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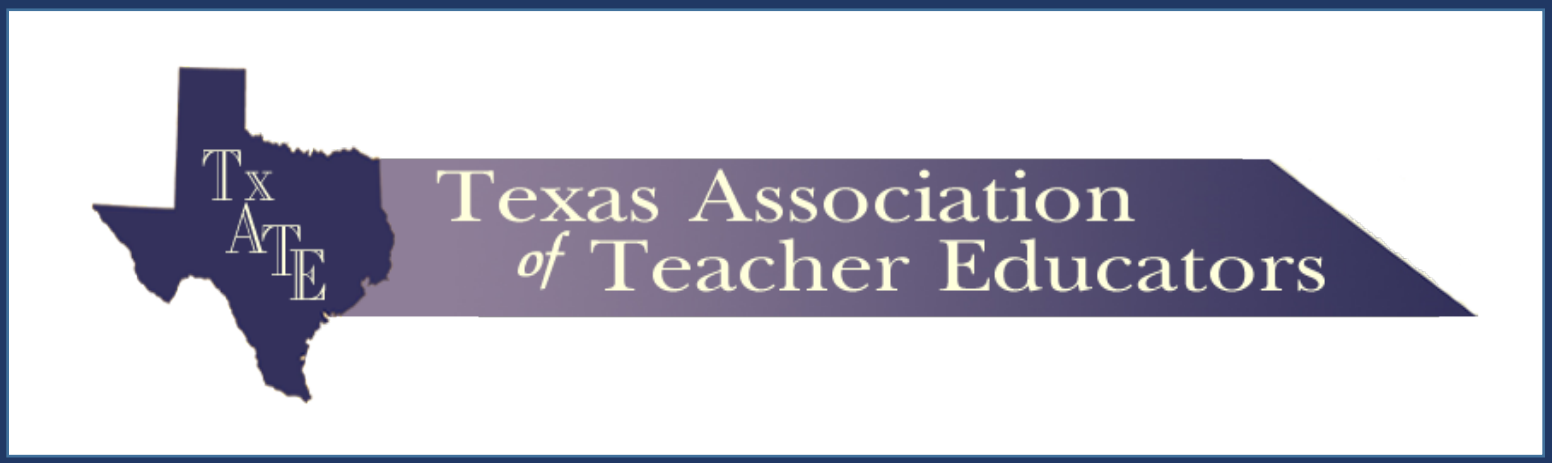

The Journal of the Texas Association of Texas Educators

THE TEXAS FORUM OF TEACHER EDUCATION

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The Texas Forum of Teacher Education, a publication of the Texas Association of Teacher Educators (TxATE), is a referred journal published once annually. Articles in the journal are directed to both campus-based and field-based Texas teacher educators. TxATE members, including graduate students, are encouraged to submit manuscripts. Authors must be active members as a condition for publication.

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EDITOR'S INTRODUCTION

In our most recent edition of *The Texas Forum of Teacher Education*, we benefited from research which evidenced the will of educators to rise to the challenge. In a post-pandemic world, we shared insightful opportunities for meaningful change for the betterment of our work, and innovative ideas about how to support and encourage effective educators, both pre-service and in-service, who consistently strive to deliver high-quality learning experiences rooted in research-based strategies.

This call clearly lit a fire! The editorial team received an overwhelming number of submissions for the Fall 2022 edition. We recognized this as an encouraging indicator of the tireless work of teacher educators across the state, all in service to the future of our teacher workforce. In addition to those published in Fall 2022, several others were deemed excellent contributions to teacher preparation in ways that are focused on how programs are working to address persistent and worsening teacher shortages.

- *Roberto Torres* calls our attention to understanding the nature and persistence of teacher shortages, in the most impacted areas, and programs needed to respond.

- *Olivia Modesto and Patricia Huskin* offer a literature review to synthesize current research on teacher resilience with a focus on the definition of resilience, and ways resilience has been currently investigated in the teacher education field.

- *Lisa Thompson Sousa and Barbara Tucker* illustrate an EPP's move away from compliance driven data and toward authentic assessment of students.

- *William Blackwell, Baburhan Uzum and Alma Contreras-Vanegas* examined how teacher candidates enrolled in a pre-service teacher preparation program with an intensive, year-long residency model, conceived their sense of agency and identity as related to teaching inclusive classrooms of both English learners and students with disabilities.

- *Andrea Foster and Julie Herron* highlight data collected from workshops that led to a sustainable in-person and virtual space to support novice teacher candidates throughout induction years.

- *Lisa Thompson Sousa* introduces evidence of the efficacy and value of screencasting to provide feedback during the assessment process.

- *C. Kelly Cordray and Abbie R. Strunc* used the knowledge of the Science of Teaching Reading to implement structured literacy professional development with all faculty serving grades K-2 at a rural primary campus, and report on the positive impact on student achievement.

- *Melanie Fields, Julie J. Williams Mills and Julie Quast* offer a follow-up study, a year after the pandemic all but forced remote learning, examining the roles and experiences of parents to determine how they influenced their children's mathematics learning.

- *Amber Wagnon, Chrissy Cross and Keith Hubbard* examined the experiences of STEM faculty who participated in a supplementary mentoring network to highlight the ways in which

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mentoring programs can positively impact faculty and the preparation of STEM pre-service teachers.

- *Daniella G. Varela, Matt Wiley, Christina Rodriguez-Gonzalez and Amber White*, focused on the value of effective leadership to best serve teacher preparation, interviewed staff members at high-achieving EPPs to determine what leadership practices influenced their successes.

The Texas Forum of Teacher Education welcomes submissions for the Fall 2023 edition. Please submit by **July 1, 2023** to Dr. Daniella G. Varela at (daniella.varela@tamuk.edu).

Respectfully submitted,
Daniella G. Varela
Managing Editor, *Forum* 2023

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CAUSES AND STATE RESPONSES TO THE CHALLENGES OF TEACHER ATTRITION

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Abstract

Teacher shortages across the nation have challenged schools to educate their students. Precise calculations of the shortage are lacking, but the need for school personnel and teachers can reach three-hundred thousand. The article focuses on an area most impacted: English Learner (EL) education. However, this shortage is not new because history proves the ongoing demands for EL teachers, especially in states like Texas where ELs exceed 1.1 million. This article also relates the federal and state programmatic efforts to retain, recruit, and train EL teachers through programs like Alternative Certifications, Grow Your Own, and Paraeducator Career Ladders. An overlooked but tested response to the shortage crisis consists of certifying paraeducators, which is promising and challenging because paraeducators require training to improve skills to teach. Arguably, the benefits of training paraeducators outweigh the challenges. Drawing from databases and online sources, the article's focus is on these issues pertaining ELs and teachers: a) The trends of ELs, b) Trends and causes for teacher shortages, c) How do states prepare future teachers to earn their teaching licenses, and d) The viability of preparing paraeducators to address teacher shortage.

Key Words: Alternative Certification, Career Ladder, English Learners, Grow Your Own, Paraeducators, Paraprofessionals, Retention, Teacher Attrition, Teacher Shortage

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Student Trends: English Leaners

According to the US Census Bureau, in 2021, the nation's population reached 331,893,745, of which 18.9% (62,727,918) were classified as Hispanic/Latino, thousands for whom Spanish is their first or home-based language. In Texas, enrollment reports from the Texas Education Agency (TEA) in the last two academic school years indicate that Hispanics are the majority of the over 5.4 million students in the state's elementary and secondary public schools, and the state's total number of English Learners (ELs) is 1,175,333, who comprise 22% of the total state's student population; and of these, 131,703 ELs were classified in need of special education programs across all grades. From these figures it can be determined that of every five students in Texas one is an EL (20%), and that the teacher-to-student ratio is 1:47 compared to the national teacher-to-student ratio of 1:16. (TEA, 2021; US Census Bureau, 2021). When reporting ELs in the nation's schools, the Census Bureau (2021) mentions that,

> The percentage of public-school students in the United States who were English learners (ELs) was higher in AY2019 (10.4 percent, or 5.1 million students) than in AY2010 (9.2 percent, or 4.5 million students). In fall 2019, the percentage of public-school students who were ELs ranged from 0.8 percent in West Virginia to 19.6 percent in Texas.

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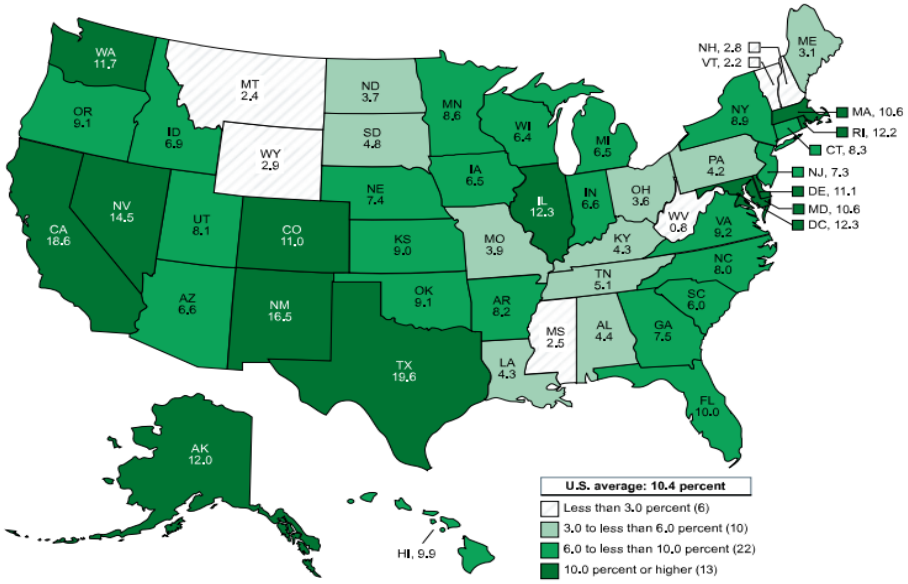
Figure 1 below illustrates the percentages of ELs in the nation's public schools in each state according to the U.S. Department of Education's Center for Education Statistics. It shows the how in 2021 Texas (19.6%) has the nation's highest percentage rate of ELs in its public schools.

Figure 1

Percentage of ELs in the Public Schools by state



Source: U.S. Department of Education. National Center for Education Statistics, EDF File 141. 2021

In 2019, in the United States there were over 67.80 million five-year old or older who spoke a language other than English at home. Although English leads all other languages in the nation, at 41.75 million speakers, Spanish is the nation's second most spoken language. Following at a significant distance are French and Chinese (Dietrich & Hernandez, 2022). Table 1 illustrates the top ten languages most spoken by ELs in the nation's public schools for AY206-17, and consistent with the national trend, Spanish also is the most used language among ELs, followed by Arabic and Chinese.

Table 1

The Top 10 Languages Spoken by K–12 ELs in the US: 2016–17 School Year

Rank	Top 10 Languages:	Speakers Reported	Percent of US EL Students
1	Spanish; Castilian	3,790,949	76.44%
2	Arabic	122,227	2.46%
3	Chinese	94,711	1.91%
4	Vietnamese	63,078	1.27%
5	Somali	29,460	0.59%
6	Haitian; Haitian Creole	26,032	0.52%
7	Hmong	19,616	0.40%
8	Tagalog	19,169	0.39%

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9	Portuguese	18,305	0.37%
10	Russian	12,619	0.25%

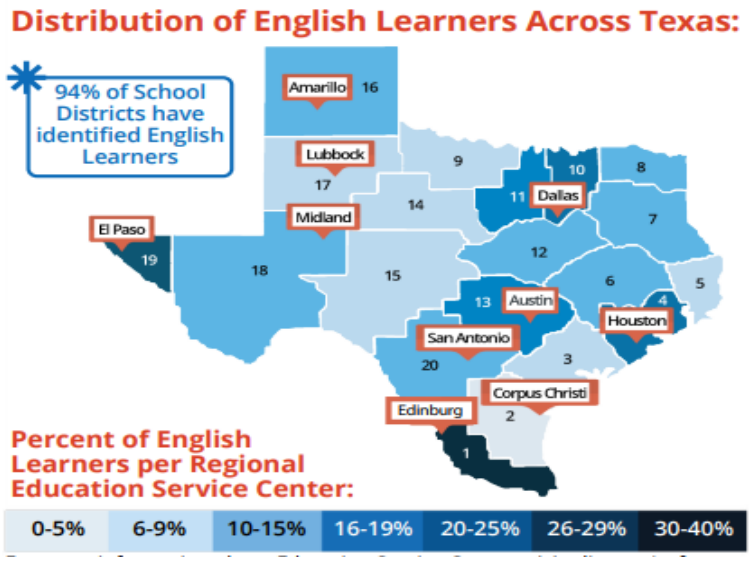
Source: U.S. Department of Education, Consolidated State Performance Report (CSPR): Part I: SY 2016-17 (OMB #1810-0724).

Clearly, the diversity of languages spoken by ELs is reflected in the public schools nationwide, and consequently they reflect the need for teachers who are prepared to address their academic and developmental needs.

In Texas, the presence of ELs across all grades is pervasive throughout the state, and according to reports by the TEA, 964 (94%) of the state's 1,026 (100%) school districts have ELs. The highest EL presence are in two of the state's Educational Service Centers (ESC) on the Texas-Mexico border areas, in ESC 1 Edinburg, and ESC 19 EL Paso. However, major urban areas such as Houston, Dallas/Fort Worth, and San Antonio also report significant numbers of ELs in their respective school districts. Figure 2 below shows the status of the distribution of ELs in the State of Texas as of 2021.

Figure 2

Percentage Distribution of ELs per Texas Educational Service Centers



Source: Adapted from TEXL Fact Sheet: https://www.txel.org/media/jvehnvgp/fact-sheet-1-7-15-20-final.pdf

The presence of ELs statewide is a significant challenge that need to be continuously addressed to meet their academic needs and achievement, and to reduce the digital divide. Quality teacher preparation and the increase of EL teachers are avenues that the state should implement to deal with these ongoing challenges. Teacher preparation and retention across all grade levels is a critical concern for the state.

The Teacher Shortages Trends

The National Center for Educational Statistics (NCES) projected that for AY2022 there would be 3.1 million full-time teachers to teach the 49.9 million students in nation's public and elementary schools (NCES, 2021). At the beginning of AY2022, reports mention that throughout the nation there were an

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estimated 300,000 elementary school teacher and staff position openings, including over 36,000 vacant elementary school teacher positions (ABC News, 2022; Ward, 2022). Despite not being completely accurate due insufficient state reporting and accounting mechanisms, these accounts do mirror the nation's demands for educators (Nguyen, Chanh, & Paul, 2022).

In Texas, in 2021, there were 336,626 state certified teachers teaching the state's 5,427,370 students. All academic areas in the public schools are affected by teacher shortages and teacher attrition, but bilingual/ESL education and special education and are the two fields in most need for teachers. Moreover, bilingual/ESL has the highest rate of substitute teachers in the state, and to worsen matters, minority teachers, who can relate to ELs because they share a common background, are lacking as well. When discussing teacher shortages, The Charles Butt Foundation (2021) mentioned that in Texas, "Teacher shortage areas and a lack of racial diversity are remarkably consistent, and policy interventions have not seemed to address these needs. For example, bilingual/ESL and special education have been identified as shortage areas every academic year since 1990-1991."

The Charles Butt Foundation survey also revealed that after the COVID-19 pandemic 77% of the surveyed teachers had given much consideration to leaving the profession in 2022, a 19% increase from 2020. Most worrisome is that in Texas, 93% of the teachers surveyed the Charles Butt Foundation had already started to take decisive steps to leave the profession by 2021. Nationwide, these matters do not look any better because there are reports showing that up to 55% of teachers have considered leaving teaching (Walker, 2022). Table 2 below is TEA's tracking of the teacher attrition rate between AY2015-16 and AY2021-22. Overall, the data suggests a steady increase of teacher attrition over the years, which the COVID-19 pandemic worsened in AY2020 – 2021, and that continue to be concerns for the public schools across the state and the nation.

Table 2

State of Texas Teacher Attrition between AY 2015-16 and 2021-22

Academic Year	Number of Active Teachers	Attrition from Previous Years	Percent Attrition
2021-22	370,431	42,839	11.57
2020-21	370,297	33,949	9.34
2019-20	363,526	36,473	10.16
2018-19	358,913	37,300	10.43
2017-18	357,515	36,909	10.44
2016-17	353,449	35,962	10.34
2015-16	347,682	35,745	10.43

Source: TEA PEIMS and SBEC ECOS. Jeremy B. Landa, Ph.D. August 2022

Reasons Teachers Abandon Teaching

There are many reasons that cause teachers to leave the profession. Among these, according to Marshall et al. (2022), prevalent -and worrisome- are mental health issues which are affected by excessive workloads, lack of job resources, burnout related to the COVID pandemic, lack of support by school administrators, and a sense of being devalued and disregarded. Teachers also leave the profession because they are incapable of making meaningful connections with their students when teaching remotely (Marshall, et al., 2022; Pressley, et al., 2022). Added causes for the shortages include an increase in the

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number of retiring teachers and early teacher attrition and comprise a "function of local [state] policies, compensation, working conditions, and more" (Carver-Thomas, 2022). In a report published in The Texas Tribune Lopez (2022) described that in Texas teachers are trapped in the prevailing "state's culture wars" between local school boards that are more interested in political issues such as banning textbooks or on modifying more inclusive curricula rather than paying attention to what can be done for schools to reduce academic gaps, treating all students fairly, and abate teacher attrition. Table 2 below is TEA's tracking of the teacher attrition rate between AY2015-16 and AY2021-22. Overall, the data suggests a steady increase of teacher attrition over the years, which the COVID-19 pandemic worsened in AY2020 – 2021, and that continue to be concerns for the public schools across the state and the nation.

In sum, these statistics and trends reflect gloomy conditions of the public schools because of the teacher shortages, and there does not seem to be a short term or easy fix. Nonetheless, the states have invested time and expert opinion to address this concern. There are several initiatives that tackle the teacher shortage and attrition, TEA taking the lead in Texas.

Teacher Shortage Implications for ELs in Texas

The movement of bilingual teacher shortages in the nation and in Texas does not offer much hope for the education of ELs, but historical interpretations differ due to the lack of systematic and official accounts. For instance, Macías (1989) estimated the need to be for about 100,000 bilingual teachers by the year 2000 based on a student-teacher ratio of 35:1, or of 200,000 teachers based on a student-teacher ratio of 25:1. In 1991, the data indicated a need for approximately 97,000 bilingual teachers (Honig, 1991), and three years later the National Education Association (NEA) estimated the need to be for about 175,000 teachers (US General Accounting Office, 1994). Statistics that account for the needs for bilingual teachers in 2022 are unavailable; despite long database searchers, there are no traceable accounts. Currently, however, the USDE only reported needs for teachers in high-needs areas by state without mentioning statistics. However, the current numbers of ELs, -over five million nationwide, and over 1.1 million in Texas- do suggest the need for many more qualified bilingual teachers than in the past.

The implications of teacher shortages are even more significant for vulnerable students like the state's ELs because some school practices to fill the teacher gaps can weaken student academic achievement because "… schools often cancel courses due to vacancies or staff classes with substitutes and underprepared teachers who are not certified to teach their subject matter" (Carver-Thomas, 2022). This too can cause poor teacher-student relationships and contribute to poor staff morale. These data imply that countless ELs in Texas are delegitimized, are in the fringes of receiving a fair education, and do not receive the services accorded to them by law due to them. This contributes to making them a high-risk population and will lead to having high numbers of EL dropouts, mostly Spanish speakers, before completing high school. The issue to address concerns the viable practical solutions the State of Texas has outlined to meet that challenge of the shortages, especially as they relate to EL education.

Local and State Responses to the Teacher Shortage in Critical Areas

How the states and schools across the nation have responded to the teacher shortage crisis varies, but there are some commonalities among states. Carver-Thomas (2022) list how California, Connecticut, and Oregon have responded to the shortage crisis. She mentions that states have planned the following with some results but not without their shortcomings:

- Reduce teacher qualifications

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- Allow teacher certificates in new academic areas
- Remove requirements for substitute teachers
- Mobilize local and federal funds to address the crisis
- Develop funding for teacher residency programs
- Build teacher workforces
- Increase teacher compensations
- Improve work conditions

Although the recommendations reflect work conditions and compensation, areas that require the schools' in-depth attention are the teachers' mental health, especially after the COVID-19 pandemic, school safety considering violence and shootings in schools, and staff morale. That is, schools would benefit their teachers by building in mechanisms and programs for the welfare of their school personnel, and in the process affect their job dissatisfaction and staff morale, and eventually student success.

Local Education Agencies

To respond to the challenges of the teacher shortage crisis incentivizing teachers with higher pay, rehiring retired teachers, and recruiting candidates from other careers offering high paid salaries and signing bonuses. In school districts with large numbers of ELs such as Dallas ISD recruitment efforts have reached out potential teachers Mexico who can teach in bilingual. In rural school districts in Texas, some have resorted to converting to 4-day school weeks (Harris, 2022; Miles, 2022; Quillen, 2022).

The Texas Education Agency

At the State level, TEA created a statewide Teacher Vacancy Task Force (TVTF) represented by "teachers and school system leaders in public education hailing from a variety of districts and geographies and serving student populations that are representative of the diversity of Texas" (TEA, 2022a). Its mission is stated in the following terms,

> From urban and suburban school systems with large student populations to those districts serving rural communities, public school systems across Texas are faced with growing staffing challenges that have been worsened by both population growth and the wide-ranging disruptions of a two-year-long pandemic. The Teacher Vacancy Task Force is working to find teacher-shaped solutions to these challenges - blending a variety of perspectives and experiences from current classroom teachers and school administrators into thoughtful policy recommendations and an innovative way forward that supports the needs of our teachers. ("Teacher Vacancy Task Force Overview | Texas Education Agency")

The areas the TVTF are designed to address in the state's urban, suburban, and rural school systems include:

- Understand the challenges districts are currently facing related to teacher vacancies
- Share best practices for addressing critical teacher vacancy and shortage areas, including exploring opportunities for certification, placement, and hiring flexibilities
- Develop recommendations for regulatory or other policy changes for TEA and the state
- Provide feedback on TEA initiatives designed to help impact vacancies

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Beginning in March 2022, the TVTF sustained monthly meetings to discuss: Teacher compensation, Improving teacher preparation, Talent pipeline, and Teacher Experiences. Full agendas and lengthy meeting notes with commentaries are available on the TEA website. An added possibility available by TEA to earn a state teacher certificate for qualified national and international candidates consists of directly applying through TEA's "Certification based on credentials from Another Country" (TEA, 2022b).

TEA Approved Alternative Educator Preparation Programs

Designed to prepare future educators training to teach ELs, TEA has listed 104 state-approved Educator Preparation Programs (EPP) each of which offers an Alternative Certification Program (ACP) (TEA, 2022c). TEA's list includes public and private IHEs, including community colleges, and for-profit agencies. Two ACPS are offered in Bilingual Supplemental- Mandarin Chinese, and 102 ACPs are offered in Bilingual Supplemental- Spanish. In some cases, applicants can complete their program in one year through for-profit agencies such as Inspire Texas and Texas Teachers for Tomorrow, offers training that include the possibility of being able to teach as a salaried supervised intern, or a clinical experience similar to student teaching without pay. Their services also provide guidance for international aspirants to become a teacher and include transcription and evaluation of documentation necessary to meet state requirements to teach.

A Viable Response to Teacher Shortage: Paraeducators

With its focus on EL education, this section presents EL paraeducators as a group who teacher aides who can meet the demand for EL teachers. The terms paraeducator and paraprofessional are used interchangeably and refer to the same educational personnel. "Paraprofessionals are teaching assistants who provide instructional services to students under the general supervision of a certified teacher" (NYC Department of Education, 2022).

In addition to the state's conventional remedies to teacher shortages outlined above, i.e., rehiring retired faculty, hiring aspirants from other professions, and offering ACPs through public and private IHEs and ESCs, targeting the country's pool of paraeducators and advancing them to full teacher positions has been a practical solution some states have implemented. Texas has implemented programs that encourage the promotion of paraeducators to full-time teachers.

Grow Your Own

A Grow Your Own (GYO) program is designed to recruit, develop, and retain teachers who are members of the local community. An online study report presents the details of how Texas implemented the advanced federal grant which supported the teacher certification pathway GYO. The successful program met the TEA's "goal of providing opportunities to rural students and to participate in its programmatic activities" (Wan, et al., 2022). Launched by TEA in 2018, the GYO program had as its goal:

> "…to encourage districts to develop or expand existing high-quality education and training courses for high school students and to support district-employed paraprofessionals (including instructional aides and long-term substitute teachers) to pursue certifications that would allow them to enter full-time teaching roles."

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According to the GYO's underpinnings, teachers, mainly paraeducators, who earn their educator certificates through the programs are more likely to remain the field when compared with teachers trained in college educator preparation programs. The state's GYO programs also mention the guiding principle of targeting local personnel to teach in the communities of residence, which translates to influential employees that match the demographics of their future students. Eventually, students taught by GYO faculty will most likely demonstrate higher levels of academics and aspire to better careers if they are taught by GYO teachers from their language, race, and ethnic backgrounds. The report discusses with more details how the GYO program met the TEA's "goal of providing opportunities to rural students and to participate in its programmatic activities" (Wan, et al., 2022). Although results about the effects of the GYO show variance between participating districts and that more time is needed to assess the GYO's impact on the state's teacher shortages, they do reveal the state's ongoing efforts to resort to paraeducators to address teacher shortage crisis. In AY 2022 – 23, the GYO started its fourth cycle in Texas.

