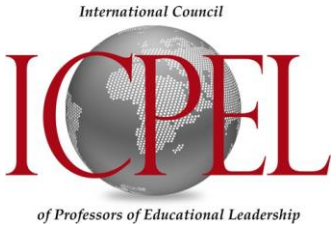
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From Observation to Action: Enhancing Principal Candidates' Growth Through Sequenced Practicum Tasks

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Abstract

This study explored the perceptions of principal candidates and their field supervisors regarding the impact of coherently sequenced practicum tasks on candidates' instructional leadership skills. The findings revealed that the quality of practicum experiences and the development of professional relationships between candidates and supervisors are crucial for effective principal preparation. Specifically, the sequenced tasks positively influenced the principal candidates' abilities to use data for leading campus improvement initiatives, collaborate with faculty to develop strategies for improving student achievement, and monitor instructional strategies while reporting progress. Field supervisors noted that collaborative discussions and data analysis within a team setting gave candidates a realistic understanding of educational leadership, particularly in supporting at-risk students. Despite its limitations, focusing on a specific project at a single regional university, this research offers insights into enhancing principal preparation programs. Future research should explore additional sequenced projects targeting diverse student populations and examine the application of this model in other advanced certification programs.

*Keywords***:** principal preparation, principal practicum, field supervision

School principals must ensure that students have access to quality learning experiences with educational opportunities for all in an inclusive learning environment. This is accomplished by fostering a climate of continuous growth, empowering staff to assume leadership roles, and making data-informed decisions. Principals must attract and retain highly effective teachers, organize schools to support the whole child, lead deeper learning instruction, manage resources strategically, and communicate and collaborate with the broader community, all while addressing challenges and crises. High-stakes accountability, multiple-measure teacher evaluation systems, heightened attention to educational equity, teacher shortages, and other changes have altered the knowledge and skills required of future aspiring educational leaders (Grissom et al., 2021).

Given the crucial role of principals in schools and student success, a rigorous internship with expert university-led supervision is essential for aspiring school leaders to acquire the skills needed to enhance schools and improve student achievement. Research has often found that a principal's effectiveness is influenced by the quality of training received during a preparation process (Darling et al., 2022, Herman et al., 2022, Wang et al., 2018). An important aspect of developing school leaders is quality and timely feedback provided by field supervisors and campus/site mentors during the principal practicum (Martin et al., 2021).

The large online principal preparation program in this study redesigned its practicum activities in 2022 to provide relevant, application-level activities deliberately aligned to the current demands of the contemporary campus principal's role. These redesigned and restructured activities were all aligned with the National Educational Leadership Preparation (NELP) standards. The redesigned activities mandated the completion of a major campus-level project that contained three application-level sequenced practicum tasks. Successful completion of the three tasks required candidates to submit video recordings of identified portions of the activities. These recordings served as online field observations. After submission of the recordings, the university-employed field supervisors conducted one-on-one individual conferences with the principal candidates to provide specific individualized feedback. The field supervisors were adjunct faculty at the university. Each of the supervisors had at least three years of experience as a successful campus principal, and most were still active full-time practitioners.

The preparation program's field observation task guidelines included activities that required principal candidates to address data-identified needs of socio-economically disadvantaged or at-risk students on their campuses. These tasks were part of a deliberately sequenced observation process designed to enhance the candidates' instructional leadership.

The purpose of this qualitative study was to explore the perceptions of university field supervisors and principal candidates regarding the influence of these sequenced practicum tasks on the development of instructional leadership. Candidate perceptions were obtained through written reflections completed after their observation experiences, including the one-on-one conferences with field supervisors. who provided targeted coaching and feedback that further informed the candidates' reflections.

The coaching and mentoring sessions were intentionally aligned with real-world, campus-based experiences and played a key role in shaping each candidate's *Personalized*

Educational Leadership Theory (PELT). According to Lipscombe et al. (2024), PELT is demonstrated when an educational leader can articulate how past experiences have influenced their current leadership practices. Lipscombe defined PELT as a genuine, individualized leadership theory derived from the exploration of personal and professional experiences that shape a leader's understanding and enactment of leadership.

Review of the Literature

Studies evaluating the principal's impact on student achievement, internship experiences for aspiring principals, and the principal's use of data to make informed decisions were reviewed based on their significance to the study. Empirical findings and research-based recommendations from the literature are included in this literature review.

Principal's Impact on Student Achievement

Research has established that school principals have a significant impact on student achievement. Leithwood et al. (2004) found that classroom instruction and principal leadership skills are the most influential school-level factors in student achievement. Replacing a principal at the 25th percentile in effectiveness with one at the 75th percentile can increase student learning in math and reading by almost three months (Grissom et al., 2021). While principals are at least as important for student achievement as reported in 2004, their indirect influence is more pronounced. Effective principals improve teaching and learning in the schools they lead by influencing beliefs, attitudes, and conditions about teaching and learning (Xu, 2018). Dutta and Sahney (2016) found that the leadership skills of campus principals impact student achievement, teacher job satisfaction, and a positive learning climate. The overall impact of an effective principal can be linked to observable behaviors, such as engaging in instructionally focused interactions with teachers, building a productive school climate, facilitating productive collaboration and professional learning communities, and managing personnel and resources strategically (Grissom et al., 2021).

