole time.

The administrators sought to provide a program schedule that would allow for instruction without burnout for students. In the end, the schedule ended up being between 10:00 a.m. and 2:30 p.m. for academic classes four days a week. Each day consisted of a 30-minute morning advisory block and an hour break for lunch. The fifth day was dedicated toward a larger capstone project, office hours, and extracurriculars. This provided a way for instructors to interact with students out of an academic setting in semi-structured forms on Fridays.

A distinct category of team mentality emerged throughout all four interviews. Specifically, as projects or tasks that one administrator was working on were explained they would reference other administrators assisting in some capacity. As one administrator discussed planning with an outside organization, they brought up that "we had a couple of people on the team that were helping a lot...I know I was kind of the face of it, but there were a lot of people involved in that." Pathways' administrative team demonstrated that they tackled problems with a team mentality to ensure instructors felt supported in their classrooms. While this made sense for the administrators taking part in the summer STEAM program, the team mentality extended to others in Pathways. "Then similarly, our operations team that's usually focused on human resources and payroll and those pieces, did a lot of work to get Canvas up and going."

Communications and observations of staff meetings provided greater
context that students were manually added into Canvas by Pathways
staff that were not directly involved with this summer STEAM program.
Administrators worked as a unified front and shunned a top-down ap-
proach to quickly provide support to address the needs and issues that
were proactively recognized and reactively brought to their attention by
instructors.

Creating new support structures

The shift to a virtual space required Pathways' administrators to create
new support structures for instructors. Administrators shared examples
of how new support structures were proactively and reactively created
both before and throughout the summer. Before the summer began, there
was a realization that support would be needed for the new video confer-
encing software. One administrator shared how a Pathways employee's
role shifted to address this issue. "Well, he was already on our team, but
this wasn't his job. He pivoted to have this basically full-time Bluejeans
job." Administrators proactive recognized that instructors would require
support with the video conferencing software, Bluejeans, as it was new
for many administrators and instructors.

At the start of the summer program, all of the administrators recog-
nized it would be beneficial to try different ways to get students more
engaged in instruction. One way was to utilize new digital resources for
the program that instructors shared. Changing the presentation of
material from Google slides to Nearpod was one method to improve
engagement.

> I decided to do a Nearpod, like PD on the first day. I mean, I wasn't
> doing a PD on Nearpod but just using it in the PD because I felt
> like if I was able to model using it that teachers would be able to
> think about how they could use it.

Nearpod is an online presentation tool designed for higher engagement
and interaction. Nearpod can take a Google slide deck and create a copy
of it for each student in their web browser. Students are able to write
directly on the slides, answer questions, and interact with modeling soft-
ware while instructors can watch what students are doing through the

web site. By demonstrating Nearpod for instructors, it provided a way for instructors to walk around the virtual classroom to support students if they struggled with finding technology to accomplish this task.

Two administrators shared that the ways communication occurred needed to shift from previous summers. In previous summers, students, instructors, parents, and administrators were able to interact face to face throughout the day with students and during pickup and dropoff with families. However, the virtual setting did not allow for families to interact with program staff, and conversations between students and program staff was challenging. As a result, two administrators detailed how the dean's role shifted throughout the summer, with one sharing how "the student support deans, I don't think I necessarily envisioned that they would call students as much as they did, because that's not really how it looks in person, but they were willing to step into that role." Not only did the mode of communication change from face to face to phone calls, but there was a shift to reaching out directly to students to address issues during the day. Shifting the audience of these phone calls supported instructors by getting students engaged in classes.

All of the administrators shared experiences of stepping into Bluejeans classrooms throughout the summer to support instructors. Whether it was to cover a classroom, help with a technology issue, support a student with academics, or pull a student to have a one-on-one discussion, administrators actively used breakout rooms to support instructors. One administrator shared that "[They] would text me and be like, "Hey, we're working on this digital activity...Can you go with him into a breakout room?" And I would do that." Quickly communicating through a text or GroupMe, a group communication application, became a regular event for instructors to solicit support, but it was not the only way. Often, administrators would spend time in classrooms to provide regular support and observations. One administrator shared:

> Sometimes I'd be in the class and be like, "Well, what's happening?" And I'd be like, "Okay, I'm going to take these three kids into a breakout room to work on this thing because they don't understand. We'll be back."

The mixture of on-demand support and being a presence in the classroom was unique to a virtual setting. In-person programming meant that administrators had to physically travel from room to room, and pulling students was observable by all students. In the virtual setting, administrators were able to enter a classroom and create a breakout room to support a student. Breakout rooms allowed instructors to continue with their lessons without missing a beat in front of the class.

Discussion

Pathways' administrators shared their vision of the program being a unified team throughout all of the interviews. Administrators shared how they depended on each other throughout the summer to support instructors. One administrator explained the idea of teamwork best with:

> If you see me not answer something, you can just hop in. It probably means I'm somewhere else. We always have our group meeting, or our phone and our things next to us, so if you see me miss it then you can just hop in. There's no stepping on toes. We're all just trying to help the teachers and students get by. I think the network that we had of support behind it, from the TAs, the support deans, even the academic deans that would hop into classes, I think that was tremendous.

Each day presented its own challenges for students, instructors, and administrators but was approached with a team mentality by administrators to support instructors of the program. Additionally, administrators redefined existing support structures for teachers in the virtual space. Addressing the research questions specifically:

1. How did the summer program's administrative team transition support systems (i.e., classroom support, instructor support) to a virtual space for instructors?

Evidence of administrators transitioning support systems to a virtual space for instructors was evident in the *everyone pitching in during a time of need and creating new support structures* themes from the findings section. The support systems were transitioned to a virtual space by approaching new problems with a unified approach. Additionally, technology allowed administrators to provide timely support to

instructors when previously a face-to-face conversation with an instructor or student would have been necessary. While this could have been overwhelming, thought was given into the daily schedule to attempt to prevent teacher and student burnout. The reduced schedule gave instructors time to focus on their lessons or spend time discussing students with administrators. While it would have been easy for the administrators to shift established support systems online, they worked together to redefine what support looked like in the Pathways program.

2. To what extent did Pathways' summer STEAM administrators change the way they provide support to instructors?

Many of the administrative roles at the summer program had to shift to support instructors. For this reason, the second research question ties to all three of the themes, *supporting instructors to focus on teaching*, *everyone pitching in during a time of need*, and *creating new support structures*, in the findings section. Administrators took on new roles such as providing technology support, reaching out to students directly via phone, and utilizing technology to support instructors both in and out of the classroom. Administrators were no longer walking from classroom to classroom to provide help for a student or instructor. Instead, they were able to seamlessly transition from one virtual classroom to the next without interrupting a lesson. Finally, administrators focused on removing unnecessary burdens for instructors that were not related to teaching, such as helping students log on to the virtual classroom or connecting to WiFi.

Significance and implications

Extended school closures due to COVID-19 have negative repercussions similar to other disaster events that have closed schools (Lamb et al., 2013). While some regional occurrences, such as extreme weather, have prevented specific OSSPs from being held, the COVID-19 pandemic created an unprecedented challenging situation for educators and programs across the country. While research provides insight on best practices for supporting STEM instructors in OSSPs (Cohen, 2018) and best practices in virtual programming (McKlennon, 2006), this study has

mplications for OSSPs as they transition between in-person and virtual programming.

In times of crisis, it is important for educational leaders to have open communication with all stakeholders (Brelsford et al., 2020; O'Connell & Clarke, 2020). Educational programs and schools need to take on an iterative approach to evaluating their systems and processes to address new issues as they arise (Forstner et al., 2020). While a top-down approach for decision making is necessary at times, administrators should remain flexible to the ever-changing scenario that COVID-19 or similar crises may present. Educational leaders should work toward empowering those around them to jointly tackle problems, as teamwork will be required throughout a crisis. This study demonstrates how administrators of one out-of-school program utilized a flexible decision-making process that sometimes required making large decisions in a silo and other times soliciting input from other programs and staff.

As school districts scramble to make plans for virtual space, the eventual decisions will trickle down to OSSPs. This scholarship provides educational administrators of OSSPs a critical roadmap of how to provide support to their instructors during the school year and provide insights as to the challenges of this transition. Additionally, this work can broadly apply to school administrators who need to support STEM/STEAM instructors in their schools. This study provides administrators in a variety of settings ways to support their instructors in shifting in-person STEM programming to a virtual space.

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Student faculty

Student resilience and the resident assistant perspective

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Abstract

A review of literature on student resilience shows that extensive research has been conducted in education to learn about student stress, trauma, and protective factors, regarding strategies to improve student services and success. Yet there are limited studies that offer insight on the resilience of resident assistants, or RAs, a subpopulation of students that serve as peer leaders and role models on college campuses. This naturalistic inquiry utilized semi-structured interviews that revealed the resilience-building experiences of resident assistants in relation to their student employee positions. A secondary analysis of the investigation affirmed that individual perseverance, committed engagement, and investment of time were significant themes evidencing RA resilience in meeting the challenges of providing student support as well as engendering the development of resilience among students they served.

Today's college students are riddled with stress. Many accept stress as a component of this transition period, a requisite rite of passage, composed of challenging course loads, sleepless nights of studying, and the occasional feud with friends or a breakup with a partner. Whether these stressors are viewed as par for the college experience or just everyday occurrences for young adults, it is imperative to study not only how the stressors affect students but also how teaching intentional coping strategies can help build resilience. Grounded by the extant literature that examines multiple aspects of stress and student resilience, this study extends the conversation to include the voices of a special subpopulation of undergraduate students, resident assistants (RAs) who serve as peer role models. RAs are student staff who typically work in residence halls on college campuses to help universities offer quality residence life programs. They are also viewed as community leaders who help support and guide other students to lead healthy lives in the halls, classrooms, and local communities. The investigator embarked on this inquiry to illuminate the work of RAs, who may appropriately be coined the most resilient students on college campuses worldwide.