Paraeducator Career Ladder Programs

State Educational Agencies (SEAs) and Institutions of Higher Education (IHEs) in California and Colorado formed partnerships that provide preservice and inservice training programs for paraeducators wanting to earn their teaching credentials. Programs such as these may focus on offering bilingual and monolingual paraeducators opportunities to increase their skills to teach elementary EL school-age students. Ideally, they can target paraeducators who are from underrepresented groups and who are speakers of at least two languages, which contrasts with university-based teacher training programs where most candidates are monolingual Anglo females.

In their seminal text, Haselkorn and Fideler (1996) documented the results of a comprehensive study of paraeducator training programs. Their study identified paraprofessional teacher preparation programs throughout the nation and outlined several advantages that they have for education. According to the authors, a clear-cut characterization of these paraeducator-to-teacher training programs in the nation was difficult to establish because they differ. However, a common characteristic is the adoption of a nontraditional teacher education model where enrollees can choose between part-time and full-time education and a host of alternatives defined by local needs and preferences. For instance, some models have consisted of coursework leading from an Associate of Arts degree to a Bachelor's degree, or from a Bachelor's degree to a Master's degree; other programs have emphasized addressing specific educational areas like cross-cultural, and bilingual education (Haselkorn & Fideler, 1996).

The University of Colorado – Denver, a stronghold of paraeducator advancement, has established Career Ladder programs for the type of populations similar to those targeted by programs in Texas: paraprofessionals, non-traditional students, mid-career changers, and professionals new to public education. Their program's success is attributed to partnerships between school districts, community colleges, teacher education programs, and IHEs. Noteworthy is that Career Ladder programs are often funded by external grants and other funding sources that provide support to paraeducators earning their teaching certificates to work in high-need areas such as EL education (CU – Denver, 2021). In their website, they explain that "The PAR²A Center" is a

> "national research and development center to explore training and supervision systems for paraprofessionals and their impact on paraprofessional employment conditions and student achievement. The PAR²A Center, a national leader in supporting paraprofessionals, is

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involved in numerous initiatives such as transition-to-teaching programs, supervision academies…"

The success of the joint work conducted in Colorado evidence how why career ladder programs for paraeducators are feasible avenues to address the teacher shortages. For instance, the Center has transitioned over three hundred paraeducators to teachers in high-need areas in Colorado, EL education included. Colorado's PAR²A Center serves as a model for other states to follow, but with the caveat that local and state needs should guide the development of local action plans.

Advantages of Paraeducator Inclusion

Haselkorn and Fideler (1996) and Penelle, et al (2021) list advantages of the inclusion of paraeducators into quality teacher certification programs. They mention the following about paraeducators inclusion:

1. They are an experienced work force that can help fill the need for teachers from underrepresented groups, including women and minorities.
2. Many of them are second language learners, which gives them a unique perspective into the second language experience of their students.
3. They are experienced individuals who have been in classrooms for long periods, and therefore have the educational capital and maturity that can be used in specialized areas like EL education.
4. Their personal experience with racial inequities also affords them insight into the struggles ELs have in schools and society.
5. This cohort may foster high expectations for their EL students who have been cast as incapable of exceeding in school. Thus, paraeducators offer a much-needed alternative perception of ELs as academically capable.
6. Paraeducators are motivated initiative-taking individuals in education. Their motivation transfers from their experiences as students to their professional lives as teachers to their students in the classrooms.
7. They are role models of success for students, parents, and their communities.
8. Because the know bilingual and bicultural, they can serve as cultural liaison for ELs and their families.

The advantages mentioned above are encouraging for education in general and are principally relevant for ELs. By incorporating paraeducators from underrepresented groups, some of which are bilingual or have Spanish as their first language, Spanish speaking ELs find the potential for receiving a fair and promising education in their primary language while learning English -their specific needs are met (Zalk, 1975). A reasonable conclusion is that if paraeducators were trained through GYO's or career ladder programs, the state's teacher shortage in critical areas may be reduced.

Closing Remarks

The purposes of this article were to discuss trends of national and state ELs and causes for teacher shortages in high-needs areas. It also explored ways to address the alarming national and state teacher shortages with potential national and state programmatic initiatives. Schools throughout the nation, including Texas, are scrambling to retain and recruit teach by offering higher salaries, reduced class weekdays, and through other incentives, and have implemented ACPs for personnel outside of education.

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In states like Texas, where ELs abound, a common practice has been to recruit potential international teacher candidates, especially Spanish speakers who can work with EL students.

With the support of federal and state grants. community colleges, universities, and school districts have developed working partnerships to implement practical and proven solutions targeting paraeducators such as Grow Your Own and Career Ladder programs, which break away from the traditional college campus-based teacher education programs and are designed to attract candidates from underrepresented groups. Scholars list the advantages of transitioning paraeducators to teaching, especially candidates from minorities who are ELs. Schools and students benefit from the paraeducator's linguistic and sociocultural capital because they are able to sustain meaningful interpersonal contact with EL and minority students, better understand the struggles of ELs in public schools and while learning English, and relate with their students because of their common culture, ethnicity, and language. Earning a teacher certificate through such programs may have the effect of motivating paraeducators to continue in the profession because their degree represents a personal and professional accomplishment that moves away from their former type of intervention that was most likely routinized and tedious. From the several efforts states have used to attract personnel to fill the teacher shortage crisis, GYO and Career Ladders are stronger options because the provide formal education and tap into experienced candidates. Despite the GYO's and Career Ladders' effectiveness, schools that hire former paraeducators would need to adopt a philosophy and systemic approach that avoids their job dissatisfaction, improves school safety and morale, and retains them.

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ENHANCING PRESERVICE TEACHERS' RESILIENCE: A REVIEW OF CURRENT LITERATURE

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Abstract

Resilience is the ability to adapt successfully in the face of stress and adversity. It is commonly known as bouncing back or striving and flourishing in spite of challenging circumstances. While there has been an interest in teachers' well-being in the context of COVID-19 school closures, research on resilience specific to preservice teachers (PSTs) is scarce. It is also not formally taught in teacher preparation courses. In this article, current research on resilience relating to PSTs were highlighted, with focus on the definition of resilience and ways resilience has been currently investigated in the teacher education field. The authors made a case for the need to teach resilience to PSTs to reduce current teacher attrition rates. By gaining a better understanding of teacher resilience, the authors saw areas that allow teacher educators to build in their courses resilience strategies so that PSTs persist in their education and apply such strategies in their work as teachers in the future.

Keywords: *Resilience, teacher resilience, preservice teachers, teacher education*

Introduction

Public education is facing a crisis. Research from Farley and Chamberlain (2021) claimed that teachers are at the brink of burnout and are leaving the profession at record numbers. Existing pressures for state mandated testing have not eased and students are experiencing gaps in learning to lost instructional time during pandemic closures. Additionally, students' non-academic needs are increasingly greater. Focus on accountability and data points has not eased, and teachers have been caught amidst changing school policies due to COVID-19 (Huck & Zhang, 2021.)

Most recently, teachers are facing intense public scrutiny and debate surrounding how and what they may teach in their classrooms. Many teachers are worried about parent or community backlash against their curriculum and instruction. This has brought about a growing amount of public scrutiny over what teachers are teaching and how they run their classrooms, leaving them feeling micromanaged and often disrespected. Moreover, pressing school safety concerns add intense fear and stress as teachers worry how to keep themselves and their students safe with school shootings on the rise. In some states, there is conversation about arming teachers to provide active shooter protection for their own classrooms.

Given the high levels of teacher stress and demands placed on teachers, it is not surprising that nearly half of teachers said they are likely to leave teaching in the next few years. Sixty percent of teachers say they experience job-related stress frequently or daily. Forty-five percent of teachers said they feel less effective at their job. When teachers are stressed out, the quality of their instruction, classroom

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management, and relationships with their students suffers (Farley & Chamberlain, 2021). This problem is not localized to the United States. The crisis of teacher shortages, low recruitment rates, and high attrition is affecting education systems on a global scale. When the teaching profession loses nearly fifty percent of its workforce in the first five years of their careers, it is an understatement to say teaching is challenging.

In educator preparation programs, preservice teachers (PSTs) are taught pedagogical techniques, lesson planning, and classroom management systems, but they must also learn to enhance their resilience to do the work and persist with it, long enough to continue to hone their teaching skills. We believe that teacher educators must help them develop a level of resilience that most other jobs will never require. The purpose of this review is to provide an overview of resilience as it has been investigated in the field of teacher preparation to give teacher educators a starting point on how resilience can be taught or integrated within teacher preparation courses. The discussion began with definitions and descriptions of resilience and then proceeded to the current literature on resilience in preservice teachers. Future considerations were raised to contribute to this line of research. We provided an appendix containing resilience resources for teachers and teacher educators.

Definitions of Resilience

The American Psychological Association (2022) defined resilience as "the process and outcome of successfully adapting to difficult or challenging life experiences, especially through mental, emotional, and behavioral flexibility and adjustment to external and internal demands." Similar to the construct of well-being, resilience is complex, multidimensional, and applied to different contexts; thus, various definitions of resilience are found in the literature and has become a contested term (Brewer et al, 2019; Wu et al, 2013). However, the American Psychological Association's (2022) definition of resilience as an adaptive behavior versus a fixed trait has become widely accepted (MacLeod et al, 2016).

To add, Wu and colleagues (2013) summarized psychosocial factors that contribute to the development of resilience. They found certain characteristics and behavior that help individuals not to succumb to the negative impact of extreme stress. These include: (a) optimism (the expectation for good outcomes), (b) cognitive reappraisal (changing the way one views negative events), (c) active coping (using strategies to change qualities of the stressor and how it is perceived), (d) presence of and seeking social support, (e) humor, (f) mindfulness (concentration on moment-to-moment awareness of bodily activities and emotions or sensations), (g) physical exercise, (h) altruism, and (i) moral compass (internal belief system, guiding values or ethics), including religion and spirituality.

Characteristics of Resilience

Resilience has been described as "a dynamic, developmental and multi-dimensional construct that fluctuates over time and is influenced by multidimensional factors that include individual circumstance, situation, and environment" (Beutel et al., 2019, p. 609). As an adaptive behavior, resilience is dependent on a person's effective responses to environmental challenges and resistance to the negative effects of stress (Wu et al, 2013). In addition, Farnsworth (2021) conceptualized resilience as highly related to social emotional learning, mental health, and purpose.

One who exhibits resilience is able to act on a goal that is personally meaningful and beyond the self, enabling him or her to contribute to society. Resilience is also considered inseparable from personal

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efficacy and emotional intelligence (Badenhorst, 2021). Additionally, MacLeod and associates (2016) provided a list of descriptions of resilience which included but not limited to: "bouncing back" from adversity, "adaptive capacity to maintain independent functioning and well-being", and "possession of perseverance, competence, strength, and protective processes" (p. 267).

In the broad context of higher education, it has been documented that resilience plays an important role in helping students overcome challenges, maintain equilibrium, and attain academic success (Brewer et al, 2019). On the other hand, resilience among professionals was "linked with personal well-being, professional longevity, workplace collegiality, and supportive workplaces and policies" (Mansfield & Beltman, 2019, p. 586).

Teacher Resilience

While the majority of empirical studies on resilience have focused on at-risk children, adolescents, and military personnel who had experienced trauma (MacLeod et al, 2016), research on resilience in the context of the teaching profession has flourished in recent years (Mansfield & Beltman, 2019; Mansfield et al., 2020). Teacher resilience is characterized in academic literature as the use of internal and external resources and adaptation strategies to meet the challenges of the profession. Studies have shown that teachers who are resilient exhibit "job satisfaction, commitment, efficacy, engagement, motivation, well-being and positive sense of identity" (Mansfield & Beltman, 2019, p. 583). Moreover, resilience is considered an essential teacher disposition and an aspect of teacher identity that can be modeled to students (D'Emidio-Caston, 2019; Beutel et al., 2021).

It has been documented that strategies for handling challenges and skills that contribute to developing resilience may be included in preservice teacher education (Mansfield et al., 2016; Mansfield & Beltman, 2019). In fact, teacher preparation programs were urged "to build teachers' capacity to listen and be responsive to their learners' needs, to hold realistically high expectations, to encourage growth mind-sets, and to offer relevant opportunities to participate in meaningful activities involving choice, decision-making, and problem solving that lead to productive and fulfilled lives" (D'Emidio-Caston, 2019, p. 140). However, most current studies on well-being were done with in-service teachers. For example, Kangas-Dick and O'Shaughnesssy (2020) conducted a systematic review of literature on interventions that promote resilience among teachers and found that a growing body of literature supported the understanding that external and contextual factors bear heavily on fostering teacher resilience. They found that providing increased social support and building a positive school climate where trusting relationships between teachers and other members of the school community were critical in promoting high resilience among teachers.

In Australia, resilience is one of the qualifications for selecting teacher candidates (Gilmore, Welsh, & Loton, 2019). Most recently, The Australian Educational Researcher, a peer-reviewed journal, released an issue in 2019 solely dedicated to the study of teacher resilience. The journal presented empirical research with preservice and in-service teachers using traditional and innovative methods. Many of the studies featured contributed to the field by showing the ways in which teacher resilience can be promoted through professional learning experiences (Mansfield & Beltman, 2019).

Our interest on resilience stemmed from our own experiences as teacher educators who have had to listen to, support, and provide resources to our students who personally reached out to us when they had undergone severe stress while enrolled in a teacher preparation program. Sources of stress stemmed

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from both personal circumstances and academic challenges, which threatened program completion. As teacher educators, we saw the need to investigate how resilience may be fitted into our respective practices. We considered that a logical starting point of this investigation is to review the scientific literature. In the following section, we presented the research studies we have reviewed.

Studies of Resilience with Preservice Teachers

Literature Search Method

We conducted a comprehensive literature search using Texas A&M University-Kingsville library's electronic database, Educational Resources Information Center (ERIC), and Google Scholar. We used the following search terms: teacher education, resilience, and preservice teachers. We limited the search to scholarly, peer-reviewed research articles published from 2012 to 2022. Based on this search, we initially found ten scholarly articles relevant to PST and resilience but excluded articles that did not report empirical research. From an article by Kangas-Dick and O'Shaughnesssy (2020), we discovered and reviewed two empirical studies conducted with PSTs on resilience. Thus, for this review, we studied a total of seven research articles directly dealing with preservice teacher resilience.

Results

Table 1 lists the research studies we reviewed. We listed the studies alphabetically, based on first authors' last names. We also indicated the methodology used, the countries in which the studies were conducted and researchers' main findings.

Table 1

Research studies reviewed

Author, Year of Publication, and Country	**Title and Methodology**	**Key Words/Themes**	**Main Findings**
1. Beutel, D., Crosswell, L., & Broadley, T. (2019). Australia	Teaching as a 'take-home' job: Understanding resilience strategies and resources for career change preservice teachers Qualitative: Focus groups	Support	The focus groups identified a range of specific strategies that supported teacher resilience which included: Seeking support, de-personalizing the situation, and leveraging your internal discourse.
2. Farnsworth, M. (2021). USA	Story as advocacy: preservice teachers discover resilience, purpose, and identities of well-being Qualitative: Narrative inquiry	Resources Identity Self-affirmations	Participants utilized both internal and external supports to overcome obstacles. External resources included extended families and religion which helped students to mediate trauma. Internal resources included self-affirmations increased self-insight and produced new outcomes, helping mediate identity confusion.

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3. Garner, P. W., Bender, S. L., & Fedor, M. (2018) USA	Mindfulness-based SEL programming to increase preservice teachers' mindfulness and emotional competence Quantitative: Experimental	Social emotional learning	Social emotional learning interventions designed for students may also bolster teachers' perceptions of self-efficacy and competence.
4. Gilmore, G., Welsh, S., & Loton, D. (2019) Australia	An Australian case for relational resilience: Building academic pathways in first year, preservice teacher education Mixed methods: Survey, Document analysis, Focus group interviews	Self-perceived academic factors	Results suggest a lack of relationships between resilience and self-perceived academic factors, including academic performance in a first-year unit and student demographics
5. Mansfield, C. F., Beltman, S., & Weatherby-Fell, N. (2020) Australia	'I Actually Felt More Confident': An online resource for enhancing pre-service teacher resilience during professional experience Qualitative: Interviews	Self-reflection	The BRiTE (Building Resilience in Teacher Education) online module promoted self-reflection and engagement through a variety of activities, was personalized, and encouraged deep thinking in an authentic context.
6. Petko, D., Egger, N., & Cantieni, A. (2017) Switzerland	Weblogs in Teacher Education Internships: Promoting Reflection and Self-Efficacy While Reducing Stress? Quantitative: Experimental	Writing	Writing weblogs with problem-focused writing assignments seemed to be beneficial, especially when peer feedback on individual weblogs is received.
7. Thieman, E. B., Marx, A. A., & Kitchel, T. (2014). USA	"You've always got challenges": Resilience and the preservice teacher Methodology: Phenomenology	Reflection Doing a good job	Three themes emerged: youth experiences are a key component toward reflection on resilience, the uncertainty of the reality of the job could counter resilience, and belief that "doing a good job" is key to resilience in teaching.

Research Questions

To guide our review and analysis, we asked the following research questions:

1. How is resilience currently investigated in the field of teacher preparation?
2. What can be learned from the studies investigating resilience in PSTs that may be translated to current practice of teacher educators?

Findings

Resilience research in teacher education. We found that current resilience research solely focused on preservice teachers as subjects is scarce, yet it is promising and holds potential for meaningful and

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practical line of research. The studies we found are varied in terms of theoretical framework and methodology, but researchers agreed on the need to study resilience to promote future teachers' longevity and well-being. Researchers who conducted qualitative studies mainly used interview as a data collection method while quantitative studies were supported by analyses of survey data. The table below presents research questions asked in the studies we reviewed and the manner in which studies were implemented.

Table 2

Theoretical framework, research questions, and data collection

Authors	**Conceptual Framework**	**Research Question(s)/Hypotheses**	**Data Collection**	**Participants**
1. Beutel, D., Crosswell, L., & Broadley, T. (2019).	Socioecological lens used to discuss the range of personal and contextual strategies used to enhance resilience	1) What are career change PSTs' understandings of resilience? 2) How do they perceive teacher resilience? 3) What strategies they use when faced with challenges during professional experience?	Interview: focus groups	Nine PSTs enrolled in a graduate entry teacher education program at an urban university
2. Farnsworth, M. (2021).	Social emotional learning and cultural lenses	How do PSTs determine their resilience by writing stories of overcoming obstacles?	Written stories and exit tickets collected during the term of instruction	16 female, rural students, majority were first generation college students at a large rural county in Oregon
3. Garner, P. W., Bender, S. L., & Fedor, M. (2018)	Prosocial model (social-emotional competence can support teachers in coping with teaching demands)	PSTs participating in an mindfulness-based intervention infused with social emotional learning content would show higher increases in mindfulness and emotional competence than their counterparts assigned to a control condition that included only meditative awareness.	Experimental study	87 PSTs, 83 females 4 males

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4. Gilmore, G., Welsh, S., & Loton, D. (2019).	Two dimensions of resilience: intraindividual and individualistic responsibility	1) Is there an association between resilience, demographics and academic outcomes? 2) Is there an association between self-perceived skills, demographics and academic outcomes? 3) To what extent do these students' accounts of their experiences in the course emphasize relational factors rather than individualist traits in building resilience?	Mixed methods including a quantitative survey, document analysis: course documents, assessment tasks, and semi-structured focus group interviews	Methods include a survey (n = 43), documents from the course, and focus group interviews (n = 9) of pre-graduate students of diploma of education (PSDE)
5. Mansfield, C. F., Beltman, S., & Weatherby-Fell, N. (2020).	None directly stated	How did using the BRiTE modules influenced PSTs confidence and resilience during their final professional experience?	Participants were interviewed about their impressions of BRiTE, the influence they perceived engaging with it, if they recalled content from the modules, and whether they would refer to the modules in their future teaching.	13 PSTs enrolled in a Graduate Diploma initial teacher education course at an Australian university.
6. Thieman, E. B., Marx, A. A., & Kitchel, T. (2014).	Active agent model of teacher resilience	1) How does the motivation for becoming a teacher relate to resilience of the preservice teacher? 2) What qualities of resilience do PSTs perceive they possess and how might this impact their performance? 3) What questions do PSTs have on the school year relating to coping and stress? 4) What resilience strategies do the PSTs use?	Interview transcriptions, one journal, and field notes from semi-structured interviews	Ten pre-service agricultural education teachers in their last year of coursework in agricultural education at the University of Missouri.
7. Petko, D., Egger, N., & Cantieni, A. (2017)	None explicitly stated	How does the use of weblogs in teacher education internships impact student stress levels, efficacy, and reflective abilities?	Experimental: The study compares four experimental groups of teacher education students working with different assignments for weblog writing, with a control group working without weblogs but with an assignment for a retrospective written report.	176 prospective primary and indergarten teachers in their second year of study. 21% male and 79% female students randomly assigned to one of five groups, i.e, four experimental groups and one control group

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From research to practice

As scholar-practitioners, one of our main goals in conducting this study is to find ways how we can bridge research to practice. We found that resilience strategies that researchers have documented used by PSTs was a specific area of application to our work as teacher educators. The following resilience enhancement strategies may be shared with PSTs: (a) seeking support from families, peers, field supervisors or mentors, (b) depersonalizing stressful situations, (c) self-affirmations based on previous success, and (d) using the BRiTE (Building Resilience in Teacher Education) online modules to aid self-reflection.

Future Considerations

As teacher educators, we asked the following questions as a response to the discoveries we have made in this literature review:

1. Should there be a differentiation of resilience across academic disciplines? If yes, how could preservice teacher resilience look like in specific academic disciplines (e.g., special education, math, science, literacy education)? How can specific strategies be studied for each discipline and be translated into meaningful practice?

2. How can teacher resilience, as a professional disposition, be given a spotlight at the state and national levels to be a component of teacher preparation, as it is formally done in other countries?

3. How can preservice teachers begin to consider resilience as a trait that is not only developed by them but also modeled for their future students?

We formulated these questions based on our intention to join and promote the discussion of resilience which we believe transcends the current focus on standardized testing as a teacher certification tool. If we are to prepare future teachers for the demands of the profession, we must also equip them with knowledge, attitude, and skills that will help them remain committed to it.

Conclusion

There is consensus in the literature reviewed that resilience, both as a construct and behavior, is important to be introduced, explored, developed, and enhanced among PSTs. Inclusion of resilience awareness, enhancement, and strategies should be seriously considered in preservice teaching. There is evidence of its success in the studies we reviewed although the data examined are varied and not robust. Most quantitative studies used small sampling size, and qualitative studies are highly reliant on participants' subjective views. For us, the most practical discovery we made as teacher educators was the user-friendly, structured, online, research-based learning module called BRITE (https://www.brite.edu.au/) that teacher educators can readily include in a course or education program to help teacher candidates understand and build resilience strategies.

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Appendix

The following online resources are provided to aid educators who may be considering integrating resilience into their practice:

1. Building your resilience - https://www.apa.org/topics/resilience/building-your-resilience
2. Building resilience in teacher education - https://www.brite.edu.au/
3. Resilience guide for parents and teachers - https://www.apa.org/topics/resilience/guide-parents-teachers
4. Resilience and teaching: New resources available for teachers - https://www.apa.org/ed/precollege/psychology-teacher-network/introductory-psychology/resilience-teaching-resources
5. Five science-backed strategies to build resilience - https://greatergood.berkeley.edu/article/item/five_science_backed_strategies_to_build_resilience

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ENHANCING ASSESSMENT PLANNING IN AN EDUCATOR PREPARATION PROGRAM FOR FLEXIBILITY AND COMPLIANCE

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Abstract

The case study illustrates an Educator Preparation Program's (EPP) move away from compliance driven data and toward authentic assessment of students. Challenges and state initiatives are discussed as well as proposed implementation of project-based learning and portfolios.

Keywords: *Educator Preparation Program; authentic assessment; project-based learning*

The Program

Educational Diagnosticians are professionals that serve public school students by providing assessment for special education services or ADA 504 accommodation plans. Educational Diagnosticians complete cognitive, achievement, and adaptive evaluations for people age 2 to 22 years of age. They evaluate and identify disabilities such as autism, intellectual and learning disabilities. In addition to K-12 public schools, they can work in colleges, hospitals or other community agencies.

Sul Ross State University serves the Big Bend region of West Texas. SRSU's Educational Diagnostician Educator Preparation Program (EPP) serves graduate students throughout the State of Texas with its online program. Graduate students complete a credential and master's degree as part of the Educational Diagnostician EPP. Students in the program are mid-career professionals with initial teaching certification. Typically, they continue with their district of current employment after graduation, but they may seek new employment as well.

Prior to 2019, efficacy of the Educational Diagnostician EPP was measured by state examination pass rates. The plan left little flexibility in the assessment plan to focus on authentic methods of assessing student learning and growth. It was determined that assessment needed to occur earlier, more frequently and provide flexibility. It was also determined that evaluation of pass rates of professional exams were not enough to measure efficacy of the program. Based upon the confluence of changes that were occurring with higher education policy, the Educational Diagnostician EPP undertook a new assessment plan.

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Beginning the Change

In 2019, Texas Educational Agency (TEA) proposed new professional competencies for beginning Educational Diagnosticians. New standards resulted in a new professional exam. TEA competencies are specific to the field, and examples of competencies include psychometrics, progress monitoring, legal compliance, and administrative duties. EPP courses were realigned with the new competencies. An alignment of courses resulted in the creation of new learning objectives and therefore a need for new assessment of the achievement of the objectives.
In addition to the new professional competencies, Texas Higher Education Coordinating Board (THECB) launched a new plan for the state called the 60x30TX Texas Higher Education Strategic Plan (THECB, 2015). The plan emphasized infusing marketable "soft skills" in the curriculum, transferable skills that can generalize to any career. Skills such as technical writing, advocacy, and oral speaking were the focus for the program's transferable skills and were infused into projects for every course.

School district need was also considered in the new assessment plan. Resources such as mentorship and support of first year diagnosticians vary widely among districts. Typically, larger urban districts are able to offer greater support and greater resources in comparison to smaller rural counterparts. This results in new diagnosticians employed in smaller rural areas standing alone in their practice with little support and collaboration with peers. All EPP courses were tailored to apply project-based learning to the unique needs of the local school the student. By providing district-specific coursework opportunities, smaller districts received qualified graduates ready to respond to their specific needs.

Implementing the Evaluation

The new assessment plan for the Educational Diagnostician EPP is a qualitative evaluation framework. The assessment plan utilizes the overarching goals of project-based learning, marketable "soft" skills, and clear links between learning objectives and professional competencies. This provides an opportunity to analyze data that is beyond professional exam pass-rates. It is three-fold: a project-based summative assessment for each course, two formative assessments of a project-based activity that built toward a summative project and a program capstone project which incorporates the summative projects. Summative projects are housed in a cloud portfolio. Marketable skills such as oral presentation, analytic skills and technical writing are also integrated into formative, summative and the capstone project. Students are assessed on these skills as well as the content of their projects. To assure continuity throughout the program, a matrix is utilized to assure alignment of student learning objectives with the new TEA professional competencies.

Qualitative assessment provides flexibility to address the needs of a dynamic student population. Due to the program being offered online, the student population is diverse representing rural, urban and suburban districts. Student experience is also varied (e.g. certification level, district practices). Therefore, the focus of the assessment framework is individual student growth rather than individual comparison against the expectations of the program. Students are evaluated within self-directed learning opportunities. Some are challenged with enriching opportunities. Others are challenged with attaining proficiency of a competency. All can be evaluated based upon the qualitative assessment in place.

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Artifacts

At the core of the program evaluation plan is a unit known as the artifact. Artifacts are project-based assignments. Artifacts are part of formative assessment, summative assessment and the program capstone project, the portfolio defense. The assessment of the artifact involves a rubric. The rubric is developed ahead of time and serves as a roadmap for expectation with the students. The rubric provides clear reference for assessment and reduces subjective interpretation.

Formative Assessments

Each course in the EPP has two artifacts, each yielding a formative assessment. These artifacts are projects that build toward the summative project. Formative assignments provide opportunities for feedback and editing. Students receive peer and faculty feedback to improve and work toward a successful summative artifact. Examples of work are embedded within courses with rubrics available. Once the student has satisfactory formative assessments, they are able to proceed and incorporate formative components into a larger artifact that is evaluated based upon a summative assessment.

Summative Assessment

The summative assessment for each course is of an artifact that represents cumulative efforts for the semester. These artifacts address the learning objectives for the course. Typical artifacts for summative assessment are student-constructed case studies. Case studies cover varying degrees of psychoeducational evaluation and intervention. Students are required to administer different types of psychoeducational assessment throughout the program which cover formal or informal testing dependent on the course. Examples of informal assessment are functional behavior assessment (FBA), informal academic assessment, or screenings. Formal testing examples are standardized psychometric testing that would measure cognitive, achievement or adaptive skills.

Peer Review

Artifacts are assessed by the instructor but also peer reviewed. Student peer review exposes students to diversity that they would not normally have access to in their local districts. Presenting to peers, provides opportunities for all students in the course to compare practices associated with cultural diversity, second language issues, rural or urban environments, age and grade level. In addition to satisfying learning objectives, students are able to see the variety of methods and considerations involved with special education evaluation around the State of Texas. Artifacts are typically case studies and combined with the psychoeducational evaluation process. The artifacts produced are unique in the demographics they represent (e.g. rural, age, disability). For example, students complete a battery of tests on a child and provide their analysis of the child's performance in a technical report. The report provides unique information about demographics of the test subject, unique testing considerations and analysis. A comparison between artifacts opens discussion and scope of understanding for best practices.

Portfolio Assessment

Summative assessments are incorporated into a larger portfolio representing the body of work throughout the program. Students provide an oral defense in their last semester with the program. In the oral defense, students utilize the summative artifacts as well as incorporate their practicum experiences.

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Students again are not only evaluated on the content of their presentation but on their analytical, oral and technical application skills. Because the program's assessment plan did not adhere to a "one size fits all" format, portfolios reflected personalized learning opportunities while still satisfying professional competencies.

Benefits after the program

Since implementing project-based learning and portfolio assessments, feedback from students and faculty has been positive. The program assessment plan recently went through the peer review process that was required for all university programs. Feedback from university peer review of the EPP's assessment plan stated the program was a model for other programs, specifically citing logical connections between assessment results and student learning outcomes.
Students reported a firmer understanding of the competencies of a beginning diagnostician after program completion. They appreciated the frequent feedback which provided an opportunity to hone their skills in more than one course. By doing so, they reached proficiency in skills earlier than expected. Some students reported that the portfolio provided a good foundation for interviewing with districts.

Faculty reported improved performance as well. The EPP faculty committee for portfolio defense reported richer final presentations by students. There was an increase in commended performance (highest possible) compared to previous cohorts that did not use artifacts as part of their portfolio defense. Additionally, the defense provided evidence of marketable skills such as statistical analysis, technical writing and proficiency with oral presentations.
In addition to student and faculty feedback, quantifiable data was relied upon. Students received higher baseline practice exam scores in comparison to previous cohorts. Additionally, for the 2021-2022 school year the program enjoyed a 100% pass rate of all students taking the professional exam compared to 75% pass rate two years prior.

Recommendations

Some key steps are recommended for programs interested in this model. First, evaluate the core learning objectives for each course in the program. Create a summative project that represents adherence to the leaning objectives of each course. Once a summative project is established, create smaller formative assessments within the course that allow for feedback and growth toward the final summative project. Feedback for formative assessments can be from peers as well as from the instructor. Creation of rubrics are vital for formative assessments to steer clear of generic, "Good job," responses. Examples of summative projects should also be provided for each course. Once each summative project is completed for a course, students are encouraged to house their projects in a university cloud server to access for their capstone project, the portfolio defense, which occurs during the final semester. Students then use the summative projects as examples toward meeting their professional competencies for their oral defense. The portfolio defense occurs in front of a committee in our instance, practicing educational diagnosticians.

With the preliminary success, the plan is to continue using the qualitative assessment model as a primary means of assessment. The suggested key steps are beginning steps for EPPs and can be molded to fit any program. Our experience has shown that EPPs can find balance not only satisfying state competencies but providing personal and relevant outcomes for their students.

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PREPARING TEACHERS FOR INCLUSIVE EDUCATION: EXAMINING IDENTITY AND AGENCY OF TEACHER CANDIDATES IN A YEAR-LONG RESIDENCY MODEL

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Abstract

Pre-service teacher preparation offers an important opportunity to help aspiring teachers examine their willingness and ability to teach diverse learners in inclusive classroom. This study examined how teacher candidates enrolled in a pre-service teacher preparation program with an intensive, year-long residency model, conceived their sense of agency and identity as related to teaching inclusive classrooms that include both English learners and students with disabilities. Using Pantic's (2015) conceptual model of teacher agency for social justice and inclusive practice, the authors examined how teacher candidates navigated their emerging teacher identity and agency as they prepared to become inclusive educators. Implications and recommendations for teacher preparation programs are discussed.

Keywords: *Teacher agency, teacher identity, inclusive education, teacher preparation*

Introduction

Inclusive education can now be considered a fundamental aspect of the U.S. public school system (Baglieri & Shapiro, 2017). Teachers are responsible for providing high-quality instruction in supportive classroom environments that leads to positive academic outcomes for a diverse spectrum of students, including English learners and students with disabilities. The extent to which teachers view themselves as inclusive educators plays an important role in their willingness and ability to teach diverse learners (Beacham & Rouse, 2012). In part, a teacher's willingness and ability to lead an inclusive classroom are dependent on a combination of agency and identity (Hiver & Whitehead, 2018). Within the context of this study, agency refers to ways in which a teacher strategically thinks and acts to achieve a desired outcome within the classroom. *Identity* refers to ways in which teachers view themselves as both responsible for and capable of exercising agency within the classroom context. The complex interplay of agency and identity plays an influential role in how teachers approach their responsibilities as inclusive educators (Pantic, 2015).

Pre-service teacher preparation offers an important opportunity to help aspiring teachers develop the agency and identity needed to lead inclusive classrooms (Baglieri & Shapiro, 2017). Effective teacher

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preparation includes a combination of university classroom instruction and strategic, embedded clinical field experiences in inclusive classrooms (Kent & Giles, 2016). Teacher candidates who participate in authentic, intensive field experiences in inclusive classrooms are better able to meet the academic and social support needs of a diverse student population (Bain & Hasio, 2011). The study described in this manuscript examined how teacher candidates enrolled in a pre-service teacher preparation program with an intensive, year-long residency model, conceived their sense of agency and identity as related to teaching inclusive classrooms that include both English learners and students with disabilities.

Literature Review

The constructs of teacher agency and identity have been explored by multiple authors. According to Hiver and Whitehead (2018), there is a complex interplay between agency and identity. The ways in which teachers view their identity and selfhood within their professional context interacts with their capacity and willingness to take action. Similarly, Buchanan (2015) emphasized the fluidity of agency and identity. A teacher's identity is constantly evolving because of a sense of self and direct experience within the school environment. A teacher's agency evolves because of a variety of factors, including the opportunities and constraints of the working environment, the demands of the profession, and the teacher's perceived autonomy in taking action. Thus, identity and agency are constantly interacting in a complex system that informs a teacher's beliefs and actions (Hiver & Whitehead, 2018).

Pantic (2015) developed a conceptual model of teacher agency for social justice and inclusive practice that consisted of four components: purpose, competence, autonomy, and reflexivity.

- *Purpose* directly related to a teacher's commitment and motivation to engage in inclusive practices. This variable included a teacher's sense of identity and role as an agent of change.
- *Competence* referred to a teacher's knowledge of the immediate working environment and larger context of social-political factors that influence classroom practice, as well as the teacher's engagement in social justice practices.
- *Autonomy* was defined as a teacher's individual and collective sense of agency. This variable explored how teachers viewed themselves as an agent of change within the larger school system.
- *Reflexivity* addressed how teachers monitor and reflect on their beliefs and capacity for engaging in inclusive practices that promote social justice and inclusive education. This variable addressed how teachers make meaning of their work, the overall purposes of schooling, and the relationship of schooling to broader social systems.

Uzum et al. (2022) used Pantic's (2015) model to examine teacher agency for social justice in a study of teacher candidates who participated in a virtual, telecollaboration learning experience. Teacher candidates from three countries participated in the study. Using Pantic's (2015) four components of teacher agency (purpose, competence, autonomy, and reflexivity), the authors reported that teacher candidates demonstrated their teaching agency for social justice to varying degrees. The teacher candidates displayed a complex and fluid interplay of identity and agency that was similar to that described by previous authors (Buchanan, 2015; Hiver & Whitehead, 2018). This interplay of identity and agency was closely related to the ways in which the teacher candidates navigated the tensions between their sense of purpose and the structural restrictions present in their learning environments.

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Teacher agency and identity can be initially developed during pre-service teacher preparation opportunities (Baglieri & Shapiro, 2017). Teacher preparation programs that provide authentic, supervised clinical field experiences in K-12 classrooms are better positioned to assist teacher candidates in developing their sense of agency and identity as related to teaching in inclusive classrooms (Bain & Hasio, 2011). In recent years, an increasing number of teacher preparation programs have moved to year-long residency models (U.S. Prep, 2020). In this model, pre-service teacher candidates participate in multiple, structured field-based clinical experiences in K-12 schools while simultaneously completing university coursework (Mourlam et al., 2019). For the final year, pre-service teacher candidates engage in a year-long student teaching experience during which the teacher candidate works in the same classroom with their mentor teacher and university faculty supervisor for a full academic year (Mourlam et al., 2019; U. S. Prep, 2020). Research on year-long residency experiences indicates that teacher candidates who engage in these opportunities may be better prepared for teaching in inclusive classrooms and are more likely to remain in the teaching profession (Guha et al., 2016; Matsko et al., 2022).

Theoretical Framework and Research Questions

This study was designed to build on Pantic's (2015) conceptual model of teacher agency for social justice and inclusive practice. For Pantic, inclusive education and social justice are intertwined concepts. She defines her model of teacher agency as "a process whereby teachers act strategically to transform the risks of exclusion and underachievement into inclusion and improved outcomes for all students in contexts of cultural and social diversity" (Pantic, 2015, p. 759). As described above, Uzum et al. (2022) used Pantic's model with international teacher candidates in a virtual learning environment. To contribute further to this line of research, the study described in this manuscript was designed to use Pantic's model with teacher candidates in a pre-service teacher preparation program with an intensive, field-based year-long residency model.

The research questions that guided this study were:

1. *Do pre-service teacher candidates in a year-long residency model see themselves as inclusive educators for English learners and students with disabilities?*
2. *How do they navigate their emerging teacher identity and agency as they are trained to become inclusive educators?*

Context of Study

This study was conducted at a four-year public university in Texas that is the largest producer of new teachers in its region. Beginning in 2018, administrators and faculty in the teacher preparation program embarked on a significant curriculum revision to the elementary and middle school teacher certification degree tracks. The driving factor for the revision was a move toward an intensive, year-long residency model for student teaching that was brought fully to scale during the 2021-22 academic year. As part of the revised curriculum, teacher candidates now participate in scaffolded, increasingly intensive field-based learning experiences throughout their final four semesters in the program. In each of these semesters, teacher candidates participate in supervised field-based learning experiences in inclusive classrooms that include both English learners and students with disabilities. University faculty teach the accompanying methods courses and work closely with school-based mentor teachers to help teacher candidates develop their skills. The final two semesters are called year-long residency. These two semesters replace traditional student teaching, with the teacher candidates working in the same classroom with their mentor teacher and university faculty supervisor for a full academic year.

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The three principal investigators/authors of this study are full-time faculty in the teacher preparation program. All three authors are deeply committed to the work of preparing teacher candidates to provide high-quality instruction in fully inclusive classroom environments. Two authors primarily focus on preparing teacher candidates to support English learners in inclusive classrooms, and one author focuses on preparing teacher candidates to support students with disabilities in inclusive classrooms. All three authors teach methods courses with field-based learning experiences in their respective disciplines, and two of the authors supervise teacher candidates throughout their year-long residency placements.

During monthly curriculum planning meetings, the authors shared notes and observations from their classroom instruction and field supervision. A common theme that frequently arose during these conversations centered around preparing teacher candidates to teach *all* students in inclusive classrooms. Anecdotally, the authors noted that teacher candidates demonstrated varying levels of willingness and preparedness to support both English learners and students with disabilities in elementary and middle school classrooms. Without using the terms, teacher candidates often seemed to discuss their sense of *agency* (the ways in which a teacher strategically thinks and acts in order to achieve a desired outcome within the classroom) and *identity* (the ways in which teachers view themselves as both responsible for and capable of exercising agency within the classroom context). As described by Pantic (2015), the complex interplay of agency and identity plays an influential role in how teachers approach their responsibilities as inclusive educators. Motivated by these anecdotal observations and a desire to better prepare teacher candidates to work as inclusive educators, the authors decided to engage in the project described in this manuscript

Method

There are 16 total participants in this study. The participants were all in the first semester of their year-long residency placement in inclusive classrooms in public schools throughout the university's region. Along with their year-long residency fieldwork, the participants were enrolled in courses that focused on instructional methods for teaching English learners and instructional methods for teaching students with disabilities.

There were eight participants (50.0%) with a teacher certification degree track of Early Childhood-Grade 6 with special education, six participants (37.5%) with a degree track of Early Childhood-Grade 6 generalist, and one participant each (6.3%) for Prekindergarten-Grade 3 and Grades 4-8. The participants all self-reported their gender as female (100%). Fifteen participants (93.7%) reported their age as 20-29 and one participant (6.3%) as age 30-39. Two participants (12.5%) reported having a disability, and two participants (12.5%) reported being fluent in at least one language in addition to English. Data on the participants are presented in Table 1.

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Table 1

Study participants. (n = 16)

	n	%
Teacher certification degree track		
PreK-3	1	6.3%
EC-6 generalist	6	37.5%
EC-6 w/ special education	8	50.0%
4-8	1	6.3%
Age range		
20-29	15	93.7%
30-39	1	6.3%
Gender		
Female	16	100%
Male	0	0%
Non-binary	0	0%
Disability status		
Yes	2	12.5%
No	14	87.5%
Fluent in multiple languages		
Yes	2	12.5%
No	14	87.5%

All procedures were reviewed and approved by the university's Institutional Review Board. At two points during the semester (class week #3 and class week #12), the participants were asked to respond to two open-ended questions available via an online form in the university's secure Qualtrics survey account:

1. Do you see yourself as a "teacher of students with disabilities"? Please explain.
2. Do you see yourself as a "teacher of English learners"? Please explain.

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At the conclusion of the semester, the authors downloaded the data from Qualtrics into a file prepared for use in Microsoft Excel. For the analysis, the authors followed a two-stage process. In the first stage, the three authors independently coded the data using descriptive codes "remaining open to all possible theoretical directions" (Saldana, 2013, p.100) and had a meeting to compare their codes. For example, a teacher candidate responded to question #1: "Yes, I have worked with students who have disabilities for a couple years and I absolutely love it." The descriptive codes assigned to this response were *prior experience, emotional connection, competence as a result of previous experience*, and *strong feelings and commitment*.

In the second stage, the authors used theoretical coding and coded the responses for questions #1-2 using Pantic's (2015) conceptual model of teacher agency for social justice and inclusive practice. These theoretical codes also included descriptive phrases explaining why and how these codes had explanatory power for a given response. For the example given above, the theoretical codes assigned were *purpose (commitment and motivation), competence (previous experience and awareness),* and *autonomy (level of confidence and individual efficacy).* The responses for question #3 were coded using descriptive codes and were analyzed for common themes identified by the authors.

Findings

The data analysis indicated that there was some growth during the candidates' first semester of their year-long residency in terms of how teacher candidates saw themselves as emerging inclusive educators. Some teacher candidates defined themselves as a "teacher of English learners" and/or a "teacher of students with disabilities" at the onset of the study, while some voiced concerns and hesitations and pointed out the need for further experience and training. Some of these concerns were resolved at the end of the semester while some stayed the same. Overall, there was improvement and growth in terms of Pantic's (2015) four components of teacher agency for social justice: *purpose, competence, autonomy*, and *reflexivity* (see Figure 1 for pre- and post-survey data). In the following section, each question is addressed with representative examples from the teacher candidates' survey responses (pseudonyms throughout, no editing in the quotes).

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Figure 1: Pre- and post-survey results

Question 1: Do you see yourself as a "teacher of students with disabilities"? Please explain.		
Units of analysis	Pre-survey	Post-survey
Purpose	1,2,3,6,8,12,13,14,15,16	1,2,3,6,7,8,10,11,12,13,14,15,16
Competence	1,2,3,4,5,6,7,9,10,11,13,14,15,16	1,3,4,5,8,9,10,11,12,13,16
Autonomy	2,3,4,5,7,9,12	2,5,7,9,11,12,13
Reflexivity	2	
Question 2: Do you see yourself as a "teacher of English learners"? Please explain.		
Units of analysis	Pre-survey	Post-survey
Purpose	2,3,6,8,12,13,14,15,16	1,2,3,6,7,8,10,11,12,13,14,15,16
Competence	1,2,3,4,5,6,7,9,10,11,12,13,14,16	1,4,5,8,9,10,11,12,13,16
Autonomy	1,3,4,5,6,7,9,12	1,2,11,12,16
Reflexivity	4	1,2

Question 1: Do you see yourself as a "teacher of students with disabilities?" Please explain.

Teacher candidates who showed a strong sense of *purpose* (commitment and motivation) at the onset of the study also showed high levels of *competence* and *autonomy* at the onset or conclusion of the study. In some cases, teacher candidates' personal and family histories guided their motivation to become inclusive educators for students with disabilities. For example, one teacher candidate wrote: "I worked a lot in high school with the life skills program and grew up with my childhood best friend who has Down syndrome and just being around people with disabilities has always been something I have gravitated towards" (Stacey, pre-survey). In her response, Stacey offered *competence* through her previous experience in high school, *autonomy* through her personal experience and connection, and purpose to become an educator for students with disabilities that has long been her driving motivation. In the post-survey she wrote: "Yes. I have always had a heart for the special education community, and it is my minor" (Stacey, post-survey). She maintained her *purpose* and *competence* as an emerging inclusive educator for students with disabilities throughout the semester.

In another example, the teacher candidate showed moderate growth in her *competence* and *autonomy* after a semester of year-long residency experience. In her pre-survey, Catherine wrote: "Yes, I have students in my class and I have taught them. But these students' disabilities are not too severe. If these students' disabilities were severe then, I would not see myself as a teacher who could teach those with severe disabilities. Those students need someone who has the right training" (Catherine, pre-survey). In this example, Catherine showed some *competence* and *autonomy* through her individual efficacy. But she determined the boundaries and limits of her knowledge and skills and decided that the severity of a disability would be a determining factor of where her *autonomy* and agency end. She drew the boundaries of her own *autonomy* and that of a specialist. In her post-survey response, she showed some improvement in how she sees herself and wrote: "Yes, I am slowly starting to see myself as a teacher of students with

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disabilities. Finishing my first semester in year-long residency and have worked and taught students with disabilities I am more confident in myself" (Catherine, post-survey).

Some teacher candidates saw themselves as not ready to teach students with disabilities at the end of their first year-long residency semester. Many suggested that more training and practical experiences were deciding factors. One candidate wrote: "Not at the moment. I think I need more practice and observation with students who have disabilities so I can become more confident in teaching students with disabilities by making specific accommodations" (Jennifer, pre-survey). In her response, Jennifer showed limited *competence* and *autonomy*, but showed some *reflexivity* by suggesting that she would need more experience working with students with disabilities and providing them accommodations in order to be more confident in her abilities. At the end of the semester, Jennifer still showed limited *competence* and *autonomy*. She wrote: "I feel like I need to know and understand more accommodations and modification activities as a whole that would benefit my students before I could be considered as a teacher of students with disabilities" (Jennifer, post-survey). Unlike previous examples, Jennifer did not show much purpose or awareness of the challenges of providing inclusive education for students with disabilities. Therefore, there was no driving force (commitment, motivation) to seek and develop the *autonomy* and *competence* teacher candidates would need to become inclusive educators.

In the final example, some teacher candidates rejected the notion of being an educator of students with disabilities, suggesting that the term has negative connotations. One candidate wrote: "I do not, only because I have very limited special education training. Also, I try not to think of my students as 'disabled' because I feel it has a negative and limiting connotation" (Alison, pre-survey). In her response, Alison showed limited *autonomy* and *competence* to be a teacher of students with disabilities in inclusive classrooms due to her limited special education training. Next, she suggested that she does not see her students as "disabled" since it has a negative connotation. She showed some *reflexivity* by avoiding the adjective "disabled" (as opposed to using person-first language such as "student with a disability"), but also ran the danger of ignoring the fact that specific instructional considerations are needed to effectively provide inclusive education for students with disabilities. She maintained this position in her post-survey and wrote: "I do not look at it that way, I just look at it as I am a teacher of all types of students" (Alison, post-survey). In her response, she showed no *purpose* and limited *competence* and *autonomy*. Rejecting the specialized needs of an underserved group runs the risk of potentially not addressing the specific instructional factors that are needed to provide effective inclusive education.

Question 2: Do you see yourself as a "teacher of English learners"? Please explain.

Teacher candidates demonstrated some growth in many of the four components articulated by Pantic (2015), especially more so in *autonomy* and *competence*. Some teacher candidates showed *purpose* at the onset of their first year-long residency semester, and this potentially helped them develop *competence* and *autonomy* throughout their experience. One candidate wrote: "I would love to teach English learners and learn so much more about teaching English learners as I hope to make a difference in teaching them and learning more how to be able to support my English learners in the classroom" (Jennifer, pre-survey). In her response, Jennifer showed growing *competence* and *autonomy* and a strong sense of *purpose* and commitment through her willingness to support English learners. In her post-survey, she wrote: "I think I am more confident teaching English learners than special education students because I have more experience with English learners in the classroom at all different levels, which gives me practice to help English learners at any stage they are in" (Jennifer, post-survey). In her response, she

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showed *autonomy* and *competence* through her increased level of confidence due to her practical experience with different proficiency levels in the classroom.