Literature review

Knowing that the prevalence of mental health concerns among college students is on the rise, it is necessary for researchers to examine the causes of students' stress, avenues they take to manage it, and strategies students use to overcome obstacles (Hartley, 2011). Most articles reviewed focused on a student's ability to cope with, adapt to, or rebound from traumatic experiences, stressful circumstances, or threatening situations (Hartley, 2011; Holdsworth, Turner, & Scott-Young, 2018). Other sources dove deeper to describe resilience as a "buffering factor" (Shek & Leung, 2016, p. 149) that helps students recover and grow following adversity (Holdsworth et al., 2018). Commensurate definitions in the literature equate resilience to one's ability to positively react to and navigate challenges (Huang & Lin, 2012). Uniquely, Holdsworth et al. (2018) defined resilience by describing the concept from the student perspective, including the top five reported phases of "enduring, bouncing back, managing, adapting, and focusing" (p. 1841). Overall, there

are both similarities and differences in the ways students think about resilience and how scholars understand the concept.

To add to the intricacy of defining resilience, there is also the widespread recognition that it encompasses an array of dimensions, including the:

- Multi-leveled (Cassidy, 2015, p. 1);
- Multi-faceted (Cassidy, 2015, p. 1; Huang & Lin, 2012, p. 483);
- Dynamic (Campbell-Sills, Cohan, & Stein, 2006, p. 594); and,
- Multi-dimensional (Campbell-Sills, Cohan, & Stein, 2006, p. 586; Huang & Lin, 2012, p. 472; Shek & Leung, 2016, p. 154)

nature of the construct of resilience. What truly makes resilience so complex is that it is highly individualized and context-specific (Cassidy, 2015).

Stressors

At the core of attending college is the purpose of learning, developing, and securing an education in a chosen field of study. The overwhelming majority of studies reviewed note that students find the pressure to perform well a key stressor (Hurst, Baranik, & Daniel, 2013). It is challenging for students to balance the time needed to devote to academics while parsing out suitable time for practical activities, social time, and relaxation (DeRosier, Frank, Schwartz, & Leary, 2013; Hurst et al., 2013). Students who are employed while attending school also report strain from lacking work-life balance (Hurst et al., 2013). Furthermore, lack of time as a stressor is intensified by the tendency of some students to procrastinate (DeRosier et al., 2013).

Social relationships are also a significant source of stress for students. Relationships with family, romantic partners, friends, peers, and even faculty were listed to be stressors for a variety of reasons (Hurst et al., 2013). Hurst et al. (2013) examined multiple stressors, such as leaving loved ones behind, being in dysfunctional relationships, being judged by peers, and failing to gain respect and support from relationships with faculty, which all embody student anxiety. Students also report that overcoming the damage caused by helicopter parents and their heightened expectations is also a key stressor (Bland, Melton, Welle, &

Bigham, 2012). Second-generation students are especially strained to meet the expectations of educated parents (Hurst et al., 2013). Additionally, Hurst et al. (2013) explained that students often place pressure on themselves via their own goals and perfectionism. Added to that pressure, first-generation students face the challenge of navigating new territories (Hurst et al., 2013).

Still, first-generation students may not be the only ones who are plagued with feeling like they do not know what to do once on campus. The transition to college proves difficult for many as they move away from home, make decisions on their own, and explore newfound independence in a foreign environment (Holdsworth et al., 2018; Hurst et al., 2013). The college environment itself can also bring on a host of stressors for students, especially if that environment is disruptive, hostile, highly competitive, unpredictable, or in an entirely different country (Hurst et al., 2013). Compounding this environmental stress, student anxiety balloons when new independence is coupled with limited supervision (Bland et al., 2012). In terms of the academic environment, students must also bear the burden of managing coursework that is often more fast-paced and more difficult than what they experienced previously (Bland et al., 2012). The transition away from college and into the working world or graduate school also marks a point of stress for college students at large (Hurst et al., 2013; Shatkin, Diamond, Zhao, DiMeglio, Chodaczek, & Bruzzese, 2016).

Unanticipated life events or traumatic experiences such as the death of a loved one, mental health concerns, sexual or domestic violence, discrimination, and hate crimes are all examples of challenges that further compound student stress (Holdsworth et al., 2018; Lynch, 2017). Universities pride themselves on having resources to help students navigate and persevere through difficult situations. However, studies showed that many of these resources, such as counseling centers, are underutilized (Shatkin et al., 2016).

RAs are often the first responders when students are experiencing traumatic events. While RAs are generally viewed as peer counselors, they may also succumb to the stress of being a crisis interventionist (Lynch, 2017). Resident assistants are often affected by secondary trau-

matic stress, compassion fatigue, and burnout (Lynch, 2017; McCarthy, 2019; & Swanbrow-Becker & Drum, 2015). RAs often experience these phenomena when their intervention loads peak, resulting in a decrease in RA mental health and well-being (Swanbrow-Becker & Drum, 2015). However, many RAs continue to express compassion satisfaction with their roles to counteract stress and fatigue (McCarthy, 2019).

Protective factors

Protective factors that resilient students maintain are often categorized as external or internal, with some sources framing the groups as interpersonal and intrapersonal (Campbell-Sills et al., 2006; Hartley, 2011; Holdsworth et al., 2018; Shek & Leung, 2016). Holdsworth et al. (2018) illustrate that internal protective factors are "individual qualities or characteristics that are responsible for fostering resilience" (p. 1838). The most evident internal factors include self-motivation, self-regulation, self-advocacy, self-efficacy, self-confidence, self-care, purpose, and living life authentically as one's self (Cassidy, 2015; Holdsworth et al., 2018; Lynch, 2017; Shek & Leung, 2016).

   Also connected to the idea of internal protective factors is the need to stay mentally (and physically) healthy, maintain a feeling of independence, and strive to keep an open mind (Campbell-Sills et al., 2006; Derosier et al., 2013). Maintaining a mindset that is keen on problem-solving also proves to be a significant protective factor displayed by resilient students (Campbell-Sills et al., 2006). Students also benefit from being emotionally intelligent, cognitively mature, self-reflective, and continuous learners (Hartley, 2011; Huang & Lin, 2012; Hurst et al., 2013; Shek & Leung, 2016). Finally, the most resilient students also appear to practice acceptance for the matters that they cannot change and are realistic in their decisions to approach, and progress from, adversity (Shek & Leung, 2016).

   Significant external protective factors refer to the "environmental support structures that are in place to develop resilience" (Holdsworth et al., 2018, p. 1838). Holdsworth et al. (2018) list these structures as the community, peer groups, family, and educational entities. Even though support can come from a variety of sources, it is the most effective when

it is provided by peers, family, and friends (Holdsworth et al., 2018). Holdsworth et al. (2018) explain that higher education institutions play a central role in enriching student resilience by assisting them in bouncing back from adversity inside and outside of the classroom through resources and by providing valuable feedback. Alas, to get support from the campus community is one thing, but to feel a sense of belonging on campus is an elevating protective factor that should be promoted (Hartley, 2011).

Statement of the problem

An overall student deficit in resilience coupled with untreated mental health concerns on the rise in the greater population creates a natural recipe for disaster that higher education practitioners must counteract (Hartley, 2011; Hurst et al., 2013). Limited research exists to explore resilience in the unique population of resident assistants or RAs. Swanbrow-Becker and Drum (2015) provided a call in the extant literature, noting that:

Future studies should explore how intervention stress influences RAs over longer time periods. Fostering a sense of community may encourage RAs to seek support when they need it. The use of experienced RAs as mentors and peer coaches may also facilitate the transfer of their skills and experience to those just starting out. (p. 87)

According to Lynch (2017), there has been substantial research conducted in many fields evolving around helping professions such as primary and secondary education and counseling. These studies found that repetitive secondary trauma can be detrimental to those serving in supportive roles, often leading to a decline in mental health.

As it relates to the purpose of this project, Lynch (2017) also highlighted that there is a lack of extensive research exploring the relationship between secondary trauma and resiliency in the field of student affairs, which includes the area of student housing.

Purpose of the study

The purpose of this naturalistic inquiry was to explore the construct of resilience in RAs and how the intersection of being a student and a

gatekeeper of resilience-building affects resident assistant staff. This secondary analysis contributes to the current body of knowledge by exploring what resilience means to RAs and what they believe to be critical factors in building resilience in other students. Along the way, this project sought to uncover how resident assistants successfully endure the strains of college while leading others, witnessing traumatic events, and ultimately serving in one of the most time-consuming and complex student positions across most campuses while still working to mitigate any secondary trauma they might experience in navigating their work as RAs. Understanding the complexities of engendering resilience in RAs through the lens acknowledging them as student leaders and peer educators is critical. Gathering the unique perspective of RAs is important as higher education practitioners look for ways to better identify and support students and their needs.

Methodology

Project design

This naturalistic inquiry took a case study approach, looking at each participant's lived experience as an individual case to be analyzed uniquely, and examined those holistically to explore themes related to resilience (Clandinin, 2006). The project design was also intended to be emergent and flexible to allow for greater breadth and depth in the discovery of information (Patton, 2015). Additionally, the lead researcher was open and adapted to the direction in which the interviews went (Patton, 2015). As a former supervisor of RAs, the lead researcher embraced her insider perspective (Brannick & Coghlan, 2007) as well as her own prolonged engagement in that role, which informed her unique perspective of the need for this study (Lincoln & Guba, 1985).