In another example, the teacher candidate showed some *competence*, but limited *autonomy* and identified "language barrier" or "language proficiency" as factors determining the level of her *autonomy* and *competence*. She stated in the pre-survey: "I feel confident teaching students at a higher proficiency level, but not English learners at a lower proficiency level because I will not be able to communicate with them" (Ana, pre-survey). Ana demonstrated some *competence* as she was aware of the different proficiency levels and the amount of scaffolding or support English learners needed depending on their proficiency level but lacked the confidence and individual efficacy to teach them in class. In the post-survey, she showed some growth in her *competence* and *autonomy*, most likely because of her intensive year-long residency experience directly working with English learners at different proficiency levels. In her response, proficiency level was no longer an obstacle or a challenge for her to see herself as a teacher of English learners. She stated, "Yes, I see myself as a teacher of English learners because I have learned how to differentiate my instruction to meet all student needs" (Ana, post-survey).

In the third example, some candidates appeared to resign themselves to the fact that there will be English learners in their classrooms, and they accepted that reality and their new role as teachers of English learners. This realization was not necessarily a result of their training or their development of *autonomy* and *competence* but was an outcome of their acceptance. One candidate wrote: "I do not because I am not fluent in other languages to help the student adapt to the classroom" (Jane, pre-survey). In her response, she identified language proficiency in students' first language as a prerequisite to be able to become a teacher of English learners. Therefore, she had limited *purpose* and commitment. In the post-survey she wrote: "Yes, because each classroom will have English learners in it" (Jane, post-survey). At the conclusion of the semester, she answered "yes" as seeing herself as a teacher of English learners, not due to her year-long residency experience and growing competence and autonomy, but "because each classroom will have English learners". This acceptance shows not so much purpose but a resignation to an unavoidable reality. Therefore, she did not show much growth in *purpose*, *competence*, or *autonomy*. In parallel examples, some teacher candidates responded in the post-survey: "Not really, but I know it's going to happen."

In the final example, teacher candidates showed purpose but limited *competence* and *autonomy* at the onset of the study and showed further growth in the latter throughout the semester. One teacher candidate wrote: "I feel that if they are intermediate or advanced then I will be able to give them the education, support, and strategies they need in order to be successful" (Kassie, pre-survey). In her initial response, Kassie showed some *purpose*, but limited *competence* and determined the boundaries of her competence through language proficiency. She added she could teach higher proficiency level students. At the conclusion of her first year-long residency semester, she wrote: "I am more than capable and comfortable teaching English learner students. I have taken many courses, I have had many experiences interacting with them. I am more than capable of working with students and teaching them in a classroom" (Kassie, post-survey). In her response, Kassie showed growth in her *competence* and *autonomy*, especially individual efficacy as she saw herself sufficiently prepared to teach English learners. Her strong wording was further evidence of her improved confidence in her skills. In the post-survey, language proficiency was no longer a factor determining her level of confidence teaching English learners. Her year-long residency experience with English learners in an inclusive classroom built on her purpose and helped her develop her *autonomy* and *competence* throughout her experience.

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Discussion

Overall, teacher candidates showed some improvement and growth in Pantic's (2015) four components: *purpose, autonomy, competence*, and *reflexivity* during their initial year-long residency semester as they learned to become inclusive educators. Since teacher candidates had only completed their first year-long residency at the conclusion of this study, it is not surprising that the outcomes are mixed. At the onset of the study, some teacher candidates showed a clear purpose (commitment and motivation) and some competence and autonomy. These candidates were more likely to develop further autonomy, competence, and reflexivity throughout their first semester of year-long residency. On the other hand, some candidates showed some purpose and limited autonomy and competence in the beginning. They were unsure of their skill, and they did not see themselves as teachers of English learners or students with disabilities yet. During the semester, these candidates were able to develop further autonomy and competence, and slowly started to see themselves as teachers of English learners and students with disabilities. In contrast to these first two profiles, some candidates either rejected the labels of English learners and students with disabilities, or identified other parties such as specialists as the responsible party for the education of these students, in a way rejecting the responsibility and identity of being an inclusive educator and delegating it to others. Therefore, they did not have purpose at the onset or conclusion of the study. These candidates were less likely to change their mind or develop autonomy and competence if they lacked purpose while they were learning to become inclusive educators.

A potential pedagogical implication is to create identity-building exercises and assignments throughout their teacher preparation classes and fieldwork to develop students' agency and autonomy. Teacher candidates could be tasked to write teaching philosophies in which they can describe how they will become teachers of English learners and students with disabilities. In these assignments, candidates would use the personal pronoun "I" and action-oriented language such as "I will…" to build agency toward becoming an inclusive educator.

A potential curricular or policy implication could be to require teacher candidates to have specializations in either one or both areas targeted in this study (English learners and/or students with disabilities). For example, Early Childhood-Grade 6 with special education is a degree track at this university. Candidates in this degree track in the present study showed strong purpose and commitment for inclusive education for students with disabilities. However, candidates in the degree tracks of Early Childhood-Grade 6 generalist, Prekindergarten-Grade 3, and Grades 4-8 did not see themselves as teachers of students with disabilities and/or English learners to the same extent. Requiring specialization areas may help teacher candidates develop their sense of agency (the ways in which a teacher strategically thinks and acts in order to achieve a desired outcome within the classroom) and identity (the ways in which teachers view themselves as both responsible for and capable of exercising agency within the classroom context). The development of agency and identity can play an influential role in how teachers approach their responsibilities as inclusive educators (Pantic, 2015). The teacher preparation program could expand the existing teacher certification degree tracks to include endorsement and/or certificate areas directly related to the English learners and students with disabilities. This could help teacher candidates take ownership of their future responsibilities as inclusive educators.

Limitations

This study had a small sample size consisting of a convenience sample from one university's teacher preparation program. Additionally, the study focused on teacher candidates in the first semester of

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their year-long residency placement. The authors plan to improve and expand this line of research by including a larger pool of participants across different semesters in the teacher preparation program. As more teacher preparation programs are moving toward a year-long residency model (U.S. Prep, 2020), the authors anticipate opportunities to expand this study to additional university sites.

Conclusion

The constructs of agency and identity are central to how teachers approach their responsibilities for educating a diverse spectrum of students in inclusive classrooms, including English learners and students with disabilities. This study examined how teacher candidates enrolled in a pre-service teacher preparation program with an intensive, year-long residency model, conceived their sense of agency and identity as related to teaching inclusive classrooms that include both English learners and students with disabilities. The authors hope that an emphasis on teacher agency and identity in teacher preparation programs will help future educators grow their willingness and ability to teach diverse learners in inclusive classrooms.

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BRING'EM BACK KATS! CREATING SUSTAINABLE PROFESSIONAL SPACES FOR EARLY CAREER TEACHERS

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Abstract

Far too many novice teachers say that they feel unprepared for the classroom after completing teacher preparation programs, yet we know that there is no more important in-school factor for students than having a great teacher, particularly in our highest-need communities. Understanding the importance of this idea, in conjunction with the Federal Teacher Preparation guidelines (2016) that ask universities to seek feedback from graduates about their teacher preparation program, led to the creation of an inaugural novice teacher event, Bring'em Back Kats (BBK). This paper highlights the initial data collected from the first and second annual BBK event that led to a sustainable in person and, because of the pandemic, virtual space to support our novice teacher candidates throughout their induction years. We were most interested in discovering if attending a university led professional development targeting early career teachers influences teachers' views regarding the role of the university. In addition, the study sought to determine professional development provided by their district's induction programs was relevant to their early career needs. Our research suggests that novice teachers do not seek out their college or university for support; however, they are seeking support in various content areas or pedagogy.

Keywords: *novice teachers; university teacher preparation programs; support for induction years, teacher retention*

Introduction

"Far too many teachers say that they feel unprepared for the classroom after completing teacher preparation programs, yet we know that there is no more important in-school factor for students than having a great teacher, particularly in our highest-need communities" (U.S. Department of Education, 2016, pg. 1). Understanding the importance of this idea, in conjunction with the Federal Teacher Preparation guidelines (2016) that ask universities to seek feedback from graduates about their teacher preparation program, led to the creation of Bring'em Back Kats (BBK) event. The initial BBK was a full day summer event, offered in August of 2016 and designed for recent graduates of our K-12 teacher education programs. With the success from the first event, the faculty created the second annual BBK event to offer even more teachers a professional development opportunity in August of 2017. This study examines data collected at the second event. The BBK event offered a variety of sessions that were presented by faculty to support early career teachers. The sessions dug deeper into issues of classroom management, diversity, special education issues in the classroom, and much more. These topics were

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identified from the data collected from an annual College of Education Principal Survey seeking feedback about the effectiveness of our teacher preparation programs.

Upon the completion of the inaugural BBK event, university faculty saw this as an opportunity to develop a sustainable support model for their graduates. The long-term goal of the support model is to provide professional spaces where early career teachers can get support from fellow alumni and to continue to interact with familiar faculty. University faculty are aware that most districts have early career support for novice teachers. However, the district models and level of support vary greatly. Furthermore, "employer induction on its own cannot overcome the demands that individual beginning teachers invariably face in the day-to-day realities of teaching" (Maxwell, et al., 2016, p. 43). Thus, the faculty saw an opportunity and the need to create a model that allows for the development of professional spaces to support our graduates with the challenges they face in their induction years as teachers.

Literature Review

It is well documented that the first few years of teaching are exceedingly difficult, and many teachers do not remain in the profession. (Ingersoll & Strong, 2011). It is also well known that beginning teacher mentoring programs assist in the transition from novice to competent during the early years of a teacher's career (Ingersoll & Strong, 2011; Stanulis & Flooden, 2009; Wang, et al., 2008; Feiman-Nemser, 2001). Induction programs are intended to support new teachers to acquire the necessary knowledge and skills to be successful (Ingersoll & Strong, 2011). Commonly, induction programs exist at the county or school district level. Often these programs have a more-narrow view of induction, which does not necessarily think about induction as part of the development on a professional continuum, but it is often considered a short-term support designed to help novice teachers to deal with the first year on the job (Fieman-Nemser, 2001).

Furthermore, "novices need opportunities to talk with others about their teaching, to analyze their students' work, to examine problems, and to consider alternative explanations and actions" (Fieman-Nemser, 2001, pg. 1030). These types of activities support the development of a teacher's efficacy. "The first years of teaching could be critical to the long-term development of teacher efficacy" (Hoy & Spero, 2005, p. 344). Developing an understanding of policy, deepening content knowledge, furthering teaching skills and supporting teacher efficacy development is quite a bit to ask of school districts, who are continually stretched to meet the needs of their students and teachers. So, this leads to the question: Is there a role for university faculty to be involved in beginning teacher mentoring programs?

It is a possibility that university faculty could be an additional level of support in a teacher's growth during the early years. DeWert, et al., (2003) suggest this type of support is possible and beneficial to early career teachers. There has not been a follow up on this study to suggest that it was a sustainable model, thus there is a need to further examine university support models. Maxwell, Harrington, & Smith (2010) studied how an Australian university supported their primary and secondary graduates through on-line interactions. The results of this study showed participants sought the most support during the first school term and then continued to seek support throughout the school year at various levels depending on which grade they taught. A key recommendation from this study is "Induction needs to be distinguished from support. Induction necessarily prepares for the general context; this is our school and policies, etc. Support results from experience in/of a specific situation" (Maxwell, et al., 2010, pg. 55). This recommendation helps to delineate the role of the school district and the potential

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role of the university faculty. The proposed research study wants to examine the idea of university faculty-led professional development supporting their graduates in the early years of their career.

While there is significant research on the impact and effectiveness of induction programs, there is limited research that addresses support models for early career teachers that do not consist of professional learning communities or professional development. This research seeks to create meaningful professional support models for our alumni throughout the induction years. This idea has not really been explored in the research. Furthermore, research suggests that novice teachers are often not comfortable sharing their struggles or problems with mentors' due to the desire to keep their job (U.S. Department of Education, 2016). Therefore, the researchers are interested in exploring if the university can provide a model that allows induction teachers to have a space to seek support.

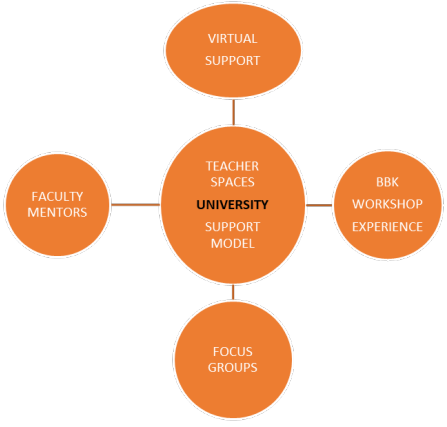
Few studies address a university's role of support to their graduates during induction. DeWert, et al., (2003) examined the ideas of support from the university to recent graduates. However, since this study, there has been no recent research in U.S. on this topic. Maxwell, Harrington, & Smith (2010) conducted a study in Australia examining online support for recent graduates of a teacher preparation program. Since there is limited research on the role of the university as a support model for induction teachers, in addition to the new guidelines being set forth by the U.S. Department of Education, there is urgent need to pursue this line of research.

Conceptual Framework

The conceptual framework in Figure 1 was created by the researchers to consider different teacher spaces that can be used to support early career teachers as they transition from the novice to competent phase on the professional growth continuum. At the center of the framework is a 4-year state university, known for producing many Texas teachers. The faculty saw that it was necessary to create support spaces for our teacher graduates. Additionally, the BBK event, offered each semester, provides a space to recruit future cohorts of our teacher graduates. Through ongoing faculty mentorship, online support (blogs, journals, Discussion boards), and face-to-face focus groups, we hope to provide a meaningful, effective transition experience for our novice teachers. At the same time, university faculty become well informed about what methods and approaches to teaching are working various school districts. This research focuses on the BBK workshop experience both in person and virtually.

Figure 1

Early career teacher support conceptual framework for novice teacher support and mentorship both virtual and in person professional development.



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Methodology

Since the researchers are in the beginning stages of developing their support model for early career graduates, this study looked to examine following research question: Does attending a university led professional development targeting early career teachers influence teachers' views regarding the role of the university?

Participants

Novice teachers. There were 45 participants in this study, of which 17 were practicing classroom teachers and 28 were student teachers. There were 6 first year teachers, 2 second year teachers, 1 fourth year teacher, 2 fifth year teachers, and 6 teachers with 6+ years of experience. Since the BBK event was trying to target early career teachers, the researchers decided only to collect data on years of teaching 0-6+. Of the practicing teachers, seven Prek-3, four 4-6, and three high school (9-12) teachers. Three teachers self-identified as Special Education teachers with no specific grade level. One high school teacher self-identified as both a High School and Special Education teacher. However, the participant was only counted once in the data. The three teachers that self-identified as a Bilingual or English as a Second Language teacher all taught grades PreK-3. Seventy-six percent of the classroom teachers were alumni of our teacher education programs.

Student Teachers. The twenty-eight student teachers started their student teaching placements the week following the Bring 'em Back Kats (BBK) professional development. At the time of the event, fourteen student teachers were completing their credential in Early Childhood through sixth grade. There were five middle grades (4-8) student teachers and two high school student teachers (9-12). Furthermore, three student teachers self-identified as Bilingual teachers with no grade level designation and four student teachers self-identified as Special Education teachers with no grade level designation.

Procedure and Analysis

A mixed method approach was used to collect and analyze data from a survey that was given at the end of the BBK event. The survey included both Likert scale questions and a space for open-ended responses to each question. There were six questions, in addition to some demographic information questions. Four of the questions had both Likert scale and space for open-ended responses. Two of the questions were open-ended responses only. The survey instrument was developed by the researchers with the intent to seek feedback from the BBK event.

This study used nonprobability sampling procedure (Ross, 2005), which limits the generalizability of the results. However, the intent of this research was to examine a targeted population, thus resulting in the use of a convenience sample. There was a total of 53 teachers present at the BBK event. With 45 respondents to the survey, the response rate for this research was 84.9 %. The high response rate can be attributed to the target population of the survey, who self-selected to attend the event.

The analysis of the responses from the open-ended questions of this study draws on the constant comparative method (Lincoln & Guba, 1985) in which participant data is currently being analyzed to seek common themes and categories that reflect the participants' perceptions of their teacher development. The

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quantitative analysis involves descriptive statistics. A process of triangulation of all data sources will validate our data analysis and overall findings.

Results

Results from the survey data indicate the teacher participants' views regarding the role of our university faculty-led professional development.

Prepared to Teach

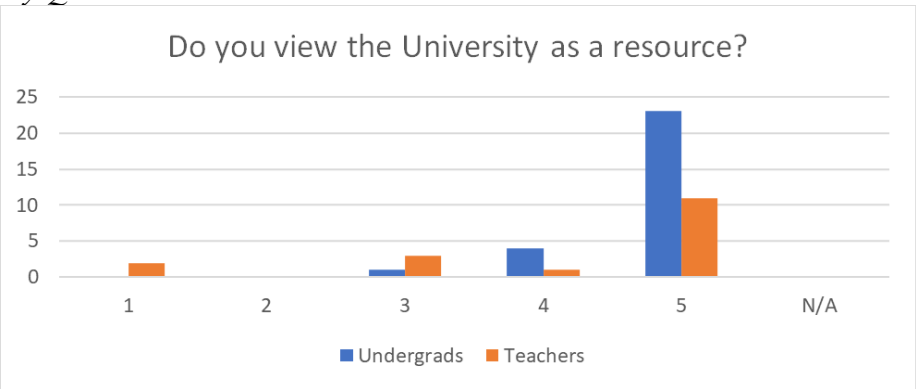
Question #1 on the survey asked participants to rate how well their teacher preparation program prepared them to teach. Both teachers (94%) and student teacher participants (90%) indicated that they felt well-prepared to teach. Seventy-six percent of the teacher responses were our graduates. Two early career teachers provided the following comments, "I felt prepared for my first year completely" and "The [Literacy/Content Methods] Block classes really helped with real world experience. I liked having them at the elementary schools." Furthermore, a first-year teacher said, "There are some things I am still figuring out, i.e. balanced literacy." Sixty-one percent of the student teacher responses scored this question a 5; 29% gave the response of a 4 and 11% gave an NA response. The overall student teachers' response of 90% might be a result of their lack of solo full-time teaching experience. "Although I am not in the classroom yet, I think Sam Houston State has prepared me well," shared one student teacher participant.

Viewed as a Resource

Question #2 from the survey asked the participants if they viewed Sam Houston State as a resource. All special education (SPED) and Bilingual practicing teachers viewed the university as a resource, and all were 1st or 2nd year teachers. Overall, 65% percent of the teacher participants scored this question a 5 indicating that Sam Houston State University (SHSU) was viewed as a resource (See Figure 2). Six percent rated this question a 4; 18% rated this question a 3 and 12% gave a score of a 1. Most of the teacher participants who scored this item a "1" had over 6 or more years of teaching experience. One first year ESL teacher said, "Although I have not used it [SHSU] as a resource I do understand that I can use Sam Houston State as a resource." Another teacher participant shared the following, "Absolutely, our professors always keep the door open for us!" another said, "Yes, I like getting updates [from the university] on things I can do."

Figure 2

Responses to Survey Question #2.



Note: 5 = Very likely; 1 = Not very likely

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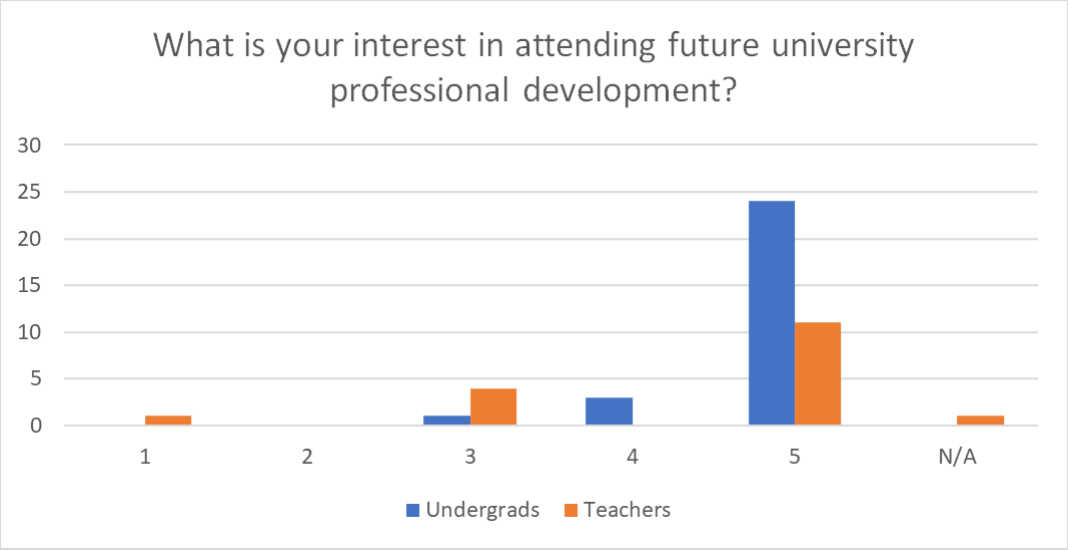
Not surprisingly, 82% of our student teacher participants viewed their university as a resource. Fourteen percent gave a rating of a 4 and 4% gave it a 3 (See Figure 2.) "Yes, I believe Sam Houston State is a great school for educational learning and for furthering education, providing career services and the testing center."

Interest in Participating in Future University Professional Development

Question #3 on the survey asked both teacher and student teacher participants to rate their interest in participating in future professional development. Figure 3 show that 65% percent of the teacher participants rated this item a 5; 24% gave a rating of a 3; 6% rated it a 1 and 6% marked N/A. Most of the 65% of the teachers interested in future university-led professional development were early career teachers; whereas those who gave a rating of 3 or less had more years of teaching experience. One teacher responded, "Yes! I love guided math! I would love to learn more about small group session instruction and helping struggling students." Most of the student teachers (86%) were interested in additional professional development. One student teacher participant shared the following, "I really enjoyed this event. It really opened my eyes to teaching and what it is going to take to be a teacher. I loved hearing the stories from seasoned teachers. I can never learn enough!"

Figure 3.
Responses to survey question #3.



Note: 5 = Very likely; 1 = Not very likely

Likelihood of attending BBK next year

Survey question #4 asked participants to rate the likelihood that they would attend BBK next year. Eighty percent of the participants indicated that they would attend next year's event and 18% said they were not interested in attending future BBK events. It is interesting to note that the participants who were most likely to attend next year's event were *all* early career teachers and student teachers. Whereas those participants who indicated that they were not likely to attend next year's BBK were all veteran teachers with more than 6 years of teaching experience. This data supports the idea that early career teachers are more likely to seek and attend professional development than their veteran counterparts. One first year

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teacher provided the following feedback, "This [BBK] was a wonderful refresher. As I am going into my first full year, I am sure I will need it all again! Thank you!" Another said, "Very likely… I feel it will prepare me to set me up for a good school year." One teacher said that she liked the timing of this year's BBK event as it was planned a week earlier to avoid interfering with school district in-service training. "I could not attend last year's conference because I had already gone back to work. I like how this year it was earlier in August."

Areas of Additional Preparation

Survey question #5 asked participants to identify areas in which they felt they needed additional preparation. Classroom Management, Technology Integration, and Strategies for working with Bilingual students were identified by both the early career and student teachers. Early career teachers are still struggling with similar areas of teacher as the student teachers. Some teachers were interested in training that involved "getting grants" and "interactive word walls, small group instruction, student engagement and struggling students." Several student teacher participants were interested in topics such as "leadership" and "…using technology in mathematics and secondary classrooms." The student teachers identified additional preparation in, "getting ready for the first day of school and first year learning and teaching." One student teacher said, "I'm never done learning – so I'm always looking for extra preparation."

Motivation for Attending BBK

The final survey question #6 asked participants to share their motivation for attending the BBK conference. Teacher responses ranged from "love of learning" to the "price was right!" Participants viewed the event as a "great professional development opportunity" and a "worthwhile learning experience." One teacher participant said she, "Loved the idea of getting back to Sam Houston State." Another claimed that she came because she wanted to see her professors, students, and alumni that she knew and had graduated with. She went on to say "I loved the education I got at SHSU and looked forward to attending. Everything—from the professors to the content – has helped me as a teacher." One student said that she had recently graduated and felt that she needed, "an extra boost to get things going." Another said that she wanted to increase her knowledge about technology, applications and be better prepared for the school year. She also said that she saw attending BBK as a "Great opportunity to go to different workshops and walk away with knowledge in areas I'm not the most confident about." A veteran teacher shared the following,

> As a teacher, I am always looking for where to improve and having taught for 25+ years, I sometimes feel the need to get "updated" with trends and methods. A former student of SHSU and fellow colleague encouraged me to attend this conference.

Most student teacher participants indicated that they were encouraged to attend this professional development at the recommendation of a professor to gain professional development hours. However, others were simply motivated by the opportunity to grow professionally, further develop as a teacher and "…to have something to put on their resume." One future teacher summed up her motivation to attend BBK in this way, "I am here to continue my education. I always want to learn!"

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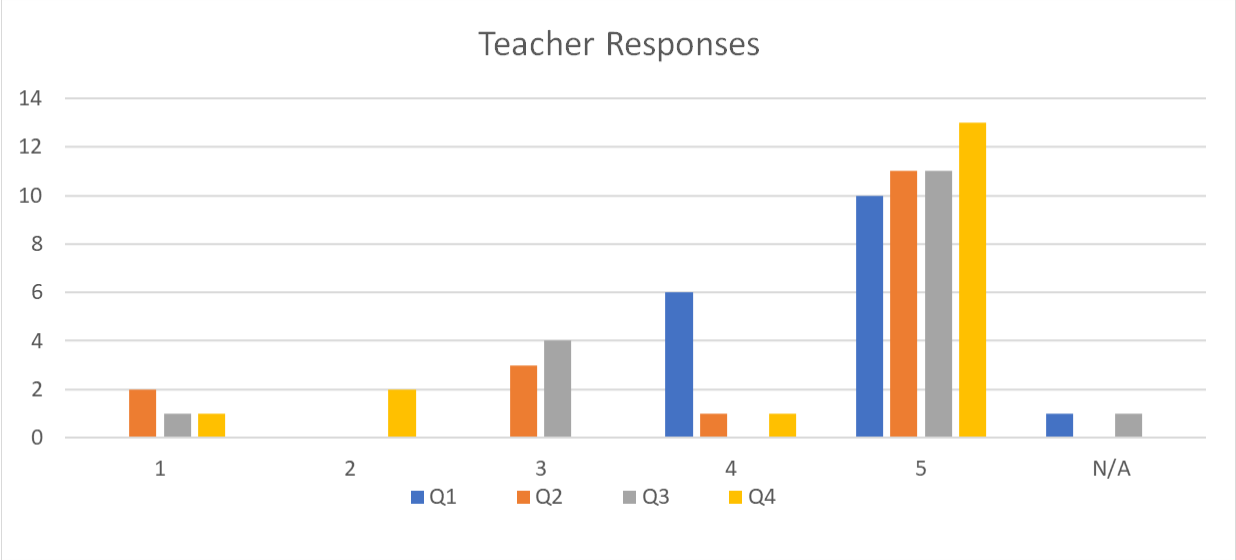
Practicing Teachers

When examining only the teachers' responses, there were some interesting findings. Overall, the classroom teachers had positive views. Interestingly, teachers with more than six-plus years of teaching experience had more negative responses than teachers with less than 6 years teaching. Our most experienced teachers had the least interest in working with the university in future endeavors. These findings suggest that our target audience is accurate. Early career teachers are seeking more assistance and seem to gain more from university-led professional development than their veteran counterparts.

Figure 4

Teachers' responses to all Likert scale questions.



Note: 5 = Very likely; 1 = Not very likely

Lastly, questions 5 and 6 provided insight to the topics that induction teachers are interested in learning about. The session topics of the BBK event were based upon feedback from principal surveys. While the topics of classroom management, technology integration, and bilingual education best practices were like the principal surveys. The participating teachers also identified grant-writing, leadership training, mathematics in secondary education as future topics to be explored. Furthermore, a love for learning in conjunction with the need to connect and network with fellow alumni as well as professors motivated many of the BBK participants.

Conclusions

After taking a closer look at the findings of this research, participants did feel well prepared to face the challenges of their first year of teaching. With 76% of the participants being graduates of SHSU, this is a positive affirmation for our teacher preparation programs. The participating teachers and student teachers did view Sam Houston State as a resource for learning and teaching. These same teachers and student teachers were interested in attending future university-led professional development events. There was an interesting parallel in the response percentages for questions 2 and 3 on the survey. If the participants viewed SHSU as a resource, there was interest in attending future BBK events. This was true for both practicing and pre-service teachers. This finding is important as the university faculty continue to develop their support model for induction teachers. The results indicate that participants have a strong

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interest in continuing working with SHSU. This interest allows for the space for the development of a support model.

Implications

There are several implications from this study. First, we verified our target audience. Data from this study shows that early career teachers (0-5 years) will participate in future university-led professional development. This willingness to participate will open a professional space for a support model to be created by university faculty. Furthermore, induction programs occur in numerous ways at the district or county level. Typically, induction programs focus on district on school policies and procedures with some mentoring. Well-meaning mentoring programs can falter upon implementation due to lack of training of mentors and overemphasis on structure. Teacher retention research suggests that early career teachers need both induction and support to be successful (Brill & McCartney, 2008; Maxwell, Harrington & Smith, 2010; Smethem, 2007; Wynn, Carboni & Patall, 2007). Induction occurs in districts across the country; however, where is the support occurring for early career teachers? Maxwell, Harrington, & Smith (2010) indicate that support needs to be "situationally specific." Our research suggests a similar idea in that our participants are seeking support in various content areas or pedagogy which is different from what is typically delivered in districts' induction programs. We are continuing our plans to provide this support program for all our early career graduates. We were able to sustain the BBK professional development program twice during the pandemic years using Zoom as a format and will be embarking on our first In-person event post pandemic in the Fall 2022.

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UTILIZING SCREENCASTING AND VEEDBACK: TRENDING TOWARD RESEARCH-BASED PRACTICE

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Abstract

This study focuses on the efficacy and value of screencasting to provide feedback during the assessment process. This process known as veedback, uses audiovisual feedback, using screen-capture software which enables instructors to provide a feedback recording. 25 graduate and undergraduate students attending an educator preparation program were surveyed with additional grouping for cultural and linguistic diversity as well as students who identified with a disability. The study is a mixed methods design. The study involves an ex-post facto survey to examine student's perceptions of implementing screencasting in their online courses. Results of the survey will be analyzed using ANOVA and qualitative analysis of open responses. Benefits and trends for best practice are discussed.

Keywords: *Veedback; screen casting; disabilities; online learning; multi-modality; hyflex instruction*

Introduction

Much has changed over the last few years with online learning and the need for the development of evidence-based practices to support student learning, particularly those with disabilities. Additionally, there is a change to assessment practices from summative to formative assessment. The latter offers feedback and opportunities for student revision. The traditional assessment practices for feedback have needed to evolve to support multi-modality learning. Research is new and emerging in this field. The study focuses on the efficacy and value of screencasting to provide feedback during the assessment process. This process known as veedback, uses audiovisual feedback, using screen-capture software which enables instructors to provide a feedback recording. Benefits and trends for best practice are discussed.

Formative Assessments

There has been a movement toward more holistic forms of assessment for students in higher education (Irons & Elkington, 2021). Traditionally, summative assessment was the primary means of assessment in courses. Receiving a grade for completed work without opportunity for the student to revise was status quo. However, there is an increase trend in the use formative assessments in higher education courses (Higgins et al., 2002). Formative assessment provides feedback on performance for improvement (Thompson Sousa and Tucker, 2022). Formative assessment is an assessment step between the beginning of an assignment and the summative grade. It provides the opportunity for revision. The foundation of formative assessment is feedback provided by the instructor to the student.

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Feedback

Part of the formative assessment process is the use of feedback by the instructor to guide the student. However, feedback needs to be more than to satisfy instructor expectation (Higgins et al., 2002). Students want feedback as a means of analysis of their work to improve their craft. Providing appropriate feedback is a predictor of student satisfaction (Kerr et al, 2016) and promotes self-regulated learning (Nicol & Macfarlane-Dick,2006).

Problems with Traditional Feedback

There are issues with traditional feedback methods utilized in face-to face classrooms. Receiving feedback can make students feel anxious and increase negative attitudes towards writing. Students may not have accurate perceptions of the feedback (Orsmond & Merry 2011). Additionally, there may be cultural factors and perceptions toward corrective written feedback (Irons & Elkington,2021) resulting in lack of effort to revise despite the opportunity for revision. (Bailey, 2009)

These perceptions may exist because of instructor feedback techniques. Frequently cited reasons for student difficulty include feedback that is too general or too negative (Orsmond & Merry, 2011; Bailey, 2009; Weaver, 2006). Additionally, it is reported that students may not understand the feedback. This can be due to the variation of feedback between instructors (Bailey, 2009). Effectiveness of feedback is reduced when there is a lack of understanding by students. This can result in students becoming heavily focused on grades as opposed to other means to gage improvement (Weaver, 2006).

What is successful feedback?

There is consensus with research that suggests feedback should be individualized and relevant to receiving students (Weaver, 2006). It is recommended that feedback focus on what is within the student's control (Gibbs & Simpson, 2004) . Feedback should develop positive attitudes of student work which attributes value (Weaver, 2006). It should also be frequent (Gibbs & Simpson, 2004). Feedback should provide an indicator of strengths and not just weaknesses (Nicol & MacFarlane-Dick, 2006). For weakness, it is recommended that not every error be pointed out but guided indirect feedback where an example of a pattern of error can be highlighted for self-directed learning (Ellis,et al., 2006). The hope is that by encouraging students to correct themselves students will narrow the gap between present and future performance by developing positive associations associated with feedback (Nicol & MacFarlane-Dick, 2006).

Need for EBP for online learning

The pivot to online learning has created a need for evidence-based practices associated with serving students with disabilities and online learners in general. This is particularly true in terms of evaluating and implementing feedback. Since 2020, online learning has become a ubiquitous pedagogy that needs further research. Learning in the classroom can occur in multiple modalities. How these modalities are defined extend across a continuum. Courses have the following modalities (Quality Matters, 2022):

- Asynchronous: The course is conducted online at a self-directed pace with deadlines for completion. There are no or few required on-campus or synchronous meetings.

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- Synchronous: The course is conducted online and there are live meetings scheduled throughout the course. They are synchronous sessions with predetermined dates and time. There are none to few on campus sessions. Course work may be online in an asynchronous format or there may be interactions and assignments in an online meeting room.
- Hybrid or Blended: A higher proportion of the class occurs face to face versus online which varies according to state guidelines, institutional policies, and the instructor.
- Face-to-face: A traditional classroom-based course with regularly scheduled in-person meetings, where students and instructors are in the same physical space and at the same time. It may rely on "web-enhanced," content, use of an online gradebook.
- Multi-Modal: Uses two or more modalities for teaching: (e.g., face-to-face and online, asynchronously and/or synchronously). This includes HyFlex courses which are multi-modal where students can choose their mode of attendance for each class session.

The continuum of modalities are blurred. Each modality represented has room for varied interpretation. With variation comes a need for flexible tools for engagement with students. Web 2.0 tools can be difficult to fit in along the continuum. In other words, web 2.0 tools support asynchronous responses such as email or announcements. They are geared to strict electronic engagement that may not work for all modalities in online instruction. For example, sending feedback via email or a learning media system (LMS) repository with text would be considered 2.0. There is little room for interpretation of nuances within the feedback. As with traditional means of course delivery E feedback in this manner can create initial anxiety of students (Hewitt 2010; Henderson & Phillips, 2015).

Web 3.0 practices are developing into viable options to support multimodal learning. With web 3.0 tools, there are multiple ways for instructors to provide feedback to students. Research is new and limited for web 3.0 applications for multiple modalities. One web 3.0 application is screencasting. Need for research for screencasted feedback, known as veedback, addresses issues with traditional feedback methods. The use of screencasted feedback can ameliorate some of the issues associated with traditional and asynchronous feedback methods.

What is Screencasting?

Screencasting is a digital recording using audio and voice narration which records the user's computer screen. Screencasting has general applications in business, education, and entertainment. In education, screencasting can be used to support synchronous or asynchronous conferencing. However, it is more than recording what is on the screen. Screencasting supports multiple modalities of online instruction. Originally, screencasting meant pointing a camera toward the computer screen. Today there are multiple products to support narration, targeted visual displays, editing and storage features. Students can also access the screencasts using multiple modalities.

What is Veedback?

When using screencasting application for academic feedback, a recent term has been coined, veedback. Veedback is a method of feedback from the instructor to the student that uses the combined components of audio and visual captures, instructor annotation, highlighting such as cursor movements and comments about the students work (AbdRahman, Salam & Yusof, 2014). It allows the student to get feedback from their work in multiple modalities. With veedback, audio and video data operate concurrently (Silva, 2012) providing enriching support.

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Veedback: new and little research

Research regarding screencasted feedback or veedback is new (Harper, Green, & Fernandez-Toro, 2012). There are limited studies (Bilbro, J., Iluzada, C., & Clark, D. E.,2013); Henderson. Studies available are of small populations citing small trials of the benefits of veedback that would be difficult to generalize to larger groups(Edwards, Dujardin &Williams, 2012; Kerr et al, 2016). Grigoryan (2017) additionally cited concerns regarding the lack of studies and efficacy of multimodal feedback.

Need for Veedback with Disabilities in the Research

There is also a need for studies in the benefits of using veedback for students with disabilities. There is limited research for supporting veedback as an assistive technology application. Recent studies emerge, however. Bau (2019) used screencasting as a method to create accessibility through closed captioning for civil engineering students who are Deaf. Thompson and Lee (2015) state veedback meets different learning styles and can provide accessibility for students with dyslexia. Rodway-Dyer, Dunne, & Newcombe (2009) cite the benefits of screencasted feedback as an alternative to students having difficulty reading illegible handwriting which again can be generalized for students with dyslexia or orthographic processing deficits. Video modeling has been prevalent in research of autism spectrum disorder for behavior and pragmatic skills for years (e.g., Bellini & Akullian, 2007). Assistive Technology has historically been used for low incidence disabilities and people with sensory issues (Thompson Sousa & Haynes, 2021). Screencasting as an assistive technology tool supports universal design for learning principles which support accessibility to diverse learning styles (Sabbaghan,2021). Veedback supports diverse learning styles, (Cunningham, 2015: Thompson & Lee, 2015). Research into veedback to support students identifying with disabilities is important given that veedback also supports multi-modal types of instruction (Crews & Wilkinson, 2010) which individuals with disabilities need access.

Veedback in Higher Education

There is active recent support of the use of veedback in higher education. Most often, studies revolve around student responses to veedback. Students reported feeling positive about veedback (Cabot, 2015; Cunningham; 2015). Mohan and colleagues (2010) found that students responded positively to lectures when screencasting was used. Most often this was due to students perceiving veedback as personal and individualized. Students equate personalization with rapport with the instructor (Henderson &Phillips, 2015; Thompson & Lee, 2015). An individualized experience was equated among students as veedback targeted specifically to the student and unique in comparison to their peers (Turner & West, 2013; West & Turner, 2016; Cunningham, 2015).

Veedback is positively received and increases student engagement.

As a result of the positive association associations associated with veedback, students reported that veedback would enhance future performance. Students reported they thought differently about submissions when veedback was used (Sabbaghan, 2017). Students found veedback easier to understand compared to traditional feedback (Turner & West, 2013). Students also reported that veedback provided in their current course would be a contributing factor to enhancing future writing and projects (West & Turner, 2016: Rodway-Dyer, Dunne, Newcombe, 2009). This engagement was partly due to reduced anxiety reported among students receiving feedback (Silva Harper, Green, & Fernandez-Toro, 2012). In a study by Rodway-Dyer, Dunne, & Newcombe (2009), students had greater engagement and follow

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through when veedback was used. As a result, there is more focus on the instructor feedback and and less focus on grades by the student (Jones, Georghiades & Gunson, 2012).

Veedback is valid.

Based upon positive association and reduced anxiety, veedback is regarded by students as a valid means of assessment (Henderson & Phillips, 2015; Edwards, Dujardin & Williams, 2012: Cunningham, 2015). Veedback measures what it claims to measure, growth in the student's performance. Aside from student perceptions of validity, veedback has theoretical support in constructivism (Zhang & Kenny, 2010). With veedback, student improvement and learning occur based upon the rapport with the instructor. This rapport increases student success in achieving learning outcomes. As a valid and theoretically supported application, veedback has application regardless of subject or modality of instruction (Mohorovičić, 2012) Veedback can be used regardless of the subject.

Veedback with ESL in many studies the benefits of Veedback rest with research in ESL

Many veedback studies are centered on language acquisition and service to students whose first language is other than English. Most studies fall under guiding best practice for veedback**.** Mathew and Alidmat (2013) cited benefits to audio visual feedback but in terms of content support rather than true summative or formative feedback, citing its usefulness in instruction for second language learners. Zhang and Kenny (2010) identified challenges feedback such as lack of clarity that prevents students from interpreting in a way the teacher intends. They contend that online distance education course designers should combine the design principles for successful online interaction. This includes use of tone and highlights for best practices.

Veedback Best Practices

There has been active recent support of the use of veedback in higher education with respect to best practices. Most have been reported based upon student perceptions. This includes the instructor's voice, supporting aids, depth of veedback and timeliness.

Use of Tone

Voice is a contributing factor to veedback. Conversational quality is a reported issue among feedback recipients. Best practice for veedback involves the proper use intonation when screencasting (Harper, Green, & Fernandez-Toro, 2012; Kerr, et al, 2016). Inferring the tone of a written message is something that is a common struggle which is a difficulty with traditional feedback. Anyone on the receiving end of an email or text that has dealt with difficulties understanding tone at times understands the concern. Therefore, it is important for instructors to consider use of their voice both with modulation and use of a casual tone. Thompson and Lee (2015) report that "conversational quality" improves rapport between instructors and students and therefore a vital component of veedback.

Supported Screencasting

Utilizing visual or annotated support is also best practice for veedback. It is not enough to provide a screencasted narration. Best practice for veedback involves a combination of audio/visual and written feedback according to Parton, Crain-Dorough & Hancock (2010). This is done by providing a

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variety of materials (e.g., files and websites) and increasing verbal explanation. By combining these methods instructors provide more information than through screencast or the written comments alone. It is recommended that veedback specifically targets problems using annotations (West & Turner, 2016) By using this combination students will have greater clarity and improve their progress (Kerr & McLaughlin, 2008; Cunningham, 2015). Use of veedback and supported techniques may not support students entirely. Rather, it is important for instructors to provide depth to their veedback (West & Turner, 2016). It is recommended that verbal explanations offer detail and highlight annotations (Jones et al., 2012). To support the depth of understanding, students may need guidance to create sustainable practices before accessing feedback (Weaver 2006; Harper, Green & Fernandez-Toro, 2012). Therefore, offering quality veedback to students means depth in visual and auditory support.

Veedback is best used for formative assessments.

Veedback, like traditional feedback, is best utilized for formative assessments. Feedback for summative assessment does not give the opportunity for the student to grow and revise their work for later application. Veedback during formative assessments provides the student with an opportunity for revision for greater progress and thus they are more motivated to do so. Students report that veedback is more successful when used during formative assignments for assessment rather than summative (Edwards, Dujardin & Williams, 2012). Formative feedback is best when structured, ongoing and timely.

Instructor Benefits

Research cites benefits of veedback particularly for higher education. Veedback offers benefits to faculty in the face of resource constraints (Gibbs & Simpson, 2004; Kerr & McLaughlin, 2008). Time and flexibility were the largest contributing benefits reported by instructors regarding veedback. They found veedback's application most useful for large courses by saving time and creating flexible opportunities for various modalities of instruction. There also was a reported need for instructors to use their resources and time in a constructive manner (Denton, Madden, Roberts, & Rowe, 2008) particularly when faced with the challenges of online learning format.

Saves Time

Instructors report that using veedback saves time compared to utilizing written feedback (Thompson & Lee, 2015). The assessment process took less time when technology was used (Crews & Wilkinson, 2010) and saving that time was valued (Henderson and Phillips, 2015). This was particularly applicable when the task involved large groups of students as those found at higher education institutions and in online classes (Edwards, Dujardin and Williams, 2012) . Additionally, utilizing screen-casting in lieu of typical office hours offers flexibility to respond to students in multiple time zones. Veedback is accessible regardless of the time of day and gives students the ability to re-watch more than once, reducing the amount of follow up questions.

Veedback Supports Multimodality and UDL

Veedback offers suitability for distance learning (study model). It can be applied to a variety of online courses (Wade, 2016). Because veedback can be accessed at any time it supports multimodal types of instruction (Crews & Wilkinson, 2010; Olesova; 2011). This gives instructors more flexibility in their type of instructional delivery. Veedback also supports Universal Design for Learning (UDL) which is a

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flexible framework for accommodating learning differences (Rose, Ralabate, & Meo, (2014). UDL practices are equitable practices providing access to learning objectives. These practices are inclusive to all abilities and disabilities. UDL practices focus on engagement, representation, action, and expression. Veedback can support all UDL practices in that it provides formative assessment for development and improvement

Research Methodology

The research aims to contribute to understanding best practice for veedback and screencasting for students. The research is the first step in identifying the use of veedback and screencasting as an assistive technology practice for students with disabilities. Additionally, responses of culturally and linguistically diverse students will be evaluated to see if the cultural or linguistic issues cited in the literature could be a contributing factor to negative responses regarding veedback compared to the respondents that do not identify as English being their second language. The research will answer three questions:

1. Determine whether Veedback or screencasting can be considered an effective practice for online instruction.
2. Determine whether Veedback or screencasting is beneficial in ameliorating issues associated with disabilities that can occur with instruction online
3. Determine whether Veedback or screencasting is beneficial in ameliorating issues associated with cultural and linguistic hurdles that can occur with instruction online.

Participants

University students participated in online course work using the learning management system (LMS) Blackboard. The courses are asynchronous, synchronous, and multimodal but were not delineated in the survey as part of the study. Students are in-service teachers and graduate students in education and pre-service undergraduate teaching candidates (N=24). Students were additionally classified in terms of identifying with a disability or as a learner whose language was other than English which represented 22% of the respondents. Participants were chosen on a volunteer basis and participation was announced via email and through their course announcements.

Material and Methods

Screencast video feedback, veedback, was recorded using a freely available screencast software. A free account was used which allows for 15 minutes of recording time. Screencast software was utilized for veedback of formative assignments for their course. Students were provided veedback in consideration of recommended best practices. Veedback best practices include providing highlights and annotation of written work, pointing out strengths, utilizing a conversational tone when speaking, providing veedback for formative assessments and providing veedback in a timely manner. The screencasted veedback was then uploaded to an unlisted YouTube account to provide unlimited access and privacy. The student was alerted to the veedback communication through the student email account or through the course forum. An embedded code showing a thumbnail of the video was used for ease of access. The student did not need to create an account to access the information.

Research Design

The study is a mixed methods design. Participants are the same for both. The study involves an ex-post facto survey to examine student's perceptions of implementing screencasting in their online courses.

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The questions were developed based upon best practices outlined in the literature review. The results of the survey were analyzed using ANOVA.

Qualitative data analysis occured. Participants had the opportunity to share experiences about screencasted veedback with an open response. These responses will be coded and analyzed to predict any benefit or trend toward best practice. Analysis is based on Grounded Theory (Glasser & Strauss, 1969).

Outcomes

Quantitative Data Analysis

Veedback can be considered an effective practice for online instruction. Most responses fell in between positive and neutral in their responses. Overall, respondents stated that receiving feedback through screencasted videos, veedback, helped students reshape their ideas compared to written feedback from the instructor alone (N=43%). They reported that screencasts helped with understanding the expectations of assignments (N=56%). Veedback was helpful, clear, and easy to understand (N=74%). Students felt that veedback was engaging in the revision process in comparison to written feedback alone (N=60%). As with previous studies, students reported that veedback felt personal (N=60%) and would recommend it for other classes (N=59%).

Not all was positive with respect to screencasting and veedback. Some students responded that they had difficulty loading videos (N=8%). When given the opportunity to elaborate on the difficulties, respondents did not give additional context. Screencasts and veedback used in the study were automatic queued videos housed in a cloud with additional alt text hyperlinks for immediate watching. So, it is difficult to determine what access issues existed. Some students did report that screencasts and veedback were time-consuming (N=4%). The length of screencasts was 15 minutes or under. Veedback provided to students was 2 minutes in length.

Disability and Cultural Linguistic Diversity – Veedback

People with disabilities made up 13% of the study respondents while students with a primary language other than English made up 8%. There were significant findings with both groups in comparison to respondents that did not have disabilities or English as a second language. Respondents with disabilities reported that screencasting “helped with the understanding assignments in comparison to feedback delivered with writing alone” to a larger degree than in comparison to respondents without disabilities ($P = <.01$). Students that identified as having a primary language other than English, reported more often that veedback “felt personal” in comparison to all respondents ($P = <.01$).

Qualitative Analysis

Respondents were queried further regarding veedback and screencasting. Trends emerged (Fig. 1). Most frequently they stated that the use of screencasting helped. Students stated they liked it and had suggestions or support for the frequency of use for veedback and screencasting. Ease of use and access were common in responses with respect to screencasting. Students did state that veedback was most beneficial in conjunction with written feedback which supports previous research. Screencasting, whether used as veedback or as multimodality instruction was reported as “helpful” frequently. Students reported that they “liked” screencasting to provide feedback and instruction. In their feedback they stated that a “once per week” screencast was most helpful in terms of frequency.

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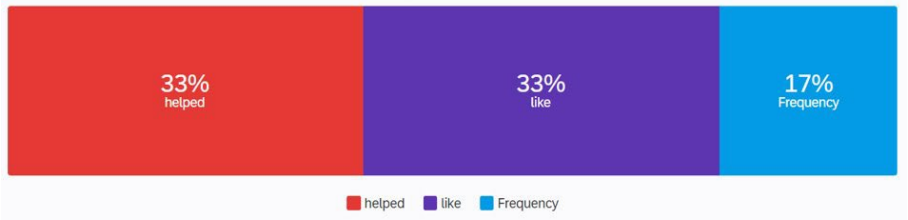
Figure 1
Breakdown of open responses



Note. Students' open responses were positive to veedback

Conclusion and Recommendation

Diversity in the classroom happens at every level, whether K-12 or in higher education. It is important that faculty in higher education be aware of diversity in the classroom and utilize multimodal applications in their instruction. 21% of respondents for the study had issues with language or disability affecting learning in their online program. Two areas of significance were reported. Students with disabilities reported benefiting from screencasting in comparison to written instructions alone to a significant degree in comparison to the mean response of students not identifying with a disability. Students with cultural and linguistic diversity reported that veedback felt personal to a significant degree in comparison to students that did not identify as such. These two findings bolster support for research in screencasting and veedback as an evidence-based practice.