There was also a reliance on naturalistic inquiry based on the participants' engagement, reflection, and response with an avoidance of leading questions and predetermined findings (Patton, 2015). Regarding theoretical framework, this project sought to connect both a social constructivist and a phenomenological approach (Patton, 2015).

Following the guidance of Morse, Barrett, Mayan, Olson, and Spiers (2002), the lead researcher, as a doctoral student, purposefully engaged use of a co-author, an established qualitative researcher, who provided constructive scholarly feedback in developing the manuscript. "Rather than relegating rigor to…post-hoc reflection on the finished work… we need to refocus our agenda for ensuring rigor and place responsibility with the investigator rather than external judges of the completed product" (Morse, Barrett, Mayan, Olson & Spiers, 2002, p.19). Thus, throughout the development of the manuscript, the co-author provided scholarly guidance.

Role of the researcher
The lead researcher completed all initial aspects of this project from the design, data collection, and analysis as part of an assigned class project in the co-author's course. Ultimately, the lead researcher applied to the Internal Review Board (IRB), along with her faculty sponsor, the co-author, to seek approval of secondary analysis based on the class project. That IRB application was approved, and the secondary analysis was conducted.

To fulfill the myriad duties involved in conducting the inquiry, the investigator engaged several strategies as recommended by Patton (2015), to include aiming for authenticity, trustworthiness, and balance, while developing empathic neutrality and maintaining mindfulness. Additionally, credibility was established by employing triangulation, member checking, and prolonged engagement (Erlandson, Harris, Skipper, & Allen 1993). The investigator also actively assumed a unique case orientation, realizing that each RA's story was special and required individual attention (Patton, 2015). The inquirer sought to understand the notion of context-sensitivity to make way for thoughtful analysis and comparison of each case (Patton, 2015). Lastly, the investigator worked to mitigate biases and subjectivity by following best practices and staying true to the emergent design.

Site and participation selection and sampling strategy

The site selected for this case study was a mid-sized, four-year public university in the Gulf Coast region of the United States. It was selected based on convenience for both the researcher and the participating interviewees. The participants in the study were five resident assistants, enrolled full-time at the university and working for its Housing and Residence Life department. This project included staff serving in their first year, as well as senior staff members working in their third year or more. Such a variety of participants was employed to promote information-rich knowledge on the phenomenon of resilience in RAs as student leaders (Patton, 2015). Pseudonyms have been used to protect the anonymity of the participants. Further detail on the identity of the participants is purposefully masked due to confidentiality concerns and the limited number of four-year universities on the Gulf Coast, as well as RAs on that campus.

Data collection and analysis

Semi-structured interviews were the primary method of collecting data during this project (Bernard, 2006). All participants were asked the same set of open-ended questions. The questions were strategically sequenced to promote healthy transitions and to guide the conversation. The inquirer engaged in dialogue to obtain introductory/demographic information, data related to the RA position, interviewee reflections on the role, resilience perspectives, and resource-based data. Throughout the interview, the investigator incorporated follow-up and probing questions based on the participants' responses to the structured questions as an effective way to obtain additional information (Bernard, 2006). Responses were recorded and later reviewed and transcribed verbatim. Upon transcription, each participant was assigned a pseudonym to protect their identity, and collected information was coded based on resilience themes that emerged in the data set. Patterns were later reviewed to discover similarities, differences, causation, frequency, etc. between the experiences of the participating RAs (Saldaña, 2016).

Findings

Introduction of participants

The selected participants were all traditional-aged college students under age 25. Most participants identified as male or gender nonbinary, which is an identified limitation of this project regarding the lack of female participants. Of the five participants, the majority identified as Hispanic (or Latino), with one identifying as Black and one identifying as White. Most RAs were seniors, but one sophomore and one junior contributed as well. The interviewees represented three different academic majors, all in the STEM concentration or humanistic social sciences. Each RA interviewed had a distinct story filled with unique experiences, triumphs, and various forms of loss that make them the resilient leaders that they are today. The interviewer sought to uncover not only what makes RAs resilient, but also what significantly impacts their resilience and that of those whom they serve. In what follows, key themes and patterns discovered are highlighted and discussed.

Individual perseverance and the personal nature of resilience

From connecting with the resident assistants, the interviewer noticed that resilience in college students varies not only in how resilient they are, but also in how they define resilience, and how they perceive themselves in the role. Sol Lopez, one of the key informants from this project, defines resilience as the notion that

> You can experience a trauma or experience a difficult time and bounce back. You can keep that smile on your face, and you're able to keep that positive attitude. You're able to still be a resource to others, and you're still able to, not get back to normal, but have a resemblance of normality back in your life.

Meanwhile, another participant, Jay Davis, responded,

> I would say resilience, for me, is the ability to go through some stressful events, traumatic events, maybe even like being able to get through a semester, and then at the end of the semester say, I made it through that. I'm going to be okay. I can get through the next one.

Both definitions embody the idea of personal resurgence of stability after stress or trauma. A third resident assistant, Drew Williams, provided his take below to truly demonstrate the intimate nature of resilience as being all about mindset:

> To define resilience, I would have to say that it's cliché. But it's really, a combination of the cliché of getting back on your horse, but also not falling off in the first place. It's more like the mindset of 'I'm not going to fall off. But when, but *if* I do, that I'm gonna get back up.' So, it might be more about mindset than willpower. It's getting back up. It implies persistence and like okay, try again, try again.

RAs in this project consistently reported that beyond their personal toolkit of resilience, the importance of support from family, friends, peers, and faculty/staff had been a necessary part of building that resilience. For example, one participant mentioned,

> I just like to put my head down and get through it. I think that's something I learned from my family more so from being here [on campus]. My family would tell me, you know, Jay, just get through it. You only have such and such long, so just get through it. Now being here and being able to put that to practice, that has kind of helped me.

College student resilience requires committed service and engagement

A second theme that emerged was the idea that resident assistants help to build the resilience of other students by actively engaging with them and providing support and guidance. During the interviews, numerous stories were shared about how each participant has stepped in during a resident's time of need to assist them with anything deemed stressful to the student, from pest control to disability resources to sexual assault. Each RA showed a true sense of pride in their work. Most of them mentioned that being there for their residents was what they liked most about their position and what they would consider to be their most significant role. Additionally, interviewees also shared an overwhelming sense of responsibility to serve their residents selflessly. To summarize the concept of selfless service, one RA noted,

> If you look at, it's really all in the name--resident assistant. I assist residents. Whatever that might look like, you know. It's very self-explanatory. If he/she needs assistance…to improve his/her experience living here, okay. I will do that.

Related to how they serve residents, the students in this project were asked how they, as RAs, support building resilience in others. The responses received put the RAs at the center as real-life examples for students to learn from. Responses that demonstrate this include, "I try to give them a lot of my own life experiences," and, "I like to show residents that I'm vulnerable. I think, showing residents that it's okay to be unsuccessful at times, it's okay to fail at points, is very important." Other ways in which RAs help build resilience in others were reported to be through listening, assisting students in putting their problems into perspective, and, finally, when needed, referring students to the appropriate resources on campus. In connection with their referral duties, the participating RAs were also asked their opinion on how higher education practitioners can boost student resilience. Their recommendations included approaching students informally and building a presence in students' everyday lives. Participants also suggested building individual relationships with students and connecting them with peer groups. Finally, it was advised that professionals do their part to foster an environment of life-long learning and to support the idea of higher education as a platform for students to engage in a healthy cycle of both failing and succeeding for optimal growth and resilience.

Time is of the essence

Despite the numerous stressors and the notion of secondary trauma, every RA interviewed spoke explicitly on the magnitude of time management in their role, and residually their resilience. Managing time for these students was a compounding factor that magnified issues in their experiences as both RAs and scholars. Most reported not fully understanding just how much time they would need to commit to serving as an RA. One participant stated "It's really hard to find time for myself. That's really, really annoying because it's not what I signed up for." Meanwhile, another mentioned, "It [the position] eats up time."

The amount of time needed to dedicate to the position was also cited as a common factor when participants were asked what they liked least about their job.

Furthermore, RAs also correlated the time that they spent serving others in their roles with how effective they see themselves in their RA role. The notion that constant access to themselves in the RA role is requisite for excellent performance serves as stressor. This sense of "required giving" of time can be exceptionally draining. As Sol Lopez puts it,

> Of course, I'm going to give them [residents] my all, but I feel like a battery that hasn't been recharged. I've just been giving and giving and giving and giving. I've even told my supervisors that I feel like a dead battery at the end of the day.

With this in mind, it is evident that higher education practitioners not only have work to do to help build general student resilience, they also have an obligation to safeguard the resilience of student leaders while assisting them in maintaining a positive attitude about their roles and not succumbing to compassion fatigue or burnout.

Discussion, conclusion, and recommendations

Swanbrow-Becker and Drum (2015) provided a call in the extant literature to explore the impact of intervention stress on RAs, as well as the need for building a sense of community among RAs for problem-solving, enhancing mentoring and developing peer coaching strategies.

While cited scholars take an etic viewpoint of resilience, the study participants here provide an emic viewpoint providing more personal insight into the challenges of coping in their roles and how they indeed persist and problem-solve in dealing with their own stressors, while also striving to mentor in their roles serving in essence as peer coaches for the students in their charge. Study interview questions probed the participating RAs to glean the impact of stress and secondary trauma on their own resilience. Findings indicated that these RAs felt that the demands of their roles, a lack of time, and the pressure to constantly serve others were their primary stressors. Connected responses revealed that RAs could bounce back from these matters by understanding and

employing resilience. The RAs collectively corroborated that resilience is personal and looks different for everyone. Overarching themes of individual perseverance, committed engagement, and investment of time were evidenced.