Results of this study additionally provide guidance into recommended research regarding the frequency of screencasting in instruction. A frequency of one time per week in a course was recommended by students. Additionally, length of screencast or veedback was a reported area of concern. It is recommended further studies occur with respect to student engagement and length of screencast or veedback.

Certain considerations are recommended for future research in veedback and screencasting as an evidence-based practice. Omitting the name of the screencast software used for the study was deliberate to reduce bias and misunderstanding of what constitutes a potential evidence-based practice when utilizing web 2.0 and 3.0 tools. While other studies in the literature review named specific screencasting software. Caution is recommended in this practice. It is the instructor practice of using the screen casting tool rather than the software itself that contributes to evidence-based practices in online instruction and assistive technology. Confusion about this concept is influenced by affiliate opportunities offered by screen casting companies to "influencers" and other social media content providers. While affiliate opportunities would be appropriate for non-educational applications, researchers need to exhibit caution. Too often, specific software or devices are touted as intervention rather than instructor expertise of application for device (Thompson Sousa, Haynes-Smith, 2021). It is important for instructors to not utilize web 2.0 or 3.0 products at face value but research and understand best practices in the use of the device and how they apply to diverse student populations.

Utilizing veedback as a tool for formative assessment in educator preparation programs serves as a model for practice. Students have the benefit of evaluating veedback's utility as a user and receiver

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before putting it in to practice in their own classrooms and with their own students. Implementation of veedback begins with the instructor. If students have a positive experience and a closer connection to their instructors, veedback is interpreted as valid and they will more likely implement the application when the opportunity presents itself. Veedback is efficient and effective for instructors who may have difficulty reaching in-service teachers and working students during business hours. It offers the opportunity for students to marinate on recommendations of the instructor while lessening their anxiety. By instructors utilizing recommendations for tone, annotation and frequency instructors can make connections with their students while fostering growth.

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TALE OF THREE TEAMS: REVAMPING CURRICULUM AND CAMPUS STRUCTURES TO IMPROVE LITERACY ACHIEVEMENT FOR STUDENTS IN POVERTY

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Abstract

Researchers have studied the effects of poverty on student achievement for decades which resulted in different government mandates to correct the issue in the United States. The aim of the polices is to break the cycle of inequitable access to literacy, among other social concerns of inequity. Moats (2020) argues educators CAN get 95% of students to on grade level reading performance by the end of first grade if intervention begins early and provides instruction aligned to the science of reading. This study uses the knowledge of the Science of Teaching Reading to implement structured literacy professional development with all faculty serving grades K-2 at a rural primary campus that had been without a phonics-based curriculum for several years. Additionally, time for appropriate literacy instruction was added, including a tightly held Response to Intervention period, and time for collaborative planning and data analysis which all worked together to achieve stellar student achievement results.

Keywords: *Science of Teaching Reading, STR, equity, Structured Literacy, literacy, Response to Intervention, RtI*

Introduction

Researchers have studied the effects of poverty on student achievement for decades which resulted in different government mandates to correct the issue in the United States. The aim of the polices is to break the cycle of inequitable access to literacy, among other social concerns of inequity. In 1995, Hart and Risley documented a 30-million-word gap in vocabulary between children from families with parents or guardians with incomes above the poverty threshold as compared to those at or below the poverty threshold in the United States. Despite environmental factors, which do impact children's learning outcomes, Moats (2020) argues educators CAN get 95% of students to on grade level reading performance by the end of first grade *if* intervention begins early and provides instruction aligned to the science of reading. Kilpatrick (2018) notes the lack of instruction in foundational reading skills is a leading cause of children's reading struggles; and Seidenberg (2017) expands that the degree to which a child finds success or failure with reading is directly related to how quickly the child was identified as in need of intervention, coupled with the skill of the educator to provide appropriate instruction. Therefore, the only certain way to obviate low literacy is prevention: successfully teaching children to read in the first place (Seidenberg, 2017, p. 9). Why has this been a stumbling block in American classrooms for decades?

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Seidenberg (2017) argues there are three main challenges to successful literacy instruction: 1) lack of educator literacy to seek out scientific claims rather than what is claimed by uninformed and unskilled decision makers, 2) a strong belief in the validity of personal experiences, creates a vulnerability to believe claims that lack any scientific truth, and 3) the conflict between identifying research-based instructional support versus publishers marketed materials. Furthermore, websites are not always the most reliable source for research-based information; so, if educators do not have access to peer reviewed research for guidance in reading instruction, the volume of marketing materials and information can be overwhelming, particularly for novice teachers.

However, it takes more than knowing how to break the unproductive systems that are not producing what is desired in education. Educators at all levels must take action to put the right systems in place. Therefore, instead of turning to a new program to solve reading woes each time external pressure is applied from political forces outside the classroom, district and campus administrators must become knowledgeable about effective reading instruction to make appropriate curricular choices. In the meantime, children are receiving inadequate reading instruction and fail to develop as readers (Danielson, 2002).

Context and Purpose

This research project emerged when Cordray was asked to assume the role of principal of a small primary school in northeast Texas. Prior to taking on the role of principal at the campus, she worked in the school district's central office as Director of State and Federal programs for the school system. The superintendent asked Cordray to review the primary school's literacy instruction in the 2017- 2018 academic year. The data indicated that 67% of students in pre-kindergarten through second grade were underperforming. The school's student population were listed as 99% of students who were "at risk" of not graduating high school due to economic and/or social hardships. In the course of data review, it was discovered that there was no research-based phonics curriculum present. Additionally, further investigation into the campus structure revealed wasted instructional time with long and chaotic transition periods, no systematic phonemic awareness instruction, no phonics instruction, and the absence of direct, systematic, explicit literacy instruction on the campus.

North Primary School (NPS) serves grades PK through 2nd grades and is situated in a small northeast Texas town with a population of approximately 4,500. The total students enrolled in the school system was approximately 1,200, with 379 enrolled at the primary school. In the 2017-18 school year the following demographic data were reported: white - 54.2%, African American - 23%, Hispanic - 11.9%, and other - 10.9%; 205 males (54.09%); 174 females (45.91%); Special education students represented at 13.23% of the student population, while 83.6%. of students were reported to live at or below the poverty threshold. Additionally, there are 14 English Learners and 6 gifted and talented students. The professional staff was 89.7% white and 96.6% female. The years of teaching experience were reported as 48.3% having 0-5 years of experience and 10.3% having 6-10 years of experience. On average, the teacher/student ratio was 1:16 (Texas Academic Performance Report, retrieved from https://tea.texas.gov/perfreport/tapr/index.html, June, 2019). Also notable for the context of this study, in 2018, the national government required a new report be filed by school districts called the Equity Report. This report showed this primary schools was staffed by teachers with the least experience and served the greatest number of students in poverty in the school system.

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Interventions

Cordray officially began in the role of campus principal at NPS July 2018 with the first task of drafting a more efficient master schedule to support structured literacy instruction. The adjustments included a daily planning period so teachers could collaboratively plan instruction that meets the rigor of the Texas Essential Knowledge and Skills (TEKS). Also, in summer 2018 through discussions with the Instructional Specialist for Elementary, it was discovered an extremely fragmented Response to Intervention (RtI) process had been used by the campus in the 2017-18 school year. Response to Intervention allowed teachers to provide any intervention of their choosing during the appointed RtI time in the schedule. A different educator (the dyslexia specialist on campus) progress monitored students on skills that were not tied to classroom instruction, and the assistant principal input the data. In the 2017-18 school year there was not a system for enrichment for students who were already performing on grade level. In order to allow for student growth and support for students already achieving at or above grade level, the Instructional Specialist for Elementary and principal worked to incorporate a more effective RtI process into the improvement plan for students' reading success which included allowing those already at grade level to receive enrichment.

Professional Development in Structured Literacy

The principal's prior role as Director of State and Federal Programs in 2017-18, charged with overseeing the decisions for how the district spent federal funding, offered a unique perspective on the availability and potential source of funds for literacy curriculum. Cordray recommended the district look for resources to support research-based phonological awareness and phonics instruction. It was important to provide teachers with the training to implement these instructional tools accurately, since the data pointed to a lack in reading achievement. In April 2018 district administrators elected to provide Language Essentials for Teachers of Reading and Spelling (LETRS) training to all prekindergarten through 2nd grade teachers and all other teachers who taught reading directly in grades 3rd through 8th. LETRS is "professional development for educators responsible for improving K-12 instruction in reading, writing and spelling" (Moats and Tolman, 2009, p. 1). Teachers were directed to complete Modules 1 and 2 of LETRS over the summer to qualify for the two exchange days that were scheduled in early August. The online training completed over the summer would be followed by an in-person training day to solidify content knowledge.

The district committee also chose to fund training in Neuhaus Education Center's Language Enrichment curriculum for teachers who would be teaching summer school in 2018 and training in Neuhaus' Reading Readiness and Automatic and Accurate Reading for all other Kindergarten through second grade teachers in August 2018.

Outcomes

The second-grade teachers and reading interventionist received the training and curriculum readily which is evident in the results they had with students. During observations, it was noted that the Neuhaus curriculum was implemented with fidelity, all second-grade teachers were open to feedback, and the teachers provided unwavering support for students' improvement when they were assessed. As noted in Table 1, Scores for 2nd Grade Students Based on STAAR Reading, there were substantial gains in the

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percentage of students who achieved a 2.0 and above on the STAR reading assessment, moving from 18% in August of 2018 to 67% in April of 2019, an increase of 49% in one academic year.

Table 1.
Scores for 2nd Grade Students Based on STAR Reading

Date of Assessment	# Assessed	# at PP	% at PP	# at P	% at P	# at 1.0-1.9	% at 1.0-1.9	# at 2.0 and above	% at 2.0 and above
August 2018	73	33	45	6	8	23	32	13	18
April 2019	79	16	20	4	5	6	8	53	67

After assessing student progress, teachers readily shared data with students and celebrated successes. These teachers also willingly accepted direction for grouping students for RtI, setting Accelerated Reader (AR) goals, and following campus AR expectations. They also encouraged students and families to participate in all campus extracurricular literacy activities with great enthusiasm. Although all of these are positive comments and the results seen with 2nd grade students were phenomenal; it is suspected that the fidelity of implementation came from a place of blame, directed at what 1st grade teachers had not done the previous year. The second-grade team was stressed by the need and pressure they felt to get students reading on grade level, and rather than blame being placed where it should have been, the lack of a research based curriculum taking its toll on student achievement, the second grade team blamed their first grade counterparts. Teachers felt unnecessarily burdened for the students' poor reading levels at the start of 2nd grade and so they did not veer from the path set before them with structured literacy instruction, trusting that it would provide what the students were missing. As Table 2, Scores for 2nd Grade Students Based on Texas Primary Reading Inventory notes, student performance improved by more than ten percentage points in all categories, except for Story 1 Comprehension. Student performance in this category increased by 7.3%, while all other categories improved by 10.1% or more. Consistent with the hypotheses that a lack of spiraling structured literacy practices left students with significant gaps in their reading skills, Graphophonemic Knowledge reflected student gains from 13% in August 2018 to 66% in April 2019 – an increase in student skills of 53%. Similarly, Word Reading 2 or more showed student results at 45% in August 2018 but students scored 75% in April 2019, a 30% increase in student achievement. The students, teachers, and leadership were the same in August of 2018 and in April of 2019, the changes provided during the school year was in the use of a spiraled structured literacy curriculum which impacted student learning and performance in a positive manner when implemented accurately.

Table 2.
Scores for 2nd Grade Students Based on Texas Primary Reading Inventory (TPRI)

Date of Assessment	# Students Assessed	GK 3 or more* % D	WR 2 or more* % D	Story 1 Reading % D	Story 1 Comp. % D	Story 2 Reading % D	Story 2 Comp. % D
September 2018	71	13	45	63.4	53.5	56.3	39.4
April 2019	79	66	75	73.5	60.8	77.2	58.2

*Texas Literacy Plan Standards
GK = Graphophonemic Knowledge; WR=Word Reading; D= Developed; SD=Still Developing

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At the other end of the spectrum, much of the kindergarten team (three of five) and the first-grade team (four out of five) displayed negative attitudes toward the new structured literacy instruction model, at best. The two positive educators in kindergarten were new, in their first or second year, on the campus. The most positive and open teacher in 1st grade was a new to the profession and working through an alternative certification to obtain their credentials. Corday was unaware at the beginning of the 2018-19 school year about the negative interactions (most were unspoken, but obvious) between the second and first grade teams. The second grade teachers made comments to first grade teachers such as, "What did you teach these students?" When these comments and attitudes were brought to the attention of the principal in late October, she had a conversation with the main spokesperson from the second grade team. Unfortunately, the conversation was not sufficient to turn the effects of the 'blame game' around.

However, the blame game had a detrimental and lingering effect on the first-grade team's ability to embrace structured literacy and implement it with fidelity. Their competency was attacked, and all interactions afterward to improve literacy instruction were marred by the negative interactions with colleagues. After doing an observation with one teacher, Cordray scheduled a feedback session. Even after beginning the feedback session with positive words prior to making suggestions for instructional improvement, the teacher shut down. She responded to the feedback provided with a teary, "I thought I was doing it all right." Table 3, Scores for 1st Grade Students Based on STAAR Early Literacy, demonstrates the impact of the negative interactions as related to student achievement. There were improvements in student performance from August 2018 to April 2019, which is good, and clearly desired, but the improvements would likely have been even more substantial without the negative interactions between teams, which lead to the defensive feelings from the feedback session.

Table 3.
Scores for 1st Grade Students Based on STAAR Early Literacy

Date of Assessment	# Students Assessed	% at Early Emergent	% at Late Emergent	% at Transitional	% at Probable
August 2018	78	15	58	15	10
April 2019	84	0	10	46	44

As a result, the corrective feedback had little impact on her practice. This situation remained the consistent throughout the year which became a barrier to effective implementation of the curriculum and as a result, student achievement. Cordray worked with the entire first grade team on several occasions to split the elements of the Language Enrichment curriculum into both whole group and small group components based on which needed closer supervision and accountability with the teacher (decoding words). Two of the five were open to feedback and made changes after they were observed. The others continued instructional practices via whole group instruction that should have been carried out in small group teaching time.

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Table 4.
Scores for 1st Grade Students Based on Texas Primary Reading Inventory (TPRI)

Date of Assessment	# Students Assessed	# at Still Developing	% at Still Developing	# at Developed	% at Developed
September 2018	77	39	50	38	49
April 2019	84	53	63	31	37

Table 4, Scores for 1st Grade Students Based on Texas Primary Reading Inventory, reflects the connection between implementation of the structured literacy curriculum, teacher understanding of the process, and apprehension surrounding the change. To illustrate, in February 2019 the principal of NPS met with the first-grade team and in the meeting the teachers expressed concerns about covering all their grade level TEKS. The team stated that they liked the way Neuhaus curriculum presented concepts. They requested the ability to pull concepts earlier to align with the TEKS Resource System scope and sequence. The concern was that at the current pace, it may not have been possible to attend to some concepts in the Neuhaus curriculum. Cordray agreed to this with the caveat that this was done in addition to teaching the program in a sequential manner, *not* instead of using the program as intended. Unfortunately, it was discovered in May through a review of teachers' student data forms, the team misunderstood the compromise and teachers only picked around in the curriculum. Concepts were not presented sequentially which stalled students' progress in becoming solid and fluid decoders. This resulted in much less growth in 1st graders than for 2nd graders as is evidenced in the data and reflected in Tables 3 and 4, Scores for 1st Grade Students Based on STAAR Early Literacy and Scores for 1st Grade Students Based on Texas Primary Reading Inventory, respectively. This also points back to teachers' lack of secure knowledge of the definition of structured literacy being an explicit, systematic and direct teaching approach. If the teachers truly understood the spiraling nature of structured literacy, they would have continued presenting lessons in sequence. Haphazard implementation did not produce the same results that second grade teachers experienced by implementing the curriculum with fidelity.

Conclusions

Due to the transition between principals the data trends for student performance in literacy were not well communicated to the teachers. Teachers were not fully aware of the student learning gap which existed. Therefore, the changes Cordray made coming in as a new principal were seen as a surprise and unnecessary by some teachers which affected the potential impact and sustainable results. As a first-year principal on a campus, changing all teachers to structured literacy is an ambitious goal if the principal is their sole support. However, when reviewing student data, it was apparent that without substantial changes, teachers would have continued doing a disservice to students. Despite the challenges, ethically Cordray would have approached the task in the same manner. Teachers who were resisted learned about what is necessary to teach reading in a research-based manner even if they did not fully implement the curriculum as intended. At the same time, for those educators who implemented the curriculum with fidelity, student performance increased significantly. Overall, more than 100 students were taught with structured literacy and the results demonstrate the improvement in performance.

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Instructional and cultural change is a process. Not every stakeholder will embrace curricular and instructional changes which are implemented, even if the changes are made for the best interest of students. However, at the end of the day, leaders and resistors must all realize that as educators, we are collectively responsible for what happens to and with our students while they are in our classroom or on our campus. During the 2018 – 2019 school year, North Primary School experienced several significant changes in leadership, curriculum, and instructional practices. While those challenges were, at times, difficult, several outcomes of those changes improved student performance. Teachers expanded their knowledge of structured literacy and effective research-based reading practices. They also learned how to administer assessments with fidelity to ensure reliable data, suitable to drive instruction and intervention. Finally, teachers' enhanced skills allowed them to regularly share data with students and parents. These innovations together allowed instructional decisions to be more data driven and student grouping which are, in turn, directly tied to greater student proficiency in reading.

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PARENTS' SUPPORT OF MATHEMATICS LEARNING DURING A PANDEMIC: A FOLLOW-UP STUDY

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Abstract

This qualitative study examined roles of parents a year after the pandemic effected instructional delivery and is a follow up to a previous study that examined the roles parents played in their children's mathematics learning two months into remote instruction. Seventeen participants completed demographic, open-ended, and Likert scale survey items regarding their roles and the challenges they faced. Parents promoted conceptual understanding, valued the use of manipulatives and tools, and recognized the need for flexible procedural skills. Parents reported teacher availability, changes in mathematics problems solving, instructional weaknesses, and students falling behind as challenges during the pandemic.

Keywords: *parents, families, mathematics learning, pandemic*

In the spring of 2020, schools across the United States closed due to the COVID - 19 pandemic. Teachers and families scrambled to adjust to remote learning, causing numerous challenges and barriers for families. In a previous study, we explored how parents supported mathematics learning during remote instruction at the beginning of the pandemic. We examined the roles parents played in their children's mathematics learning as well as the challenges and successes they faced during the first couple months of emergency remote instruction (Williams Mills et al., 2021). A year later, we reached out to the same parents to explore how their roles in their children's mathematics learning had changed during the pandemic.

This study was guided by the following research questions:

1. How do parents support mathematics learning during a pandemic?
2. How has their children's mathematics learning changed due to the pandemic?
3. What success and challenges do parents and their children face during the pandemic?

Theoretical Framework

Like our first study, Vygotsky's sociocultural theory served as the theoretical framework. Vygotsky (1978) emphasized the important role adults play in children's learning. Acknowledging that culture influences learning, Vygotsky explained knowledge is co-constructed among children and their

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peers and/or more knowledgeable others, like parents or teachers. As the pandemic began, parents quickly took on new roles in their children's learning due to remote instruction. We recognize the valuable role parents play and sought to explore those roles. Therefore, sociocultural theory was used as the lens to examine the research questions in this study.

Literature Review

Recommendations for family involvement were perpetuated during the pandemic. Williams Mills et al. (2021) initial study highlighted the mathematics learning challenges and successes of parents and families early in the pandemic. Parents reported a variety of feelings about helping their children with mathematics during remote instruction. The overarching theme across the study was that parents have a strong desire to be a part of their child's education, even in mathematics. The research from the pandemic encourages educators to consider families as a vital component of teaching (Panoura, 2021; Ribeiro, et.al, 2021). In fact, the authors argued that we involve parents more intentionally through preparation using technology and learning tools. Parents should be viewed as important educational social capital. While there are studies for family involvement during Covid-19, very few studies have surfaced considering the roles of family involvement after students returned to school or continued in a hybrid model. Yet, one study by Rahardjo et al. (2022) noted that the roles before and after the pandemic have not changed, rather parents need to be encouraged to continue as an extension of the classroom. In their study, parents were identified as mentors and motivators during and after the pandemic.

Methods

This qualitative study explored the roles parents played a year after the COVID - 19 pandemic began. More specifically, we examined their role in their children's mathematics learning and how it had changed throughout the pandemic. A year before, we surveyed parents at the start of remote learning due to the pandemic (Williams Mills et al., 2021), and this current study serves as a follow up. Participants completed online surveys that were composed of demographic, open response, and Likert scale items.

Eighty-one participants from the previous year's study were emailed and asked to complete a new survey. Seventeen parents chose to participate by completing the survey. All seventeen participants identified as women. Eighty-two percent of participants identified as White (n=14). The remaining three participants identified as Latinx (n=1), Black/African American (n=1), and Asian (n=1). Participants resided in six states across the United States. For the 2020 - 2021 school year, over half of the participants' children were learning face to face on a school campus (n=9), while some reported their children learned via remote instruction (n=4) or in a hybrid format (n=4).

For this current study, an elemental method of descriptive coding (Saldaña, 2013) was used for the first round of data analysis. After the initial round of coding, elaborate coding was used to find themes within each code from the first round. One member of the research team completed the data analysis, and another member reviewed the analysis to establish group consensus (Saldaña, 2013).

Results

The codes roles, changes, resources, challenges, and successes were identified in the first round of coding. During the second round of coding, sub themes were identified within each of the initial codes. This section is organized by those initial codes and followed with the analysis of the Likert scale data

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from the survey. The themes and their coded frequencies are shown in Table 1 and followed by the narrative of the results in more detail.

Table 1

Parental Roles of Mathematics Learning During the Pandemic

Theme	N	%
Roles of Parent		
Facilitator	20	57.1
Supervisor	4	11.4
Teacher	7	20.0
Hands-off	4	11.4
Changes in Role of Parent		
Less Involved	4	19.0
No Change	6	28.6
More Involved	11	52.4

Roles

During the 2020 - 2021 school year, parents took on a variety of roles - facilitator, supervisor, teacher, and sometimes a less involved role. Roles were not exclusive, one parent may have taken on several roles, like "I became a support to their online learning. I was the link between the teacher and the student. I made photocopies of assignments, made sure kids were logged on when they needed to be, made sure things were completed and turned in and also taught supplement assignments."

Facilitator

A facilitator role was coded twenty times, and included checking homework, providing moral support and suggestions, and keeping up with academic progress. An elementary parent described, I was the encourager, the affirmer, the supporter. Initially they would come to me repeatedly to check their work before they would submit it. I tried to return the responsibility for checking their work back to them. I would ask if they were certain of their work. They eventually would just come to me with questions they had. I encouraged them to ask their teachers the questions; often giving them the words to say in the message. It is very important that students learn HOW to ask questions.

Supervisor

The role of supervisor was coded four times in the data. Parents in this category described checking on their students, providing "constant reminders," and enforcing rules. One mother said, "I became principal [or] nagger of [my] child. I had to remind him to stay focused during zoom classes, be respectful etc. None of which I would have to do if he went in person."

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Teacher

Participants also mentioned taking on the role of teacher, and this was coded seven times. Parents expressed the need to teach difficult concepts, reteach lessons, and provide face to face instruction. One mother described her need to be more involved in teaching because of the instructional format, "he really struggled with remote learning, so I had to find other ways to teach whatever he was learning. He was really starting to fall behind in math and math was previously a strength of his." Challenging advanced students was another reason for parents to take on a teacher role, "I was able to make sure my son understood concepts completely and was able to move at his accelerated pace."

Hands Off

Four times in the survey data, parents noted a more hands-off approach to mathematics instruction. The reasons included parents' difficulties understanding the "new math," children not asking for help, or unnecessary. Because her children were in school, one mother relied on the teachers to help with misunderstanding, "my children go to school and receive instruction from their teachers. They return home in the afternoon to do their homework. If they don't understand their assignments, they have to try to catch their teacher before class to get additional help."

Changes

Participants in this study were asked if and how their roles in their children's mathematics learning had changed a year after the pandemic began. Parents ranged from describing themselves as being involved less to about the same to more involved.

Less Involved

Being less involved in their children's learning was coded four times in the data. Less involvement was mentioned only by parents whose children were attending traditional face to face or hybrid learning formats. One parent described less involvement due to school safety policies, "2020- 2021 I haven't set foot in the school. No school parties. Don't know what my kids' classrooms look like. I only assist with schoolwork on homework and extra reading." Another parent mentioned helping even less at home:

> This school year I have not had to really be hands on since they were able to attend in person. I feel like the rigor of the classes at the public school was diminished though. My middle schooler never once had homework when that was not the case when my son attended the same school two years prior.

No Change

Six responses were coded as neutral in regard to how their role changed in their children's mathematics learning. Parents who described little to no change also reported their children attended school in a traditional face to face environment for the 20-21 school year. Changes like wearing masks and social distancing were mentioned, but still described as "mostly normal." One parent described her willingness to abide by rules so that her children could return to school:

> After having to do remote instruction Spring 2020, I was determined to do whatever we had to do for both of my kids to stay in the classroom on campus. I can't say that I agreed with the measures implemented for the 2020-2021 school year, but we followed them because I knew that is where my kids needed to be.

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More Involved

Describing themselves as more involved occurred eleven times in the survey data. Parents expressed being more concerned with learning and not just grades, "I became much more focused on how both of my children were progressing academically as individuals irrespective of what their school grade indicated. I wanted to be sure they were still progressing as they would have if the pandemic had not happened." Participants also described recognizing challenges, "I am also much more aware of my students' academic struggles and able to help guide where assistance or clarification is needed." Parents reported their children as more likely to ask for help, "I think they are more willing to ask me for help than they were before the pandemic." One mother emphasized the benefits of the increased uses of technology:

> Because of the pandemic, the school provided laptops to all kids. I can now see what assignments are due on each day, and I can see specifically what the assignment is. I took this opportunity to stay on top of the school situation and worked closer with my kids. Their grades have improved because of this.

Resources

Parents described computer hardware and software, non-digital tools, and supplemental instruction as various resources used to enhance their children's mathematics learning. Based on the survey data, students relied heavily on electronic devices to learn mathematics.

Computer Hardware

Computer hardware, like laptops and tablets, was only specifically mentioned three times in the survey data, but the use of computer software was mentioned eight times. One mother, whose child was learning face to face on campus, found school issued computers valuable, "I think because of the heavy use of laptop instruction in math, I could now be a resource to my child after school hours because I can see the assignments, as well as watch the videos linked to teach us how to do each assignment."

Computer Software

Parents mentioned specific types of computer software - web conferencing tools, learning management systems, apps, and websites when discussing their children's school day schedule. According to the participants, web conferencing was a frequently used tool used by teachers and students during remote and hybrid instruction. Some parents reported children meeting with teachers synchronously multiple times a day, while others reported just a few times a week during remote instruction. A few parents supplemented mathematics instruction with websites and apps. One parent mentioned the value of digital videos when assisting her child with school work,

> If we ever get stumped, I've always been able to 'refresh' my memory with a quick video tutorial. It would be great to have a reliable source to turn to for help. We don't need apps that just give you the answer, we need more lessons online so that parents can be confident to help their kids!

Non-digital Tools

While digital tools were frequently mentioned and used, four parents also discussed non-digital household instructional tools like manipulatives, paper and pencil, and workbooks. One parent, an

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academic consultant, shared various tools she used to help her daughter learn mathematics, including a deck of cards, yardstick, measuring cups, multiplication puzzles, and "we also obtained some old wristwatches that my father no longer wanted, and I would have my daughter manipulate the hands on a watch when she was answering a homework problem dealing with telling time."

Challenges

Throughout their survey responses, participants mentioned particular challenges, coded 32 times, they faced in regard to learning during the pandemic. The themes that emerged when coding this section included, changes in mathematics problem solving, falling behind, limited help from teachers, instructional weaknesses, disengagement/frustration, time management, and no challenges.

Solving Differently

A few parents noted their children learn to solve mathematics problems differently than they did, which caused challenges when helping with schoolwork. According to one mother, "we don't communicate in the same manner, my approach to math doesn't come across as easier for him. I'm trying to teach using methods that I learned as a kid but he's just not understanding it."

Falling Behind

Referring to the quick shift to remote learning in the Spring of 2020, some participants reported children falling behind in mathematics and not yet catching up. One participant pointed out the lack of rigor, "the year started out very slow as they had to review and reteach what all the kids missed last spring. I feel like they will be behind next year because everyone felt bad for the kids and didn't push them as hard as they normally do."

Limited Teacher Help

The code limited teacher help included difficulties receiving timely feedback from teachers, lack of instructional videos, and teacher unavailability. Parents shared, "online instruction needs teachers who are flexible and available," and "there's no substitute for face to face instruction with a certified teacher." One parent felt she was left responsible for teaching, "my 1st grader didn't have any video lessons for math. If I hadn't taught her there would've been no instruction at all."

Instructional Weaknesses

Parents also identified challenges related to instructional and curriculum weaknesses, like lack of mathematical tools, weak online teaching pedagogy, and difficulties of schools and teachers to adjust to new challenges. One parent described, "the schools were not prepared for remote instruction," and another mentioned the differences from campus to campus, "the elementary didn't seem as equipped as the junior high to deliver content remotely." According to one mother, her child and their teacher "rarely used virtual manipulatives…and focused more on rote memorization rather than problem solving." Another parent also found too much dependence on technology:

> With the state's decision to have everyone take STAAR [standardized test] online, teachers were forced to have students continue online mathematics work, so they might acclimate. My 4th grader

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> felt pressured to not use paper and pencil while working, but needs to be able to do so. The pressure was not from his teacher, but other students that may not have needed that ability.

Student Disengagement

Student frustration and disengagement were also mentioned as challenges. Participants shared their children struggling "adjusting back to a traditional school day" after an extended break, difficulties in completing lessons, and "competing with video games." One mother emphasized poor instruction as the cause of disengagement, "due to lack of "hands on learning from [the] teacher. Child was disengaged from virtual learning."

Time Management

Time management was also discussed by a few participants. Parents felt overwhelmed, "I spent every minute of every day rushing from one activity to the next." According to one participant, her child who was learning virtually had difficulty managing his time, "2nd grader usually finished work between 1:30 and 2 (initially he was working until 4:30 or 5). We were able to meet with the teacher to adjust the expectations and give him tips to be more efficient."

No Challenges

When asked about challenges, a few participants reported having no challenges. One mother shared no current issues, but maybe in the future, "we really haven't faced many obstacles. My son loves math and was eager to learn. I think going in person will face problems because he is so far ahead in math and above grade."

Successes

Family success was coded 24 times in the survey data. Success codes included affective improvements, mastery of learning, strong instruction, parent help, and neutral or no successes.

Confidence

Parents mentioned the increase of student "confidence" and the "opportunity to ask questions with no fear of being ridiculed" as successes in mathematics learning. For one family, online learning proved a success.

> My children THRIVED in the remote environment. Even with the struggles we had, they achieved more growth this year than in previous years. By finishing early, my 2nd grader was able to explore topics he was interested in. He read more books, created posters, completed projects, and grew based on his interests. My 4th grader has very high anxiety and was throwing up before school every day when going to in-person school…By moving to remote learning, she was no longer needing her medication, she wasn't throwing up every day, she was happy and motivated to learn. While we have had some struggles (the district kept trying to push us back to in-person; they changed the instructors multiple times during the first 12 weeks of school) the kiddos adjusted beautifully, stretched and grew. We will continue remote learning for the younger two in the next school year. Even though our district will no longer be supporting remorse learning, we will use one of the other Texas public school remote options.

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Instruction

Some parents referred to strong instruction as a success. This included comments about improved instruction from previous years and strategies modeled by parents and teachers to improve mathematics learning. One parent discussed a strategy she introduced to her son, "one major success that we've had is explaining the plug and chug method to him. Even if you don't know an answer, you can always plug the possible options into the problem and see which one will work." Another parent praised her child's teacher, "[I] found all the different methodologies employed by his teacher fascinating, and I think they're really good at teaching a child all the very many ways they can approach any problem. I never got that growing up."

Student Mastery

Participants highlighted student mastery multiple times in their responses. They emphasized mastery of specific skills like "adding and subtracting large numbers," and "my daughter transitioned to multiplication very easily." Advanced learners were also mentioned by parents, "My first grader is testing at a 3rd grade math level." Making progress was also celebrated, "he made significant leaps and bounds in his understanding,"

Likert Scale Results

Participants were asked how prepared they felt to support their children's mathematics instruction after remote learning during the Spring of 2020 on a scale from one to five, with one being not prepared at all and five being very prepared. The data presented in Table 2 reflects more than half of the participants (n= 9) felt prepared or very prepared to support their children's mathematics learning. Only two parents, who both had children learning in a face to face traditional environment, reported being not at all prepared to help their children learn mathematics. The participants were also asked to rate their children's 2020 - 2021 mathematics instruction compared to previous school years, and the data is represented in Table 3. Parents of children who were learning face to face were more likely to report mathematics instruction as more effective (n=4) or similar (n=4) to previous years instruction.

Table 2

Level of Parent Perceived Preparation to Support Mathematics Learning

School Format	Very Prepared (4-5)	Somewhat Prepared (2-3)	Not Prepared (1)
Fully Remote	2	2	0
Hybrid	3	1	0
Onsite (traditional face-to-face)	4	3	2

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Table 3

Comparison of Mathematics Instruction to Previous Years

School Format	More effective (4-5)	Neutral (3)	Less effective (1-2)
Fully Remote	1	1	2
Hybrid	0	2	2
Onsite (traditional face-to-face)	4	4	1

Discussion

Surveying the same parents, a year after the pandemic began provided additional insight into the roles parents played in their children's learning as families navigated the academic and social distancing changes brought on by the pandemic. We also identified new concerns and challenges held by parents a year later. Parents promote mathematics learning in a variety of ways and their support is not always easily recognizable or valued by teachers, students, and parents themselves. In this discussion, we align parents' support of their children's mathematics to the five strands of mathematical proficiency - conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, and productive disposition (National Research Council, 2001).

Similarities: Roles and Resources

In the initial study (Williams Mills et al., 2021), parents noted they had several roles such as facilitator and teacher. These self-actualizations did not change, in fact they were continually reinforced as they were able to help for the duration of the mixed instructional modes. However, in this study the participants and researchers recognized these roles were more dynamic and that parents often took on multiple roles like facilitator, teacher, and supervisor throughout the school year. Similarly, Bansak & Starr (2021) noted that parents reported being highly involved across the pandemic, despite differences in economic status or race. Parent involvement was reported as necessary to ensure their students were learning.

Another significant similarity was with respect to the use of technology and manipulatives. The parents reported valuing technology in both studies (Williams Mills et al., 2021). Technology in the home was helpful to parents, as they saw themselves in the teacher or mentor roles even as the pandemic progressed, and students began to return to campus. Furthermore, both studies highlight parents are willing to go ahead with the more 'old-fashioned' practices such as paper and pencil, household items and homemade manipulatives for learning. Encouraging the use of manipulatives and tools reflects parent promotion of conceptual understanding, the first strand of mathematical proficiency (NRC, 2001). The use of manipulatives seems almost intuitive to parents as they help their children to use tools appropriately, such as using manipulatives or household items to make sense of mathematical problems.

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When they did not understand how to solve a problem, parents sought out videos and learning resources to supplement instruction. Yet, even with technology, parents reported at both ends of the pandemic that they still struggle with how math is taught now, as opposed to the way they learned it. Parents recognized they struggled with being flexible in the use of various procedures to solve a problem, and reported being unsure of more innovative strategies, which reflected parents needed more help in promoting the mathematical proficiencies of procedural fluency and strategic competence (NRC, 2001). This is an ongoing issue that parents recognize despite the pandemic (Garbe, et. al, 2020).

Differences: New Concerns and Challenges

Several different concerns and challenges parents mentioned in this follow-up study do not come as a surprise. Parents were nervous about their students being behind in mathematics due to the lack of quality remote instruction in the Spring of 2020. Some research has provided insight that while students were not necessarily behind, the growth in learning was lower (Kujfeld, Soland, & Lewis, 2022). However, this study asserts we should be careful in assuming the children will not rebound as quickly as we think. Therefore, while the parents' beliefs are not unusual, they might not be well founded. Even though parents in this study were concerned with their children falling behind, only about a third of participants reported mathematics instruction as less effective than previous school years. Some families also reported how much their children enjoyed mathematics, demonstrating how parents encouraged and supported the mathematical proficiency productive disposition of mathematics (NRC, 2001). Bansak & Starr (2021) suggest we capitalize on parent interactions and at-home instruction to avoid gaps in learning.

Another concern parents voiced was the limited help by teachers. They felt their children need more instructional time, access to teachers, online manipulatives, and less dependence on software that assesses, but does not instruct students. The parents also reported feeling disengaged with schools because of the lack of school events such as parent lunches, school parties, and open houses. Parents were not able to go into the buildings for safety reasons. These challenges differed from our initial study, in which parents were worried about trying to be parent and teacher every day. This concern suggests we are getting back the more traditional roles of parents and teachers, parents are the at-home support, rather than having to be both.

Parents reported being more critical of what math was being taught and learned, over how their children were being graded. This shift likely aligns with parents seeing themselves as a facilitator of learning, in which they associate teaching the content with real-world connections and valuable resources as very important. These realizations have helped parents recognize the need for more than just grades to determine if their children are learning mathematics. Sharing the five strands of mathematical proficiency with parents may help them to better understand effective mathematics teaching practices and how they do and can better support mathematics learning.

Limitations

In the initial study, we had 81 responses, while in the current study, there were only 17. Although this qualitative study is small, it does provide information on how parents continued to support mathematics learning a year into the pandemic. The racial and ethnic diversity of the parents is not representative of the United State population, but is similar to the diversity of the initial study. No

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generalizations can be made, but teachers, teacher educators, and researchers may find "transferability" (Lincoln & Guba, 1985) when reading about the experiences of these 17 participants.

Conclusion & Implications

Parents should be viewed as educational capital, because they are a critical piece in the education of their children. Through this lens, if teachers purposefully include parents, perhaps we could bridge some of the pandemic lag in content and conceptual knowledge. While most parents in this study felt prepared to support mathematics learning at home, schools must provide opportunities for parents to understand the instructional strategies being used to support mathematics understanding, otherwise parents depend on traditional algorithms parents learned in school. Furthering parent education using the five strands of mathematical proficiency (NRC, 2001) by way of communication from school to home, would prove valuable.

Teacher preparation programs can help future educators encourage partnerships with families that are meaningful and focused on student learning. In preparing new teachers in STEM pedagogy, we need to be overt in the practices and how to help parents see that they play in an important role in helping students demonstrate the mathematical proficiencies (NRC, 2001).

Placing an importance on ongoing two-way communication with families will help parents feel involved, connected, and prepared to support students at home. Additionally, through the pandemic parents relied on school issued technology and software to stay engaged and aware of student learning progress, therefore we should continue to invest in maintaining this connection to parents. Future research may look deeper at trends in parent perspectives about learning mathematics either at home or in the classroom and using technology.

Parents found more autonomy in deciding what format their students learned best. They found they could choose the format more freely, rather than pressure to do traditional face-to-face public school. Some families chose to remain remote due to their students' success, while most families were happy for students to be back on campus and eager to be involved in activities in the school building. Teacher preparation programs should address online pedagogy and help preservice teachers transfer the use of effective teaching practices to online learning. Regardless of the delivery of instruction, as teacher educators, we should place an emphasis on the importance of parents in a child's educational journey and model how to build classroom and home partnerships.

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LIVED EXPERIENCE OF STEM FACULTY BECOMING TEACHER EDUCATORS

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Abstract

This study employed an ethnographic qualitative research approach to examine the experiences of Science, Technology, Engineering, or Math (STEM) faculty who participated in a supplementary mentoring network, the National Science Foundation Noyce Scholarship program, for STEM pre-service teachers. The findings highlight the ways in which mentoring programs can positively impact faculty and the preparation of STEM pre-service teachers.

Keywords: *Mentor Programs, STEM, Teacher Education*

Introduction

While the research studying educator preparation programs of Science, Technology, Engineering, or Math (STEM) pre-service teachers is growing, the research on professional growth, collaboration and identity of the faculty involved in STEM pre-service teacher education is limited (Rogers et al., 2021). This ethnographic study documents the experiences and growth of STEM faculty who were not hired to be teacher educators but became involved in the National Science Foundation Noyce Scholarship program that provides scholarship funding, mentoring, and support for pre-service STEM teachers. The research in this project was completed by two qualitative teacher educator researchers involved in the Noyce project, who observed paradigm shifts in their STEM faculty co-workers and realized this was important and needed to be documented and shared as research. The sharing of the lived experiences of STEM faculty as teacher educators, their growth, and their changing and evolving perspectives on teacher education is key to involvement, recruiting, and support for STEM teacher education program such as the Noyce scholarship program and other STEM focused teacher education programs in institutions of higher education (IHE). This study examined the following research question:

1. What experiences did STEM faculty report after participating in a supplementary mentoring network for STEM pre-service teachers?

Additionally, the goal of this research study is to examine the lived experiences of STEM faculty involved in the Noyce STEM teacher education program and to study how their role in becoming teacher educators, and involvement in the Noyce program impacted them as STEM faculty working with teacher candidates.

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Theoretical Framework

The theoretical framework for this research study is based upon the experiential learning and constructivist theory posited by Dewey (2007) and the ideas that mathematics is an "inherently social activity" (Schoenfeld, 1994, p. 335) and science is both "epistemic and social" (Duschl, 2008, p. 287). The idea that the social aspect of learning, in the form of mentoring, needs to be experienced by the pre-service STEM teachers in the EPP for them to be able to give that type of social support to their students is the lens through which this study was designed and guided the data analysis and organization of themes. These quality mentoring experiences framed the evolution of the paradigm shift for the STEM faculty in their dual role as teacher educators and STEM faculty. The mentoring was the phenomenon that facilitated the paradigm shift they experienced.

Literature Review

STEM Teacher Shortage

There has been a declining number of students declaring a major in STEM fields since the 1990's (Laws, 1999; Rask, 2010). This decline has resulted in an increased need for STEM teachers, specifically in rural and remote areas. (Dept of Education, 2021; Morton, 2021). There has been in a rise in the number of STEM educators leaving teaching to enter a non-education STEM field for two decades (Han & Hur, 2021; Ingersoll & May, 2012). Additionally, the STEM teacher shortage is becoming increasingly critical as the COVID 19 pandemic has upended the labor, real estate, and education sectors (Rural Schools Collaborative, 2021). Research findings suggest reasons for teacher attrition such as salary, lack of mentorship, and working conditions (Carver-Thomas & Darling-Hammond, 2019; Han & Hur, 2021; Ingersoll & May, 2012; Kukla-Acevedo, 2009). However, findings also indicate a connection between teacher preparation and retention (Carver-Thomas & Darling-Hammond, 2019). In fact, Henry et al.'s (2012) study found that less effective STEM teachers leave the teaching field early in their career, making teacher preparation a vital element in meeting the gap in the recruiting and retaining qualified STEM educators.

STEM Faculty and Teaching Experience

Due to the decreased enrollment in STEM fields, there has been an increased national push to recruit and retain STEM majors and future educators (Aulck et al.,2017, Valerio, 2014). However, many "new teachers in higher education confess that they are not very sure how to go about teaching and translating their knowledge and enthusiasm for their fields to others" so they "model their teaching after their memories of their undergraduate and graduate experiences" even if they were not particularly successful models (Austin, 2011, p. 5). Research findings indicate that underperformance in STEM classes has been connected to STEM faculty deficit perspectives on students (Canning et al., 2019) and that STEM faculty are more likely to use non-research-based classroom pedagogy, such as lecture, instead of active learning instructional strategies, and that the STEM faculty are often not able to accurately self-assess their teaching practices (Smith et al., 2014). Samaras et al. argues that STEM faculty often teach foundational courses but are afforded "little training in teaching and/or opportunities to collaborate with peers as they assess their pedagogical strategies" (2019, p. 195).

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Becoming a Teacher Educator

In addition to barriers STEM faculty may face as an educator, there are challenges in becoming a teacher educator. The success of teacher education is dependent upon the skills, identity, knowledge, and growth of the teacher educators guiding the curriculum, instruction, and experience of the teacher education programs (Rogers et al., 2021; Blomeke et al., 2008; Tatto et al., 2010). Research on teacher educators is key to understanding the complexity of teacher education, and Rogers et al., 2021 suggest that a "double goal and role of understanding and improving teachers' learning" is key for teacher educators (p.168). Murray and Male (2005) argued that it takes three years for teacher educators to reframe, and this reframing brought on "feelings of professional unease and discomfort" (p. 139). Additionally, teacher education is "complex work involving curriculum, pedagogy and research, yet most teacher educators are provided with little professional development" (Loughran, 2015, p. 273). In many STEM departments in institutes of higher education, faculty mentoring, or involvement in pre-service teacher education programs, is not valued by the STEM department on the same level as other tenure and promotion requirements, so faculty are often not able devote their time and energy into participating in such programs (Andrews et al., 2005).

Methods

This qualitative research study employed an ethnographic approach. Ethnography as defined by Brewer (p.99, 2003) is "the study of people in naturally occurring settings or 'fields' by means of methods which capture their social meanings and ordinary activities, involving the research participating directly in the setting in order to collect data in a systematic manner". Rogers et al., 2021) recommended that research involving teacher educators involves a balance of distance and nearness of the researchers. This study was completed in a naturalistic setting, where the researchers could observe, evaluate, and collect data in the natural setting of the Noyce project that facilitated the paradigm shift of the STEM faculty. The context for this study is a regional rural public university in Texas, where the EPP for pre-service STEM teachers was supported by two Noyce scholarship grants between 2012-2018.

Participants

The participants in this study were the four faculty members who authored the Noyce scholarship grant, and then became the grant's facilitators, mentors, and faculty advocates for the STEM pre-service teachers. Each of the faculty members were full-time, tenure track faculty at the university. Three of the participants had no experiences mentoring STEM pre-service teachers and had not participated in any EPP program activities before the grant was written. Pseudonyms were used to protect the identity of the participants.

The researchers/authors who designed the research, conducted the data collection and analysis, were involved in the university teacher preparation program, and supporting Noyce program, but were not involved from the beginning of the grant. The researchers/authors became aware of the experiences of the STEM faculty as they interacted with the faculty and the grant participants as they conducted various research projects.

Lincoln and Guba (1985) recommend research studies to include prolonged engagement and participant observation to ensure trustworthiness. The two researchers for this study have been involved as researchers and mentors in the Noyce program and have collaborated with the STEM and education faculty participants from 2015 to the present day. Interactions included biweekly meetings, research focus

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groups, collaborations with faculty and Noyce scholarship recipients, and STEM teachers who completed the Noyce program. The interactions enabled the researchers to develop theoretical sensitivity (Glaser and Straus, 2017). The definitions of faculty involvement in a traditional EPP and the Noyce supplementary program are summarized in Table 1.

Table 1

Roles of personnel in Noyce mentoring network and traditional EPP at the university where research was conducted.

Role	Noyce Program	Traditional EPP
Academic Advisor	Advise when to take content/EPP courses	Advise when to take content/EPP courses
Faculty Advocate	Advocate for pre-service teacher within EPP and STEM courses, program, and certification processes. When challenges are faced, help student navigate those challenges	None present within this university EPP.
Mentor	Academic and non-academic formal and informal mentoring. Texting, calling, in person conversations to support and give advice as needed.	None present within this university EPP.
PI, Co-PI	Facilitates the logistics of the Noyce scholarship grant, performs recruitment, research, mentoring and other support for participants as needed.	Not available.
Instructor	Teaches STEM/EPP courses as needed.	Teaches courses as needed.

The Noyce mentoring network established support for the Noyce scholars during their enrollment in the EPP and after graduation. Research findings have documented the impact Noyce mentoring had on persistence to graduation and certification (Hubbard et al., 2018) instructional methods (Cross et al., 2020) and teaching effectiveness (Wagnon et al., 2020).

The faculty participants in this study were involved with most pre-service STEM teachers as they entered the EPP, during their last two years of undergraduate courses at the university, and then after graduation for a period of 4 years, while the pre-service STEM teachers entered the teaching field and became STEM educators. Table 2 Illustrates the details of the participants in the study.

Table 2

Participant information

Pseudonym	Field of Expertise	Public School Teaching Experience	College Teaching Experience	Role in Noyce Scholarship Grant	Role in Traditional EPP
Bertha	Math	no	yes	PI, mentor, academic advisor, advocate	Academic Advisor
George	Biology	no	yes	Co-PI, mentor, advisor, advocate	Academic advisor
Hal	Math	no	yes	Co-PI, mentor, advisor, advocate	Academic Advisor
Jennifer	Ed Leadership	yes	yes	Co-PI, mentor, advocate	none

Two participants were male, two were female, and all participants were White. The race of the participants is representative of the institutionalized whiteness that pervades higher education (Joseph-

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Salisbury, 2019). The authors recognize the limitations of this study and encourage all IHE's to consider ways to support diverse NSF grant PI teams and ensure equal opportunities for scholars of color.

Data and Data Analysis

Data for this research study included observations of faculty interactions, observations of faculty with pre-service teacher candidates, questionaries, focus groups, and interviews with each of the four participants. Data was grouped by question and response in an excel chart for the interview, questionnaire, and focus group responses. Each data source was coded independently by two different research for common ideas. Grounded theory and the constant comparative method were used to determine emergent themes (Glaser & Strauss, 2017). The researchers then compared and shared their codes and potential themes to determine theoretical saturation.

Findings

The findings of this research indicated that STEM faculty participation in the Noyce mentoring program directly impacted the way the STEM faculty interacted with students inside and outside the classroom through three primary paradigms shifts: (1) increased empathy and closer connections to students (2) increased ability to help students navigate challenges in their persistence to certification and (3) increased awareness of the need for a mentoring program

Paradigm Shifts in Student Interactions

All the STEM faculty who participated in the Noyce grant stated that their participation in the Noyce STEM pre-service mentoring program impacted the way they interacted with students inside and outside of the classroom, resulting in a closer connection with students and an increased amount of empathy. Bertha stated, "Because I have been more intricately involved in student pathways, I advise differently – more intrusively. I create very thorough semester plans so that students are aware of what their responsibilities are. I predict the pitfalls and try to help students develop plans for how to prepare for them." Hal echoed this explaining that his work within the Noyce grant, "opened my eyes to persistence and mindset." Bertha said, "I think it just helped me see ways in which students need us to be there for them" Jennifer stated the Noyce mentoring experience allowed her the opportunity to "draw on extra levels of empathy" and Hal said he found this increased empathy enabled, "students respond better to encouragement than chastising."