The "boots on the ground" perspective about the realities of serving as an RA provide important insights. These perspectives include being heedful of one's own self-perception and self-efficacy to bounce back, as Sol noted, or maintaining a personal coaching strategy to encourage oneself to continue to move forward, as shared by Jay. Additionally, Drew spoke to the need for having a personal mindset and commitment about maintaining resilience by never allowing himself to "fall off the horse" in the first place. Additional sub-themes shared by the informants, including the need to recharge, show vulnerability, and, recognize publicly the value of their own failure. While appropriately recharging serves as a protective factor for RAs, showing vulnerability and serving as an example and role model impacts the resilience of residents and provides the latter with a living resource to consult. Furthermore, and as demonstrated by the responses in this project, RAs are strong-minded, empathetic, and most importantly, realistic. By acknowledging that their experiences in their roles as RAs is "not all sunshine and rainbows," they invite others to investigate the position's nuances to greater understand its effect on residential student resiliency.

Additionally, the perspectives of the study participants contribute to the limited extant literature on the insider perspective of RAs. Based on the insider perspective of these RAs, the lead researcher concluded that resilience may be viewed as a melting pot of personal attributes and psychological characteristics that come together to enable a person in this RA role to consistently maintain a level of perseverance and preparedness. The student leaders working in RA positions who shared their personal stories of lived experiences of their work in the role demonstrates the significant impact that RAs have in helping other students build their resilience.

Moreover, the data shared here provides a resource for higher education student affairs professionals to prioritize and take notice of a realistic understanding and genuine appreciation of the student journey

in RA roles as well as their unique needs while serving in these roles. Lynch (2017) indicated that professionals in helping job type roles often experience secondary traumatic stress, and this study highlights the need for student affairs professionals to heed these concerns.

While this inquiry took significant measures to bring the RA experience to life and to contribute to the research literature, additional future investigation is warranted beyond this small-scale study to learn even more about the RA role and student resilience and how to create campus communities that support building student resilience. Undoubtedly, there is more to unravel regarding the positive impact that RAs have on college campuses. It is clear that RAs provide invaluable peer support and represent a unique population of strong, inspiring, and resilient students themselves.

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Curriculum

20

The Civil Curricular Frame: A common grounding for teacher curricular agency

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Abstract

This chapter presents a new curricular focus from which teachers can make pedagogical and curricular choices. The Civil Curricular Frame presents a midway between rigid traditional curriculum and cynical modern curriculum. This curricular frame is grounded in two key concepts– the public sphere and curriculum theory. The Civil Curricular Frame provides an avenue for teachers to consider what knowledge is worth keeping regardless of the educator's personal curricular philosophy. The frame has teachers answer a single question: how does this knowledge help create, sustain, and improve society for the next generation? This question and frame reposition the teacher as a valuable link between disciplinary academic knowledge, official curriculum, and student learning.

The Civil Curricular Frame: A common grounding for teacher curricular agency

In May 2020, U.S. President Donald Trump issued an executive order related to alleged censorship of conservatives on social media. The order made the following point about modern discourse:

> Today, many Americans follow the news, stay in touch with friends and family, and share their views on current events through social media and other online platforms. As a result, these platforms function in many ways as a 21st Century equivalent of the public square. Twitter, Facebook, Instagram, and YouTube wield immense, if not unprecedented, power to shape the interpretation of public events; to censor, delete, or disappear information; and to control what people see or do not see. (Trump, 2020)

Indeed, these platforms have been criticized for their potentially outsized role in shaping the 2016 election and spreading propaganda and so-called fake news. Even worse, these spaces have been criticized for accelerating epistemological unrest—in other words, a radical skepticism toward compatibility of worldviews, the scientific method and the very concept of truth itself. Importantly, when Trump invokes the "public square", he calls upon an Enlightenment-era and classically liberal belief in the importance and sanctity of the free exchange of ideas (Postman, 2000). This idea is reflected in the terms *agora*, *soapbox*, *protest*, *forum*, *marketplace of ideas*. In each case, there is an associated space—physical or otherwise—where speakers can discuss, assert, and challenge with varying emphasis. While the discussions in these spaces are often related to state and policy questions, they also speak to a degree of separation from state and policy power. Ideas are asserted, defended, and adopted in these spaces—when they function well—that can then inform politics, morality, and private choices. These concerns are mirrored by curricular and pedagogic scholarship. Education scholarship has often asserted the importance of the relatively free exchange of ideas within democratic society (Dewey, 1927/1954, 2016) as well as the ability of students to speak back to power structures and assert more equitable distributions of economic and other resources (Aronowitz & Giroux, 1993; Cochran-Smith et al., 2018; Zeichner et al., 2015).

Despite the connections between public schooling and democracy, the actual practice of teaching is often conceptually and practically divorced from what was one of the animating goals in the creation of American public education—ensuring a democratic society would remain. We argue that teachers are caught in a curricular bind. Their professional agency has diminished to the degree that curricular choices have been taken from them by neoliberal policy interventions, including public school privatization, increased high-stake accountability, and alternative certification routes for teachers that bypass traditional colleges of education (Anderson & Cohen, 2015; Ravitch, 2013). But the scholarship of what and how teachers should teach has often, ironically, curtailed teachers' curricular agency. Traditional curricular philosophies position knowledge as already created, ensconced in great books and the academic disciplines in which the teacher is simply dilatant. On the flip side, reconstructionist curricular philosophy—especially in the form of critical pedagogy—can sometimes position the teacher in a hopeless position, at the beck and call of structural forces pulling from beyond the classroom.

This chapter argues that a new curricular focus can help teachers coordinate their pedagogical and curricular choices across disciplinary and philosophical boundaries. This new frame provides a middle path between rigid tradition and radical cynicism. Our proposed Civil Curricular Frame repositions the teacher as an important link between disciplinary academic knowledge, officially sanctioned curricula, and student learning geared toward participation in public forums. This frame is informed by two key concepts—the public sphere and curriculum theory. The former concept entails a space of social life where persons can freely debate, discuss, and deliberate about social and political problems. The latter concept entails a concern with the types of educational and scholastic experiences, knowledge, and skills that, in a democratic society, support the functioning of individuals in the public sphere and broader economic and political life. Working backward from those concepts, we argue that the way teachers think about how and what they teach—the enacted curriculum—should be rooted in a set of practices oriented around allowing full participation by all citizens and

stakeholders in discussions that impact questions of social importance—a functioning public sphere.

We begin with an overview of the cultural and political problems within which teachers operate. Specifically, we outline why critical pedagogy sometimes promotes cynicism while also not providing the grounds for the creation of a society worth caring about. We will briefly discuss the critical questions in curriculum theory and introduce our conceptualization of the Civil Curricular Frame. We believe this investigation sits at the intersection of important curricular research and current issues in education.

The context for the curricular frame

Our curricular model is grounded in three essential beliefs: (1) the belief that the world can be made a better place for human thriving; (2) schooling is a key institution to enacting a working public sphere; and (3) that teachers are capable and, indeed, best qualified to conduct curriculum that puts into practice the previous two goals. The curricular frame emphasizes the word "civil" to move past a purely political—or civic—motive for education. Political empowerment is a laudable goal for American schooling. Following the theory of the public sphere of Habermas (1962/1998), the development of a functioning public sphere requires schooling to consider not only political power structures, but economic, media, and community/identity structures at the social level. A functioning public sphere also requires attention to the intellectual, empathic, and communicative abilities at the individual level. In sum, we argue that the creation, sustenance, and improvement of a worthy society is a necessary precondition for any form of progress.

A key distinction is between the terms civic and civil. We take the former as a concern with state and institutional power, especially as curriculum is geared to equipping students with skills and knowledge related to navigating the manifestations of institutional and state power; for example, understanding legislative process, the branches of government, and the foundations of democratic practices. The term civil, by contrast, we emphasize a larger domain of concern. We take this to connect with the process by which individuals can form publics, groups with some

degree of autonomy from economic and political influences (Hansen, 2008), to discuss issues of public importance. Of course, schooling is implicated in politics and economics in that it has to do with the adjudication of finite resources and resolving disputes between the desires of groups and individuals. While students should be well-versed in issues of political and economic process, the reduction of education to politics is reduction too far. Thus, education is always political, but it is not solely political—especially in the simplified terms of politics as entrenched partisanship in any given temporal and social context.

The distinction between civic and civil is related to the direction of some curricular work that tends to diminish the possibility of forming various publics. Indeed, a recurring theme in curricular research is the deployment of critical theory and critical pedagogy. While there is no single, precise definition of criticality, most conceptualizations involve an emphasis on liberating individuals and marginalized groups from systems of oppression (Breuing, 2011). However, it has been noted that when critical theory is applied to the practice of schooling, it can reify simplistic determinisms, demotivate teachers and impede some of the central tenants of liberation that critical theory itself advocates.

Pedagogical cynicism

Critical scholarship in education has been instrumental to developing awareness of social injustices among researchers, administrators, and teachers. Concerns with racial, gender, linguistic, religious, and ability equity are imperative for educators to address through curricula and instructional practices. However, applied uncritically, critical scholarship itself can perpetuate beliefs, discourse, and actions that disempower. At the most abstract, critical pedagogy can re-impose the sorts of epistemological certainties critical pedagogues themselves abhor. Grande (2004) points out that two integral concepts of critical pedagogy, interrogation and transformation, can conflict with the epistemic perspectives of marginalized groups. Grande argues these practices can "encode the same socio-moral markers of a colonialist consciousness intent on extinguishing 'traditional' (sacred) ways of knowing with ostensibly more 'progressive' (secular) understandings of the world" (p. 83).

The Civil Curricular Frame: A common grounding for teacher curricular agency

Teachers are caught in the middle of theoretical debates that sometimes diminish their agency. For example, scholars have noted that critical writings can shift deficit mindsets toward teachers and demotivate practitioners. Additionally, in a literature review of scholarly articles on critical pedagogy, Pittard (2015) found that a teacher who aspires to implement critical pedagogy through the related academic literature "is almost three times as likely to read an article producing her as unable to engage [critical pedagogy] than she is to read one encouraging her to at least try" (p. 341). Similarly, Jones (2009) argued that:

> The persistent construction of teacher education students as lacking in one way or another… paints a bleak picture for these students (as well as their professors), their futures as educators, and, given their massive representation in the teaching force – of United States education…Much of contemporary literature in critical… and critical literacy pedagogy…would balk at such a construction of K–12 students, and yet we (education professors and scholars) may find ourselves caught up in the very deficit discourses in our practices with education students that we challenge so passionately for their younger counterparts. (p. 235)

Some college-level instructors who have applied critical lenses to their curricular choices have questioned the outcomes of that instruction. McKenzie and Jarvie (2018) argue a common form of using critical literacy can cause students to enact a suspicious reading of texts—that is, an interpretation that "positions the reader as a detective and the text as a suspect… one full of clues that the reader must follow to discern the nature and extent of the text's transgressions" (pp. 304–305). This suspiciousness is often warranted. Students and teachers will encounter texts and messages that are obviously or obliquely predicated on unjust and oppressive ideas. As McKenzie and Jarvie learned in their instruction, utilizing critical theory, pedagogy, and literacies to the exclusion of other ways of knowing is itself oppressive. Even worse, over applied, critical tendencies can prompt students and teachers to move beyond a healthy skepticism an into cynicism. At stake is not only the intellectual give-and-take of teaching and curriculum that rightfully critiques

injustice. Over applied criticality can undermine the very conditions for undertaking shared projects. Thoilliez (2019) argued:

> The main problem with 'critical pedagogy' is that it wears down the hopefulness that every pedagogical undertaking demands. By over-criticizing pedagogy by solely attending to the structures surrounding educational settings as well as to their results, we blur the core of the phenomenon of education. (p. 453)

In short, the insights of critical theory, critical pedagogy, and critical scholarship are needed in an inequitable and unjust society such as ours. However, when those insights are implemented, they can themselves lead to problematic outcomes. Insofar as these concepts weaken the belief of teachers and students in the worthiness of education and the potential for what Dewey (1927/1954) called a "Great Community," they are not sufficient tools to address many of the problems facing schools today. Most important of these issues are the needs of a multicultural and pluralist democracy. Critical theories from their inception have worked to provide insight into social situations such as differences in outcomes and experiences for individuals based on class, race, gender differences. But when those social insights become reductive, they tend to diminish individuals' agency. Again, a degree of nuance is in order here. We are arguing that critical pedagogy is an important theoretical and educative framework. What we hope to emphasize is that both sides of the term must work in tandem—the *critical* acumen of teachers and students must be harnessed to the *pedagogical* imperative—to enable individuals to enact more humane understandings and interactions with other individuals, with nature, and with larger social structures.

The public sphere

If critical pedagogy tends to emphasize structures that weaken the potential for collaborative thought, Jurgen Habermas' (1962/1998) formulation of an ideal public sphere points the opposite way. Habermas tried to thread a needle between postmodern skepticism toward all knowledge and what he identified as an antimodern Neoconservative impulse (Habermas, 2012). His doctoral thesis, *The structural transformations of the public sphere* (1962/1998) outlined the development of a communal

political consciousness within the European bourgeoisie, a space where admittedly privileged individuals enter into discourse with others for the purpose of arguing public policy and advocating for the common good.

Early in the modern period, the political state was coalescing into something resembling the form we know today. Simultaneously, new forms of capitalist production and dissemination of goods, services and information transformed European societies. These two pillars, state power and economic power, would define the poles and impediments of the coming public sphere. For Habermas, these developments facilitated the backdrop for a check on sovereign authority, a "liberal public sphere ...in which critical public discussion of matters of general interest was institutionally guaranteed" (Habermas, 1962/1998, p. xi). The outcome of these various discussions was public opinion. Public opinion would have the space to develop and be deployed when the interests of the bourgeoisie came into conflict with those of the state, reflecting a will to rationalize "public authority under the institutionalized influence of informed discussion and reasoned agreement" (p. xii), aspects that remain critical to dominant conceptions of democracy to this day.

For educators, the public sphere presents an ideal—a set of nested groupings of individuals willing to come together as various publics to consider what was best for the common good. We can understand this common good as the broadest social consciousness of interest groups. An interest group is formed when members of that group recognize their affiliation with each other and represent their own needs and desires to other groups. Interest group activism is thus efforts to fulfill those needs and desires. The common good is thus the understanding of what fulfilling those needs and desires will mean for other individuals and groups. Importantly, for both Dewey and Habermas, free inquiry and honest and open exchange of ideas is the key to individuals and groups understanding the spillover of their political and economic efforts. Of course, a key critique of Habermas' public sphere is that it had a very narrow definition of membership. As alluded to above, participation was limited to patriarchs—middle-class and affluent males who owned land and headed a family. Nancy Fraser (1990), for example, has critiqued the inequity of representation in the ideal public sphere. The bourgeois

public sphere excluded women and minorities, a point which Habermas concedes. What is more damning in Fraser's account is the assertion that Habermas' public sphere relies on a "zero degree culture." That is, a discursive space "so utterly bereft of any specific ethos as to accommodate with perfect neutrality and equal ease interventions expressive of any and every cultural ethos" (p. 64). The second part of her quote is the important one in this context: what are the discursive demands placed on participants in the public sphere? Beyond the obvious need for compatible language, participants must either ensure that all members use roughly the same dialect and argumentation patterns and logic, or they must ensure robust redundancy to allow nonconforming speech to be adequately understood within the group.

While a difficult ideal to realize, the fostering of the individual and collective capabilities of sustaining public spheres provides an important map for educators. A guiding element of teacher practice across grades and disciplines could be the inculcation of knowledge and skills required to create and take part in robust, inclusive public spheres. The classroom serves as an ideal space to foster students taking on the identity and role of thoughtful, principled, concerned citizens. We advocate that the public sphere can serve as an ideal type, a guide to assist teachers in pedagogical choices for their students. This ideal type can guide teachers in making informed pedagogical and curricular choices regardless of their curriculum ideology.

Defining the curriculum question

Defining the term "curriculum" is not an easy task or practice. The field of curriculum studies is engaged in a constant ideological and definitional struggle (Wraga & Hlebowitsh, 2003). At the center of this ideological and definitional debate are issues of philosophy. Philosophy acts as a guiding principle for deciding what subjects are valued and taught, the purpose of schooling, instructional methods, and how students learn (Ornstein, 1990). Therefore, the definition of curriculum and what is included in the curriculum is contingent on the developer's educational philosophy. The predominant educational philosophies guiding curriculum—Perennialism, Essentialism, Progressivism, and Reconstruction-

ism—grant a different set of answers to the fundamental curriculum question, "What knowledge is of most worth?" (Hunkins & Ornstein, 2018). For example, the perennialist argues the great works of Western philosophy should be valued over other types of knowledge; the essentialist argues for essential skills (reading, writing, arithmetic) and other core subjects; the progressive argues for addressing student interests and student-centered learning; and the reconstructionist is concerned with addressing issues involving race, class, and power.

These curricular philosophies can be understood as operating on a binary. On one side are perennialist and essentialist notions of curriculum, and on the other are progressivist and reconstructionist notions of curriculum. Hirsch (1996) describes this binary as "traditional" and "modern" curriculum, while others have described it as "subject-centered" and "student-centered" curriculum (Ornstein, 1982). The traditional forms of curriculum philosophy are concerned with subject and content matter, while their counterparts, modern forms of curriculum philosophy are concerned with student interests, needs, and social issues. Critics of both traditional and modern curricula exist and make valid critiques. Previously, we outlined the potential of modern curriculum, specifically reconstructionist philosophy, particularly in the form of critical pedagogy, to promote cynicism. If in its most problematic manifestations, critical pedagogy distorts the potential for the survival of a common culture, more traditional philosophies take the opposite tact—enshrining knowledge as already digested and packaged, positioning teachers as simply peddlers of this received wisdom.

While these ideological and philosophical questions are important, they are removed from the curriculum that takes place in the classroom. Instead, we focus on one of the five concurrent curricula (Posner, 1996): the operational curriculum. The operational curriculum describes what occurs in practice through the process of teaching (Remillard & Heck, 2014b). Goodlad, Klein, and Tye (1979) add that the operational curriculum is the curriculum that is being presented to students at a given moment in the classroom. In other words, it is "…what teachers actually do in their courses once they close the door of their classrooms" (Schugurensky, 2002, p. 3).

The operational curriculum, as conceptualized by Remillard and Heck (2014a), consists of three curriculum components: the teacher-intended curriculum, the enacted curriculum, and student learning (see Figure 1). As teachers interpret state standards and requirements, they begin to plan lessons with their students in mind. This component of the operational curriculum consists of teachers' perceptions of official curriculum documents (Goodlad et al., 1979) and their plans for instruction (Remillard & Heck, 2014a). The second component of the operational curriculum, the enacted curriculum, consists of the "Educative experiences for the students" (Zhang and Hu, 2009, p. 126). In essence, this component describes the actual interactions between students and teachers as teaching takes place. Student learning, the final component of the operational curriculum, describes what students experience (Goodlad et al, 1979) and learn (Remillard & Heck, 2014a) in the classroom.