Those closer connections and higher levels of empathy also assisted faculty in supporting teacher candidates to persist through difficult coursework, personal challenges, and achieve certification. An example of one of these stories came from Hal (edited for clarity and confidentiality),

> "I remember another student, who because his 400-level math professor knew that I was invested in him, he said 'This student is not getting to class.' Well, I had a sit-down with the student, and he said, 'oh well I have to take my brother and sister to school.' I asked him, 'Is that a surprise? Okay, if it's not a surprise, then what time do you have to leave?', this wasn't a surprise., it had happened repeatedly. I asked him, 'what time do you have to leave the house so that you can make it to your eight o'clock class?' And because nobody else in his family has graduated college so they don't quite understand even though you don't get fired, in the work world there is a consequence. Here you don't get fired, but it's just as bad in a way sort of. So yeah, those are the things are incredibly individualized." After Hal's conversation with the student, he was able to figure out a way to get his siblings to school and make it to his class on time, the student persisted

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> to graduation and certification, and currently is a highly successful math teacher and soccer coach in a local high school.

George revealed a shift in himself as an educator, explaining "I'm thinking about pre-(Noyce) my approach to students was kind of reserved, it was not as confident about making connections and that since (Noyce) I have a lot more confidence when I'm going into conversations or working with students.

The ability to interact and connect with students outside of traditional classrooms is important, especially in STEM fields as we know that often "class settings [in STEM] are less conducive to teaching strategies that encourage student interaction; desks and chairs that cannot move, for example, make organizing small group work more challenging" (Austin, 2011, p.10). Research has cited challenges such as class size and physical locations as barriers to both effective teaching practices and faculty and student engagement. (Henderson & Dancy, 2007). These findings further highlight the importance of a mentor program.

Increased Ability to Help Students Navigate Challenges

Each of the participants revealed that through their participation in the Noyce mentoring program they were able to increase their ability to assist students facing a variety of barriers, both academic and personal. Hal proclaimed that "I think that the biggest thing is feeling like I was drastically more engaged and understood far more acutely how unique the problems that students have were. And I also sort of changed my perspective as far as now believing that most of the hurdles to graduation, and particularly timely graduations, aren't actually coursework related."

Bertha echoed similar revelations explaining that the Noyce grant was "my first venture into really examining the needs of undergraduate math majors and STEM majors who wanted to pursue teacher preparation as a career or teaching as a career which is kind of weird because that was my pathway so I would have thought that I would have been already in tune with, but I hadn't really spent a lot of time thinking about what additional needs they had." Jennifer found that the mentoring program was important because she was afforded the opportunity to "attend to [student] struggles with the content increased sensitivity [needed] for preparing diverse candidates." George noted that he gained a new perspective, "I think it [Noyce program] gave me a fresh look at, from a student perspective. Rather than my colleagues, we don't often talk to students and get feedback from students on how to behave. You know?"

Research results have shown that when faculty participate in professional development programs with their peers they gain "approaches to analyzing teaching problems, skills to encourage student learning, and appreciation of communities that support their commitment to effective teaching as an important part of into their careers" (Austin et al., 2008). It seems that these skills were cultivated for the faculty who worked together to create and institute the Noyce mentoring program.

Need for Teacher Candidate Mentoring

All the participants also stated that they believed other STEM faculty should have the opportunity to participate in a pre-service STEM teacher mentoring program because it builds important skills for faculty in STEM fields. Bertha pointed out that

> "oftentimes we see STEM research faculty that are solely focused on getting students to graduate school or into lab research and those kinds of things. They don't really have the same understanding of the value [that] I think those of us that work with teacher preparation, especially in STEM, who see the drastic need all over the nation for highly skilled STEM professionals.

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> [We] recognize that it's not really about the one student that's standing in front of you, it's about all of the students that are in the public schools that are never going to make it to us because they don't have someone to prepare them well enough to get them to us."

Hal explained that prior to beginning his work with the Noyce grant he believed that "essentially what students needed to be successful was connection to the coursework" but that working through the grant he came to find that "it was rather overwhelming how many skills we didn't yet have that we had to cultivate." Hal believed that such an experience would benefit many other faculty "if they had a deep desire to work with pre-service STEM teachers." George reiterated these feelings, calling for other STEM faculty to be added "very selectively because we have academics, intellectuals, but they are not empathetic, that they would not make good mentors."

The participants noted that participation in this mentorship involved personal investments such as time, money, emotional energy into their Noyce mentoring relationships, but all reaffirmed that the experience was worth the investment. Bertha said, "It was so worth it and continues to be so, the program experiences is without a doubt the greatest accomplishment of my career because of the impact it has had to so many." Hal said he enjoyed "relationships and seeing them succeed."

Despite these perceived benefits, it is important to note that institutions of higher education often value research more than teaching and mentoring of students that is unrelated to research (Austin, 2011; Fairweather, 2002). Braxton et al. (2002), noted that publishing research was determined to be the most important criteria for faculty tenure, promotions, and salary. This demonstrates the institutional challenges faced in creating mentoring programs.

Discussion

Based upon these themes, the reported experiences of the STEM faculty overwhelmingly point to the Noyce mentoring experience as a source of increased empathy for students, better understanding of the student success, and the realization that personal investment was often required as they participated in the mentoring network. Within the Noyce mentoring program during the same period, 100% of students who entered the program graduated with a STEM teaching certification in Texas. And 100% entered the teaching field for at least one year of teaching. This can be compared with 2% of other STEM majors not enrolled in the Noyce program who persisted to graduation and certification. This information is summarized in Table 3.

Table 3

STEM Majors persistence with Noyce and without Noyce

STEM majors enrolled in EPP programs	Percentage who persisted to graduation and certification
Traditional EPP at same University	2%
Supplementary Noyce Program at same University	100%

Not only did the STEM faculty who participated in the program report experiences that helped them grow to be more empathetic and better advocates and mentors for their students, but also the resulting student success was opposite of the student success in the traditional EPP that did not have a structured scholarship/mentoring program. The unique design of the mentoring program included multiple components during and after the EPP including faculty mentorship both from STEM and education

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faculty, experienced teacher mentoring, peer mentoring, facilitated through biweekly meetings, conference attendance, early intensive field experiences, and regular one on one check ins with students (Cross et., 2020).

Significance and Recommendations

Awareness, advocacy, and research is needed to determine how STEM faculty benefit from their involvement in a structured mentoring program for STEM teacher education. Since faculty time is critical to the success and experiences involved in a mentoring program, course releases or stipends should be provided to support and enable STEM faculty time to devote to such programs. Tenure and promotion requirements could be adjusted to include involvement in mentoring as an integral part of teaching and facilitating student success.

Furthermore, the significance of a structured mentoring program within STEM EPP's is key to improving rates of certification and graduation for STEM pre-service teachers. The importance of undergraduate mentoring in the STEM EPP and beyond has also been advocated for by Cross et al., (2020), Sithole et al., (2017), Ingersoll & Strong (2011); Gershenfeld (2014); Hobson et al., (2016). However, it is difficult for faculty to initiate such mentoring initiatives while simultaneously meeting their additional workload demands without administrative and institutional support. The Noyce scholarship grant provides the funding and structure necessary for STEM EPP mentoring program success, however, institutions of higher education should be providing the same supports for all STEM faculty to be involved in the STEM teacher education program.

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THE ROLE OF LEADERSHIP IN HIGH-PERFORMING EDUCATOR PREPARATION PROGRAMS

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Abstract

Educator preparation programs (EPPs) are charged with the vital but often complex duty of preparing future teachers. Effective EPP leadership is required to achieve stated goals, and ultimately positively impact the quality of the teacher workforce. Teaching training programs in the state of Texas are rated on a number of accountability factors, and the highest achieving programs are recognized with commendations. This study sought to determine what leadership practices/style of leadership guides EPPs with proven success. A qualitative review of interview data revealed three themes as consistent across the data: *student-centeredness, trust/confidence,* and *emotional support/relationships* found to align with the theory of Authentic Leadership.

Keywords: *educator preparation, leadership, authentic leadership*

Introduction

Effective leadership characteristics are imperative to gain respect from followers and to effectively influence them to work towards the common vision and goals (Abbas et al., 2020). In higher education settings, Suwandi & Setiawan, (2022) found that leadership significantly impacts workplace morale and employee performance, magnifying the importance of effective leadership. In essence, leadership impacts employees' well-being through their abilities to create a strong sense of community in the workplace (Arokiasamy & Tat (2020).

Dawson et al. (2020) and Northouse (2021) asserted that leadership in higher education settings consists of three categories: administrative (managing people and resources, as well as showing technical competence); interpersonal (socially perceptive, showing emotional intelligence and managing interpersonal conflict); and conceptual skills (creating visions, strategic planning and problem solving). While leadership controls the culture that is created in an organization, leadership skills, perhaps especially emotional intelligence, are important to

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self-nurture in order to optimize organizational outcomes by activating employee and stakeholder talent (Northouse, 2021). Accordingly, there is value in leaders cultivating multiple leadership approaches, that can be adapted to follower's specific needs (Northouse, 2021).

Educator preparation programs (EPPs) are charged with the vital but often complex duty of preparing future teachers. The strongest EPPs are those which place dedicated emphasis on the practical experience, often called clinical or practice teaching, and any opportunity to practice skills in real-world, authentic settings (Darling-Hammond, 2006). In EPPs, often embedded in higher education settings, the finesse of effective leadership is not only a necessity for a positive work culture, but to positively impact on the future of the teacher workforce, and ultimately the schoolchildren those teachers will one day serve (Greenhill & Petroe, 2010). In essence, *"*the challenge facing education schools is not to do a better job at what they are already doing, but to do a fundamentally different job. They are now in the business of preparing educators for a new world*."* (Levine, 2006, p. 104). Thus, EPPs must establish themselves on operate on a clearly defined, mutually shared vision of exceptional standards and high-quality teaching (Varela et al. 2020).

To get there, EPP leaders must build consensus around and commit to the vision, consider stakeholder perspectives, focus goals on student mastery, and engage faculty and staff. As determined by Varela et al. (2020), because EPPs are multifaceted agencies "charged with the highly essential task of prepared the future of the education profession" (p. 3), that vision should be one of continuous improvement, advocacy, collaboration, strategy and shared-governance. Greenhill and Petroe (2010) contended that such is only possible with intentional, visionary leadership.

This study sought to determine what leadership practices/style of leadership guides EPPs with proven success. This qualitative study analyzed interview data for emergent themes to answer one central research question:

RQ1: How does leadership influence the success of high-achieving educator preparation programs?

Method

Using qualitative interview data analyzed for emergent themes, this study sought to understand and reveal how leadership influences the performance of high-achieving educator preparation programs. Results will serve as a guide for other educator preparation programs seeking to improve program culture and performance, and ultimately to increase success for future teachers.

Data Collection

Teaching training programs in the state of Texas are rated on a number of accountability factors, and the highest achieving programs are recognized with commendations. Commendations are awarded for rigorous and robust preparation, preparing the educators Texas needs (high-need areas), preparing educators for long-term success, and innovative educator preparation (Texas Education Agency, 2023). To best capture the study's goals, we sought participation from staff members employed at high-performing educator preparation programs as

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identified by program commendations issued by the state's governing body. Potential participants were contacted via email with an invitation to review the goals of the study. Included in the email was a copy of the consent form and related assurances of anonymity. Individuals who accepted the invitation to participate were contacted via email to schedule an interview via Zoom. At the time of the scheduled interview, we asked the interviewee for permission to record for purposes of transcription at a later time and in order to facilitate the process of determining the themes present. No additional information related to the interviewee's place of employment or position was collected or will be reported here.

Results

Interviews were conducted with 4 individuals who work in commended, high-achieving educator preparation programs. Table 1 illustrates descriptive notes about each participant listed in generic terms where possible to protect identities.

Table 1

Participant Profiles

	Years of Experience	**Role**
Participant 1	37 years across all levels of education	Mid-level leader in an EPP
Participant 2	"many, many"	Mid-level leader and teacher educator in an EPP
Participant 3	30 years in education, 1 in EPP	Mid-level leader in an EPP
Participant 4	"long-time, 2 in this role"	Mid-level leader and teacher educator in an EPP

Data analysis revealed three themes as consistent across the data: *student-centeredness, trust/confidence,* and *emotional support/relationships.* Table 2 is a codebook to provide a description for theme and the frequency of each.

Table 2

Codebook

Theme	**Description**	**Terms and Phrases**	**Frequency**
Student-centered	A focus on student needs as primary to the goals of the organization; purpose of work centers on the student	Student-centered, student needs, best interest of students, etc.	36

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Trust/Confidence	A display and firm belief of assurance, dependence and reliance	Trust, depend, confidence, rely, seek, value input, believe, etc.	31
Support/Relationships	A connection between people; care and concern about one another on a human level	Emotional support, have each other's back, strong relationship, good relationship, etc. positive relationship, mutual respect, community, family, care, etc.	45

Student-Centered

Participants were asked directly to describe the workplace culture, to talk about how the educator preparation program operates and with what vision or goals in mind. Participant 2 said:

> *We have to be like 'what's occurring? What are the changes? How is this going to impact us? And, but, we have to have a mindset that says, 'I accept these changes.' Right? I'm not going to fight it and say 'why are we doing this?', instead of Okay, we got to do what we gotta do, let's get it done let's move forward… let's go. Let's get it done. It's, it's a very unique way of thinking, I think. yeah, we're not resisting. Right? Changes? We're accepting the changes, and you have to have a leader that accepts accountability, is accountability…and accountability is to protect everyone and just do it in an equitable manner.*

All other participants echoed the remarks in their own interviews, and repeatedly referenced a priority of student-centeredness. Participant 1 said, "*It is about students. It is about how are we going to ensure that they are the best teachers? That will have the most impact on all of these young children?"* When prompted to talk a little more about how that impacts the culture of the workplace, Participant 1 continued, "*the culture was one of improvement, and support for that improvement*."

Participant 3 described the educator preparation program as "v*ery student-centered. Everyone is very focused on every aspect from admission to completion for every student."* Participant 4 noted:

> *We have these common goals and so can we step back from these hierarchical perspectives to look at these common goals as a community. Keep things so that we all understand if we do these kind of things how will it impact the students that we're preparing for schools and you know eventually impact the children and community?*

Participants were also asked about what they believed was the contributing factor to their record of success and related commendations. They spoke about how the commendation was never the goal. Instead, student success is and always will be the primary focus. Participant 1 said:

> *our goal is always to be the best. But it's not the be the best so we can put achievements*

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> *up on our wall. It's truly to be the best so we can learn better ways to prepare teachers. That truly is the vision and the goal and it has been from the very beginning. Yes, we want to be the best but we want to be the best for the right reasons.*

Participant 3 explained that in their program, the approach is the same.

> *Each student is unique. We identify every student as an individual. I mean I think the difference is that we are really student-centered, not so much policy- centered. It's not just about you know, accountability, compliance. But are you providing them the opportunities to be successful? That's what we're doing here."*

In talking about commendations, Participant 4 admitted to not having knowledge about the specifics of the award or recognition*: "You know what, I didn't even know that (it was awarded)."* When prompted to talk about how the program achieved that recognition, Participant 4 continued:

> *I bet, you know most teacher education programs don't make the changes that we try to do here, using data in ways that help us help our students. I mean we have the data! You know? We have the data. It's not a TEA thing. It's more about culturally and linguistically responsive teaching that sustains and culturally responsive practices. I mean we think about things in terms of you know, how do we best serve the communities that are least served? That's our main goal. We want the kids, the teachers, to go on and do well.*

In summation of the story told, Participant 3 directly stated, "*our dean is… I mean his personal philosophy is student-centered. Stay connected with students".*

Trust/Confidence

Each of the participants in this study repeatedly referenced the importance of trust in the working relationship with their leadership and among their colleagues in the educator preparation programs. Recognize the various levels of expertise needed to effectively impact the success of each student, participants talked about reliance one another, and a mutual respect for the value of everyone's individual and collaborative work. One point that came into discussion was the complexity of educator preparation programs embedded in higher education settings, in colleges of education or otherwise. While some teacher training programs can stand alone, those in higher education have added challenges of meeting state standards but also acknowledging academic freedom. Participants acknowledged that balance is a challenge but trusting in the vision brings the team together. To that end, Participant 1 said, "e*very time we make a decision and every time we're pulling curriculum together and every time we're trying to make these things happen, we're going to pull everyone together."* In similar tone, Participant 2 said:

> *we all work as a team, so if we're going to work on a project, and we have a Planning Team meeting. We all get our calendars together we all listen, we all get ideas we incorporate what we think how it's going to be, we all approve a final product. All of us. Like where is everybody, how are we going to get them to where they've got to go? and everybody has input, no one should say 'that's not my job' because it is all ALL our jobs.*

Participant 4 added:

> *We huddle once a week for two hours. You know, all the people in teacher ed[ucation] and we talk about things and get things done, and then we meet again once a month and*

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> *talk about things and get things done. So you know there is a lot of discussion going on. Everyone. We have to.*

In reverse, Participant 3 spoke about a sporadic lack of confidence, one that the leader of the educator preparation program quickly restores: "*Although I think I know the answer (laughs) I doubt myself. And I'll go to him [leader] and he reassures me, he'll tell me, 'you got it. You got it. You know what it is."*

Support/Relationships

The most prevalent theme in the interviews data were the concepts of support and relationships. Participants talked at length about their sense of a strong support system in the workplace, both in terms of work and task related needs like resources, training, information and knowledge sharing, etc., but also in emotional and personal matters. Participant 2 said, "*it's a culture in which we all support each other emotionally. I think it's the leadership that requires a lot of mentoring and supporting the individuals... that is a very critical component of this program."* When asked about the working relationship with the educator preparation program's leader, Participant 4 said, "o*h gosh, it's very comfortable. We laugh a lot, we joke a lot, we have lots of discussion all the time, every day."* Comparing the feeling to places of prior employment, Participant 4 continued, "*It feels good. I would a say on a scale of 1-10, a 10."*

Speaking with gratitude for the mentorship and guidance to become a stronger leader as well, Participant 1 also spoke with reference to the power and influence of support and a good working relationship:

> *What she [leader] does for me, that is something that I need to pass on. I need to support her and have her back. To value those people, to ensure they have the right level of professional development and let them work. But also, to pull them together as a team. Understand that no one works in isolation in educator preparation. Each team member has to be valued, and then you have to have their back.*

Participant 3 added that feeling valued has strengthened the working relationship:

> *He [leader] is very hands on, and his knowledge is very impressive. I mean with as much as he has on his plate, he has really good knowledge about everything. It is really impressive. And he is always picking my brain. We have a good relationship and he values what I know. I've got that support from him…he is in constant communication with the local school districts. We all know what the needs are.*

Referencing the leader's approachability, Participant 3 also said, "*I mean forget open door policy. He's the one knocking on OUR doors. "What's up for today? What's on your plate? How's it going? Hey good job yesterday" he's just always communicating."*

With appreciation for the leadership at the educator preparation program, Participant explained:

> *We have a great working relationship, and he respects what I do. I remember when I came here and I started talking about some new ideas, and he was just totally on board. And he'd go out and start talking to other people about these ideas, not really knowing everything about them yet but already advocating you know and sort of claiming it, like*

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we're gonna make this happen! You know even though he is not naturally a member of this local community, he's a member of THIS community right here, you know?

Discussion

Initially, this study sought to uncover the ways in which leadership influences the success of high-achieving educator preparation programs. Through an analysis of the data, we learned that these programs operate from a deeply student-centered perspective, understanding the goals of their students as aspiring educators much more deeply than their own organizational operations. Leaders of these high-performing educator preparation' programs prioritize people, understanding, and motivation in order to nurture a culture that makes student success its number one priority. This mirrors the findings reported Greenhill and Petroe (2010) and Varela et al. (2020) about the necessary leadership priorities in EPPs.

It is important to note that educator preparation programs are established and must abide by a very prescriptive set of standards-- curriculum and operational guidelines that work to ensure that all aspiring teachers in Texas are prepared with the same foundational tools.

One consistency that was shown to make these high-achieving programs unique however was the collective approach and commitment to do more. Rather than to stop and turn at, what Participant 3 called "*the marching orders that come from TEA*," there was consistent evidence of a deeply rooted effort to understand, and then act. Participant 2 admitted, "*we invested thousands of hours trying to understand. The what, the why, the how. Understanding an adult learning, and trying to understand how to make it make sense for our learner, to help them connect the reality*." Participant 1 echoed the sentiment stating, "*it's not so much convincing them we have to do it, it's more about letting them come together and say 'where should we do it? How should we do it? We.'"*

Authentic Leadership

In our analysis of the data collected, we found strong connections to the concept of Authentic Leadership. This is due in large part to the contention that authentic leadership can be characterized on the dimensions of purpose, values, relationships, self-discipline, and heart (Northouse, 2021).

Studies on authentic leadership, though still in formative stages, have shown a positive correlation with a high perception of work engagement (Basaran & Kiral, 2020). Authentic leaders have an internal confidence, display psychological capital, and promote resilience in themselves and others such that the use of active, adaptive, and positive approaches towards solving problems increases followers' optimism (Feng, 2016). Staff are well-resourced, benefit from positive feedback, and find their work meaningful and the environment socially and emotionally supportive (Basaran & Kiral, 2020). This allows for a transparent, trust-based relationship between leaders and followers shown to facilitate decreases in resistance to change and a development of accountability and creativity (Kilic & Yavuz, 2021).

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Purpose and Values

An authentic leader effectively demonstrates a sense of purpose, and a demeanor of approachability. Authentic leaders care deeply about the work being done such that the leader can be perceived as passionate. Leaders who are passionate about the work and the vision have followers/team members who are inclined to be the same. In the data collected, we heard various comments alluding to participant's EPP leader's true sense of purpose-- that is recognition of and allegiance to the overarching and prominent goal of preparing high-quality teachers well-equipped to effect student learning. The data also revealed how this permeated through the passion EPP team members collectively had for their roles in that process.

Participants spoke at length about a leadership culture of *student-centeredness* as key to their organizations' successes. Leaders practicing authentic leadership approaches have reflected and understand their own purpose for leadership; as a result, they exhibit passion for the activities and causes they lead. This sense of purpose aligns with the authentic leader's values; again, because of their awareness of their own values, the leader's outward behaviors both work towards their purpose and demonstrate their values through action (Northouse, 2021). An authentic leader behaves in a way that is in line with the values of the organization-- the vision *and* the mission-- above that of self.

Relationships (Connectedness)

Authentic leaders build relationships with their employees and colleagues, and try to establish real connections with the people around them throughout the organization. They are "mutual disclosers" willing to share things about themselves as much as they are willing to listen about others. The data revealed that *support/relationships* was a common theme. Participants emphasized that they felt a strong connection between themselves, their leaders, and the people with whom they work. They spoke of genuine care and concern about one another on a "human level". *Trust/confidence* was also identified as a prominent theme in the data, such that participants believed there to be evidence of dependence and reliance modeled by their leaders. Due to the strength of the working relationship, and the foundational trust, EPP staff members were empowered to do their jobs well. Through developed relationships, shared dialogue yields increased trust and shared connections.

Self-discipline, Consistency, and Compassion

Authentic leadership increases follower trust in an educational setting and creates an environment supportive of change (Kiliç & Yavuz, 2021). Moral or internal values of authentic leadership divergent from the internal social or political environment of an organization make for limited effectiveness (Munyon et al., 2021). In a setting like an educator preparation program, which are under constant review and subject to frequent changes to their guiding rules, self-discipline, consistency and compassion are seen as imperative to achievement. Participants spoke about commitment to their students, their students' goals, and the principal purpose of their work, despite the pressures of those "*marching orders that come from TEA."*

> *We have to be what's occurring, what are the changes, how is this going to impact us and a mindset that says, I accept these changes. Right I'm not going to fight it and say why*

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are we doing this? Instead, we got to do what we gotta do. Let's get it done. Let's move, forward let's go. Let's get it done.

Increased psychological capital (e.g. hope, resilience, optimism, and self-efficacy) in followers resulted when subordinates rated leaders higher on dimensions that included consistency or self-discipline measures (Sepeng et al., 2020). Authentic leadership motivated increased follower positive behavior, cooperation, and individual performance in part through kindness or compassion (Tore & Cetin, 2022).

Conclusion

This study sought to determine what leadership practices/style of leadership guides EPPs with proven success. What was discovered is that a vision of student-centeredness, trust/confidence, and support/relationships are central components of the leadership disposition found to affect such success. These themes aligned with the theory of Authentic Leadership, which centers on purpose, values, relationships, self-discipline, and heart. Managerial capacity for authentic leadership has been shown to be limited by managers' personal psychological resources; increased resources however resulted in more frequent authenticity and was influenced by organizational climate (Fladerer & Braun, 2020). Rather than to lead the goals, leaders in these high-performing educator preparation programs lead the people, support the staff and prioritize student success, not just in terms of data and academic achievement but with the end goal in mind: the classroom and schoolchildren.

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