Figure 1
Curriculum framework
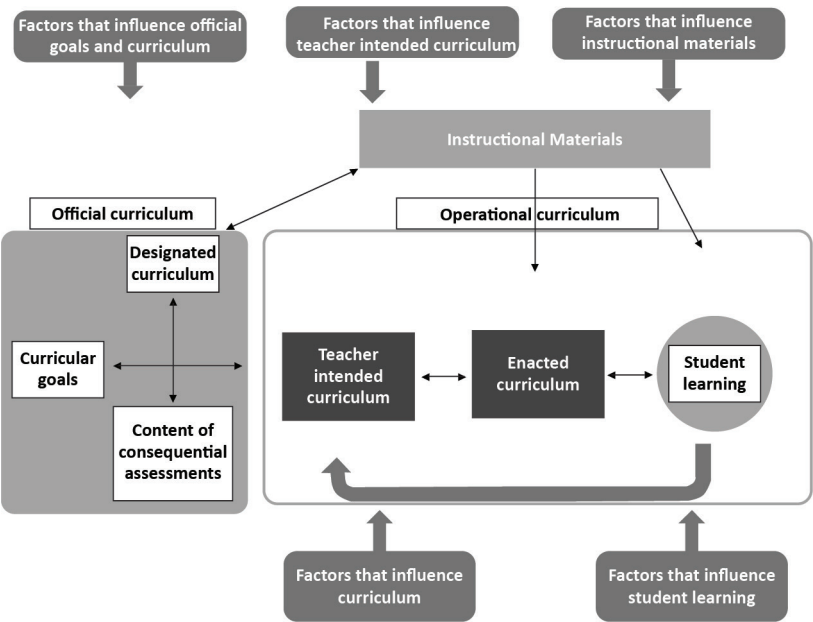
Source: Remillard and Heck (2014)

To summarize, the operational curriculum consists of what teachers plan to teach, what they teach, and what students learn.

By conceptualizing curriculum through teachers' enacted practice, we are removing ourselves from the contentious philosophical debate of curriculum and situating ourselves within the teachers' domain. We propose introducing to teacher practice a curricular frame which, regardless of educational philosophy, discipline, or level (i.e., primary, secondary, or higher education), provides a process for considering what and how content is taught in the classroom. In the next section, we discuss the curricular frame in more depth.

The Civil Curricular Frame

One avenue for thinking beyond the stagnation of traditional curricula and cynicism of modern curricula is to consider the question is: *What is worth saving?* (Hodgson et al., 2017). Through this pedagogical practice, educators are empowered by society and the state to return to the act of educating. No matter the particular philosophy to which an educator may subscribe, no matter how corrupt or unjust that teacher may find the contemporary world, that educator must, by professional as well as functional role, believe there is something worth passing on to their younger learners. There must be some basis for hope, some form of belief in a better world to which their work contributes in some small way. As outlined above, in its radical variants, critical theory has reduced its own *raison d'etre*—the creation of new more equitable and just social structures. On the other hand, the traditionalist curriculum looks to the past to the exclusion of the contemporary experiences of students. Teachers are caught in the middle of the heated political, philosophical, and personal debates about what to do to enable the possibility of a better future. These debates, especially as they tend to enact structural arguments, often fall back into arguments for radical changes to the society inconsistent with a belief in the possibility of reform (Rorty, 2003). We propose a curricular frame that both re-centers the possibility of a better social organization and empowers teachers to enact curricular choices that align with a simple, durable belief in the potential of the public, as outlined by Dewey (1927/1954) and Habermas (1962/1998).

Our curricular model is grounded in three essential beliefs: (1) the belief that the world can be made a better place for human thriving; (2) schooling is a key institution to enacting a working public sphere; and (3) teachers are capable and best qualified to conduct curriculum that puts into practice the previous two goals. The curricular frame empowers teachers to make curricular decisions grounded by its key question: How does this knowledge or skill create, sustain, or improve society for the next generation? Previously, we outlined our understanding of curriculum as what is enacted in the classroom. This conceptualization of curriculum consists of three components (see Figure 1): what teachers plan to teach; what teachers teach; and what students learn. Our curricular frame is inserted during the teacher intended curriculum phase; or while teachers are planning what they will teach in their classroom (see Figure 2).

Figure 2
Operational curriculum and the curricular frame
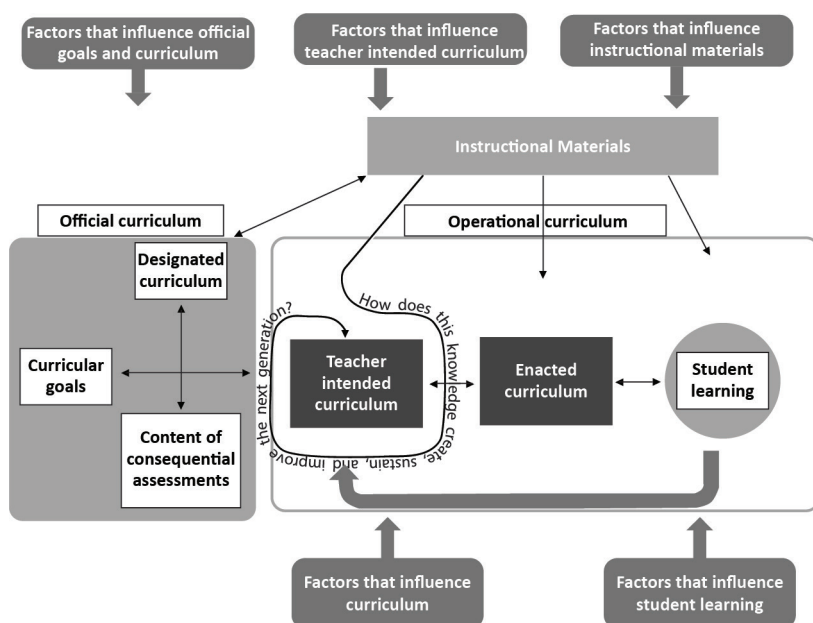
Source: Remillard and Heck (2014)

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The Civil Curricular Frame: A common grounding for teacher curricular agency

Situated within the planning process, our frame empowers teachers to make curricular choices by answering how the content and practices create, sustain, or improve society. When teachers incorporate the curricular frame, they engage in a process of creating and enacting their own curriculum framework. The development of this framework provides teachers with a common language to engage in conversations about curriculum with their peers. Additionally, the framework is capable of being applied across disciplines and curriculum philosophies. Regardless of discipline (i.e., mathematics, English language arts, biology, etc.) or philosophy (i.e., traditional or modern), teachers share the common goal: the improvement, sustenance, and maintenance of our society and the fostering of a functional public sphere. The curricular frame provides an avenue for achieving this goal.

Conclusion

At the level of curricular theory, the Civil Curricular Frame re-emphasizes the need to empower teachers to enact curriculum that promotes the beliefs, knowledge, and skills needed by individuals to come together as publics concerned with the common good. Adherents of all four curriculum philosophies—reconstructionist, progressive, essentialist, and perennialist—can ultimately find some common ground in the basic beliefs for a public sphere and education that aims to create, reform, and maintain a society worth presenting to succeeding generations. For teachers, the curricular frame provides both an ideal—preparing students for participation in the public sphere—and a basic, foundational goal through which the teacher can understand her/his curriculum, as well as the curriculum of her/his fellow teachers and school.

This brings us full circle to the continued cultural chaos represented in the Trump executive order mentioned at the beginning of this chapter. Although the Trump administration has left the White House, the criticisms of social media and other online platforms remain. Given contemporary political tribalism, strife between identity groups, and the fractious nature of online discourse, teachers in public schools need to refocus on the most foundational aspect of their role in public schools: supporting students' ability to create durable publics. Whatever one's

civic and political beliefs, the belief in the need for a space for robust conversations crosses ideologies. For teachers, the continued sustenance, reformation, and reinterpretation of the public is of utmost importance.

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Examining the impact of physical activity time on academic achievement among 3rd graders

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Abstract

Complex intersections exist between physical activity, academics, and fitness, which operate between research, policy, and practice. One of the most researched intersections considers whether children perform better academically when there is time dedicated to physical activity. To date, no research has investigated the impact of the three most commonly observed weekly physical activity periods (135, 225, and 300 minutes) in Texas public schools on academic achievement. Applying an ecological multilevel perspective, such as that found in socio-ecological modeling (SEM), provides a holistic understanding of policy and practice and how they shape and affect student engagement with physical activity. Although the results of this study are mixed, it is hard to argue that increased physical activity time does not influence academic achievement. Physical education programs may not have the oversight necessary to ensure how and when students receive physical activity.

Examining the impact of physical activity time on academic achievement among 3rd graders

Physical activity in elementary school is an important factor related not only to student success in school, but longer-range benefits of fitness and wellness (Centers for Disease Control and Prevention [CDC], 2014; Perna et al., 2012). The CDC (2014) and others (American Academy of Pediatrics, 2018; U.S. Department of Health and Human Services, 2018c) recommend elementary-aged children get at least 60 minutes of daily physical activity, or 300 minutes per week. Considerable evidence suggests developing a physically active lifestyle at an early age can help to increase health by decreasing childhood obesity, depression, anxiety, diabetes, and cardiovascular disease (Barlow, 2007; Haegele et al. 2018; U.S. Department of Health and Human Services, 2018b). Other benefits of physical activity for children include improved behavior in the classroom, better school attendance, enhanced academic performance, and more highly developed memory and problem-solving skills than their less active and less fit peers (Institute of Medicine, 2013; Tomporowski et al., 2008; Trudeau & Shepard, 2008).

Despite the recommendations and empirical studies, educational policy and administrative practice often ignore findings that suggest the amount of physical activity time is a known predictor of increased academic performance (Singh et al., 2012). This is evident in studies such as Perna et al. (2012), who found that across the nation, no states reported that their elementary schools consistently averaged more than 60 minutes of physical activity per week. Troianao et al. (2008), using findings based on the 2003–2004 National Health and Nutritional Examination Survey, reported only 42% of children age 6–11 met the recommended physical activity guidelines of 60 minutes every day.

In some states physical activity policy allows school and district officials' discretion and flexibility in scheduling to meet the required state prescribed amount of physical activity time. For instance, in Texas (where this study took place), students below Grade 6 are expected to participate in moderate or vigorous physical activity for at least 30 minutes per day (as either part of the physical education curriculum or through structured activity during a daily recess. In turn, schools are required, on a weekly basis, that "at least 50% of the physical education class be used for actual student physical activity and that the

activity be, to the extent practical, at a moderate or vigorous level" (Texas Education Code §28.002(d)(3)). As a result, a district and/or campus may use a weekly calculation of 135 minutes for student participation rather than the daily 30 minutes. However, regardless of the calculation, these formulas fall short of the recommended average of 60 minutes per day or 300 minutes per week of physical activity for peak benefits in fitness, academics, and wellness (Carlson et al., 2013; CDC, 2014; Esteban-Cornejo et al., 2017; Society of Health and Physical Educators (SHAPE), 2016).

Still, some elementary school campuses in Texas do provide students more than the legally mandated 135 minute/week minimum by exercising flexibility in local policies. Some districts like Austin Independent School District (AISD), Dallas Independent School District (DISD), and Houston Independent School District (HISD) enable elementary schools to achieve 300 minutes of physical activity per week by mandating 30 minutes of daily recess in addition to their regular daily schedule of 45 minutes of physical education class (EHAB Regulation, AISD, 2017; EHAB Legal, DISD, 2016; EHAB Regulation, HISD, 2012). Other districts in Texas, such as Corpus Christi Independent School District (CCISD) and Richardson Independent School District (RISD) use a standard legal policy for physical activity guidelines (EHAB Legal, CCISD, 2016; RISD Health FAQ, 2016). While CCISD and RISD have not adopted a local policy, the legal version of the policy allows individual campuses to choose how they will obtain the state mandate of 30 minutes of daily physical activity (or, 135 minutes per week) and in some cases, administrators will work into the school schedule physical activity time that fall between the required 135 minutes and the optimal recommended time of 300 minutes.

Statement of the problem

The concept of physical activity, the amount of recommended time, and their impact on academic achievement have been highlighted by major organizations such as the United States Department of Health and Human Services (2018a), the CDC (2014), and SHAPE (2016). Furthermore, research conducted by Perna et al. (2012), Barlow, (2007),

Haegele et al. (2018), Chomitz et al. (2009), and Esteban-Cornejo et al.
(2017), among others, supports the idea of scheduling physical activity
during the school day. These studies indicated students need physical
activity to improve academic achievement.

The legal version of the education policy in Texas allows indi-
vidual campuses to choose how they will obtain the state mandate of
30 minutes of daily physical activity (or 135 minutes per week). Some
elementary school campuses in Texas provide students 225 minutes and
300 minutes, more than the legally mandated 135-minute minimum,
by exercising flexibility in local policies and administrative discretion.
To date, no research had investigated which of the three most common
weekly duration periods of physical activity has the greatest impact on
student academic achievement.

Purpose of the study

The purpose of the study was to examine the impact of physical activity
time on academic achievement in mathematics and reading, as measured
by the State of Texas Assessments of Academic Readiness (STAAR)
among 3rd grade students in a large city school district in South Texas.

The study was guided by the following research questions:
1. Does the amount of physical activity impact standardized
    academic achievement in mathematics among 3rd graders?
2. Does the amount of physical activity impact standardized
    academic achievement in reading among 3rd graders?

Theoretical framework

The theoretical framework used in this study was the social-ecological
model (SEM), which focuses on the social, institutional, and cultural
contexts of people and their relationships to their environments (Bron-
fenbrenner, 1977, 1989, Bronfenbrenner & Morris, 2007; Stokols, 1992,
1996). The original nesting model is referred to as Bronfenbrenner's
ecological systems theory and includes five environmental systems that
a child encounters throughout his/her lifespan.

These five systems include the microsystem—the smallest and most
immediate environment in which the child lives (e.g. home, school,

daycare); the mesosystem—interactions and connections between different microsystems (e.g. linkages between home, school, family, and church); the exosystem—which consists of two or more settings where one is environment which may still affect the child indirectly (e.g. parents' workplace, larger neighborhood, extended family); the macrosystem—the largest and most distant collection of people and places; and the chronosystem—the dimension of time which influences both change and constancy in the child's environment (e.g. change in family structure, parental employment). In 2005, Bronfenbrenner added public policy, which comprises policy and laws, to the outer most environment of the SEM.

According to Stokols (1992, 1996), applying an ecological multilevel perspective such as SEM is crucial to gaining a holistic understanding of policy and practice enactment. This study included policy and practice that allowed different campuses within one district to dedicate different amounts of time for students' physical activity. The use of SEM as a theoretical frame allows for four assumptions: (a) physical activity engagement is multi-faceted concerning both the physical environment and the social environment, (b) environments are multidimensional and complex, (c) human-environment interactions can be described at varying levels of organization, and (d) the interrelationships between people and their environment are dynamic.

For the purpose of this study, and to the extent possible within this study, policy environment refers to legislation that has the potential to affect physical activity within a school. Important to this study is understanding how policy can take form in local, state, or school board action, or campus oversight (Mehtälä et al., 2014; Ward, 2016). Applying SEM as a theoretical frame allowed the researcher to organize the discussion and provide recommendations relative to policy and practice enactment, based on the findings.

Significance of the study

In 2018–2019, 1,247 school districts in Texas could have possibly benefited from the results of this study. This study aimed to contribute to our understanding of associations among physical activity time and

academic performance of 3rd grade students enrolled in three different campuses in a large city school district, an approach that has not been adequately researched. The study has the potential to provide school district leaders, campus administrators, and educational policymakers with findings about the impact of physical activity time on students' performance on STAAR reading and mathematics.

Literature review

Legislative activity

The NCLB Act of 2001 has likely contributed to current incidences of erratic and reduced physical activity time (Burton & VanHeest, 2007; Mahar et al., 2006). If schools or districts did not meet annual standards, provisions in NCLB would require rigorous corrective actions. Unfortunately, when corrective actions are placed on schools or districts, it is often at the expense of physical education classes and recess. For instance, Cook (2004), stated schools in Clark County, Nevada eliminated 15–20 minutes of recess to accommodate "today's testing and assessment climate" (p. 7). Legislative mandates and administrative decisions associated with a culture of standardized testing have resulted in more school time devoted to academic instruction and tutorials and less time dedicated to physical activity and wellness (Burton & VanHeest, 2007). In fact, for many elementary students, physical education class is the only outlet they have to obtain physical activity during the school day (Chomitz et al., 2009). As a way to increase instructional time, many school districts have opted to eliminate recess and in-class physical activity in favor of mathematics and reading (Cook, 2004; Mahar et al., 2006).

Budget reductions

When school districts are forced to reduce budgets, the first department to see drastic cuts is often physical education. This was the case for the San Diego Unified School District in 2017, having to address a $124 million dollar budget gap (Long, 2017). Similar cuts were experienced by the physical education staff in the Portland Public School District in Oregon and public school districts North Carolina (Long, 2017). These

state and local education agencies stated they needed to reduce school budgets and try to remain academically balanced (Long, 2017). These are neither new nor isolated events. When money has been available at state and local district levels, policymakers have found value in offering physical activity, stating it was indispensable to the health of students (Newman & Miller, 1990).

Physical activity, environment, demographics, and the testing culture

Associations between physical activity, environment, demographics (race, ethnicity, and socio-economic status), and the testing culture are multifaceted. Despite the myriad of health benefits for children who engage in 60 or more minutes of daily moderate to vigorous physical activity, inactivity remains a significant public health concern. Children and adolescents can spend upward of half of their waking hours in school and in some cases accumulate up to 40% of their daily physical activity at school (Hobin et al., 2010). Thus, school becomes a critical environment to not only promote physical activity behaviors but ensure access and opportunity for children to engage in structured and unstructured physical activity.

Children who live in rural communities are less likely to be physically active than their metropolitan peers (Lutfiyya et al., 2007). According to Bronfenbrenner and Morris (2007), schools in rural communities may be one of the few places policy and environmental interventions could impact children and adolescents outside the home. Similarly, high-poverty minority groups do not get adequate physical activity (Cohen et al., 2017), leaving schools uniquely positioned to provide means and ways for increased physical activity. However, students and schools in low socio-economic communities struggle. For instance, Hispanic children in Texas are disproportionality represented among those living in poverty and are more likely to not have access to healthy foods or green spaces (Hutson, Guerra, & Neckerman, 2009; Lovasi et al. 2009).

Research design

The study employed an ex-post facto, causal-comparative research design (Gall et al., 2015), which is conducted to examine differences

among groups that differ on the independent variable based on the dependent variable(s). Due to the non-experimental nature of the design, no causal inferences were drawn.

In this study, the independent variable was the physical activity time with three levels: (1) 135, (2) 225, and (3) 300 minutes of physical activity per week. The characteristics-present group was the one receiving 135 minutes of physical activity, the minimum TEA mandates for the state of Texas. The comparison groups had received 225 and 300 minutes of physical activity. The outcome measures were the STAAR mathematics and reading achievement scores.

Methods

Subject selection

The subjects for the study were recruited from three elementary schools, hereafter referred to as Schools A, B, and C, in a large city school district in South Texas. The study was delimited to the 2016–2017 academic year due to the availability of accurate physical activity data. The non-probability sample consisted of 70, 49, and 63 3rd graders in Schools A, B, and C, respectively. In the 2016–2017 school year, the campuses had similar demographics, as shown in Table 1. Schools A, B, and C had 626, 347, and 508 students, respectively. The overwhelming majority of students were Hispanic (School A, 92.80%, School B, 76.90%, and School C, 87.20%) and economically disadvantaged (School A, 94.90%, School B, 74.60%, and School C, 99.20%). The special education percentages were 8.60%, 6.10%, and 6.70% in Schools A, B, and C, respectively. The at-risk percentage for School A was 67.30%; B was 54.80%, and C was 66.70%. School A had the highest percentage of English Language Learners (ELLs), 21.20%, followed by C 7.30% and B 4.30%. The attendance rates for Schools A, B, and C were 94.80%, 95.80%, and 95.60%, respectively, and all were rated as "Met Standard" per the state accountability system (TEA, 2018a; TEA, 2018b; TEA, 2018c).

Table 1
A profile of the participating schools

	School A $n = 626$	School B $n = 374$	School C $n = 508$
Ethnicity			
Hispanic	92.80%	76.90%	87.20%
White	5.60%	17.00%	6.90%
African-American	1.30%	2.90%	5.70%
Special education	8.60%	6.10%	6.70%
At-risk	67.30%	54.80%	66.70%
English language learners	21.20%	4.30%	7.30%
Economically disadvantaged	94.90%	74.60%	99.20%

Notes: Weekly minutes of physical activity per school
            School A: 135, Characteristic-present group
            School B: 225, Comparison group
            School C: 300, Comparison group

Instrumentation

The STAAR tests are designed to measure what students have learned and to show if they are able to apply the knowledge and skills, as defined by the TEKS (TEA, 2017). For the purpose of the study, the 2017 STAAR total scores in mathematics and reading for 3rd grade students were used. The proportion of correct answers to the total number of questions was used to measure STAAR academic achievement.

Achievement in 3rd grade STAAR mathematics is measured by four (4) reporting categories and a total of 32 items. Reporting category one consists of eight (8) items and assesses numerical representations. Reporting category two (2) has 13 items and assesses computations and algebraic relationships. Reporting category three (3) is measured by seven (7) items and assesses geometry and measurement. Reporting category four (4) consists of four (4) items and assesses data analysis and personal financial literacy.

Achievement in 3rd grade STAAR reading is measured by three (3) reporting categories and consists of 34 test items. Reporting category one (1) contains five (5) items and assesses the understanding across genres. Reporting category two (2) includes 15 items that determine the understanding/analysis of literary texts. Reporting Category three (3) consists of 14 items that assess understanding/analysis of informational texts.

Reporting categories along with external validity have both been studied for passing criteria that established the STAAR standard expectations and informed the STAAR Standard Setting Policy Committee process (TEA, 2017).

Data analysis

Data were exported into the Statistical Package for the Social Sciences (SPSS), which was used for data manipulation and analysis (IBM Corp, 2017). Descriptive statistics were employed to summarize and organize all data, including frequency and percentage distribution tables, measures of central tendency, and measures of variability. The proportion of the total number of test questions answered correctly to the total number of questions in mathematics and reading was used to measure student achievement.

A series of one-way analysis of variance (ANOVA) was performed to compare the three schools based on the continuous data, namely, measures of academic achievement. Levene's F was used to test the homogeneity of variances assumption; Welch F was used to examine the mean differences if the assumption had not been met. Tukey's range test and Games-Howell procedures were used for the purpose of post-hoc analysis to determine if the assumption had or had not been met, respectively. Effect size was computed by $\sqrt{(k-1)F/N}$, where k is the number of groups, F is the F-ratio, and N is the total sample size, and was described as 0.10 = small effect, 0.25 = medium effect, and >0.40 = large effect (Stevens, 2009). Additionally, a series of one-way analysis of covariance (ANCOVA), with age as the covariate, was performed to examine group differences based on mean scores, adjusted by age, which was treated as a potential confounding variable. All ANOVA and

ANCOVA models were tested at the 0.05 level of significance. Field (2018) was used as the guide to conduct the investigation of the general linear models.

Results

Age differences among the three schools were statistically significant; however, age was not statistically associated with either the mathematics ($r = -0.14$, $p = 0.06$) or reading ($r = -0.06$, $p = 0.43$) scores; thus, it was ruled out as a confounding variable.

Academic achievement in mathematics was measured by the proportion of correct answers to the total number of questions; there were 32 questions. The homogeneity of variances assumption was met, Levene's $F(2, 179) = 0.82$, $p = 0.44$. A One-Way ANOVA showed that there were statistically significant differences among the three schools with respect to mathematic scores, $F(2, 179) = 5.14$, $p = < 0.01$. The Tukey post hoc pairwise comparisons of the means showed that School C ($M = 0.51$, $SD = 0.21$) was outperformed by both School B ($M = 0.63$, $SD = 0.20$) and School A ($M = 0.62$, $SD = 0.23$) and the differences were statistically significant. The difference between Schools A and B was not statistically significant. The effect size was medium (0.24).

Academic achievement in reading was measured by the proportion of correct answers to the total number of questions; there were 34 questions. The homogeneity of variance assumption was met, Levene's $F(2, 179) = 0.71$, $p = 0.49$, and a One-Way ANOVA showed that group differences were statistically significant, $F(2, 179) = 4.52$, $p < 0.05$. Specifically, post hoc analysis of the data showed that School B ($M = 0.62$, $SD = 0.20$) had the highest scores, followed by School A ($M = 0.55$, $SD = 0.23$), and School C, ($M = 0.50$, $SD = 0.21$). The difference between Schools B and C was statistically significant; the other pairwise comparisons were not statistically significant. The effect size was medium (0.22).

Summary and conclusion of results

Although some statistically significant differences were found among the three schools, no uniform pattern was noted, suggesting the

randomness of the findings. Based on the results, 3rd grade students who attended School C with 300 minutes per week of physical activity time did not outperform 3rd grade students who attended School B with 225 minutes or School A with 135 minutes of weekly physical activity time with regard to mathematics and reading. Third grade students who attended School B outperformed 3rd grade students at School A in mathematics and reading; however, the results were not statistically significant between the two schools.

Discussion and implications

While much of the literature has established the benefits of an average of 60 minutes per day or 300 minutes per week of physical activity in schools, the results of this study were mixed, if not random. Discussion points are presented in light of results of the study, existing literature, and the day-to-day school operations.

Competing initiatives

Multiple scenarios are possible for how each campus scheduled physical activity time while maintaining their reported physical activity time. For instance, no restrictions on the number of campus initiatives were present on any given campus, meaning time dedicated to physical activity (135, 225, or 300 minutes) may not be protected consistently (either weekly and/or through the school year). As such, campus principals may pursue academic initiatives rather than protect physical activity time to improve achievement for perennially underperforming students.

These scenarios may be explained by local, state, and federal initiatives that may impede physical activity time. No restrictions on the number of initiatives were present on any given campus, meaning time dedicated to physical activity (135, 225, or 300 minutes) may not be protected consistently (either weekly and/or through the school year). Academic initiatives, stemming from the NCLB Act of 2001 and state accountability policies, likely contribute to erratic and/or reduced physical activity time (Burton & VanHeest, 2007; Mahar et al., 2006). As such, campus principals may pursue academic initiatives to improve achievement for perennially underperforming students.

The bigger picture to be taken from this study is that physical activity/education programs may not have the oversight necessary to ensure how and when students actually receive physical activity. At the time of this study, each of the campuses had self-reported physical activity time. However, no evaluation or accountability is present at the district or state level to ensure that TEC §28.002(l) is being followed with fidelity. The immediate question that arises from this realization is: Are all 3rd-grade students at School B and School C actually receiving the amount of physical activity time that was self-reported by each of the participating campuses in the urban school district in South Texas? If not, that could possibly explain the inconsistency of the findings.

The SEM explains that policy, and how it is implemented, affects how students and individuals will engage in physical activity (Jensen, 2009; Sallis et al., 1998). If policy set at the state and amended at the district and campus level cannot be truly held accountable, then the amount of physical activity these students actually received is truly unknown. In this frame, School C's students may have not engaged in 300 minutes of physical activity per week, consistently, which may explain why the data from School C, and somewhat from School B, are not aligned with the majority of current research. From this study, district and campus administrators might realize how their actions, attitudes, and decisions about physical activity can have a very direct impact on how their students engage in physical activity.

Recommendations for future studies

Two recommendations for future research are offered. First, research employing ethnographic methods such as sustained field work and direct observation of the physical activity time students are engaging in at the schools should be conducted. Investigating the allotted physical activity time as well as the type of physical activity would take away any assumption that students were not being given what was reported by the schools and allow the researcher to explore how physical activity time is protected and utilized. A second study using an experimental approach examining the association between time and academic performance is suggested to control for administrator discretion.

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