Principal Internship/Practicum Experiences

According to Martin et al. (2022), practicum activities in a principal preparation program should be relevant, challenging, and contain rigorous activities that are supervised by practicing administrators. Principal candidates immersed in real-world experiences are apt to perceive that the practicum had a positive impact on their growth as administrators. The Wallace Foundation called for the redesign of principal preparation programs and specifically pointed out that clinical experiences in the principal practicum should be deliberate individualized experiences aligned to leadership competencies (Herman et al., 2022). Furthermore, practicum experiences need to reflect the real work of principals, use a coaching model with opportunities for feedback and reflection, and use additional support, such as a clinical director at the university and a campus- based supervisor.

Internships, practicums, and field experiences, terms used interchangeably, have been identified as an essential program component to prepare effective school leaders (Texas Administrative Code 19 Chapter 241, 2018; Implications from UCEA, 2010). Martin et al. (2022) described an educational leadership internship as a school-based, multifaceted learning experience in which interns integrate theory with practice by learning, practicing, performing,

and reflecting on the craft of educational leadership supervised by a qualified on-site mentor. "Through a series of leadership development experiences in an apprenticeship-like process, candidates develop leadership skills and career orientation, access their commitment to a career in the field, and receive feedback on their developing leadership knowledge, skills, dispositions, and performance" (Martin et al., 2022, p. 5).

Özdemir et al. (2020) stressed the importance of principals as instructional leaders and found that the instructional leadership behaviors of principals make positive contributions that improve the learning ability of the students, as well as the self-evaluation skills of the teachers about themselves and the students. However, for this to occur, aspiring principals need to participate in authentic school leadership activities to obtain the knowledge and skills used by effective leaders (Darling-Hammond et al., 2022). Internships should be designed to provide future leaders with opportunities where they examine and participate in processes related to instructional leadership, collaboration, school improvement, equity-oriented leadership, data- driven decision-making, and student achievement (Darling-Hammond et al., 2022; Pak & Desimone, 2019). Sanchez et al. (2019) asserted that the transformation of principal preparation programs to include dynamic, application-level field experiences with strong mentorship from both the campus and the university is imperative to developing highly effective school leaders.

Principal's Role in Data-Driven Decision-Making

The principal's role *"has evolved from the 'keeper of the keys…' to one of the integral keys to student success"* (Pannell & Sergi-McBrayer, 2020, p. 93). Pannell and Sergi-McBrayer (2020) posited instructional leadership as a significant addition to the principal's current role. Consequently, it is imperative for principal preparation programs to incorporate the application of knowledge and skills for instructional leadership into internship/practicum experiences.

Data-driven decision-making holds great promise for transforming school leadership, and teaching and learning. Using real-time data to shape instructional interventions has the potential of helping with the identification and reduction of inequalities in schools (Albiladi, et al., 2020). Blumenthal et al. (2021) asserted data is critical to decision-making for academic achievement, especially for vulnerable or at-risk student populations. However, these researchers found that though most participants utilized data for identifying instructional goals, less than half of the participants understood how to use data for monitoring academic improvement. It is incumbent upon the principal to provide leadership, support, and structure for data usage in decision-making for improved academic achievement (Blumenthal et al., 2021).

Principal's Role in Facilitation of Collaboration

Grissom et al. (2021) identified facilitating collaboration as one of the key best practices of effective school leaders. They reported principals who collaborated with teachers to build a culture and framework of collaboratively utilizing data for academic improvement realized positive student outcomes. Their findings are consistent with the NELP Program Standards.

Collaborative practices and the expectation of the principal to facilitate collaboration amongst the school community are embedded throughout all eight NELP Building Level

Standards: explicitly in Standards 1, 2, 4, 5, 7, and 8; implicitly in Standards 3 and 6 (National Policy Board for Educational Administration [NPBEA], 2018).

Methods and Procedures

The researchers used a basic interpretive phenomenological qualitative approach to analyze the principal candidates' reflections and observation reports from field supervisors to identify common themes. According to Creswell and Poth (2018), interpretative phenomenological qualitative research focuses on constructing meaning, making it suitable for understanding how individuals interpret a situation or phenomenon. Interpretative phenomenological studies seek to bridge the gap between preconceptions of a phenomenon and participant interpretations that regularly experience the phenomenon (Frechette et al., 2020). This methodology was most appropriate for investigating the research question: *How did participants perceive the impact of sequenced practicum tasks on the instructional leadership skills of principal candidates?*

Target Population

The target population for this study was 804 graduate students enrolled in the practicum of an online principal preparation program and 45 university-employed field supervisors assigned to supervise, observe, and coach them during the fall semester of 2023 at a regional institution in Southeast Texas. While all the candidates in the target population were pursuing principal certification, 417 candidates were also pursuing a master's degree in educational administration, 68 candidates were also pursuing a master's degree in technology leadership, and 319 candidates already had a graduate degree and were solely pursuing principal certification.

During the fall of 2023, each of the 804 principal candidates was observed three times performing coherently sequenced practicum tasks recorded and posted online. Each recorded task was observed by a university-employed field supervisor. Additionally, each of the 804 candidates in the target population participated in a one-to-one individual synchronous conference with a field supervisor, resulting in a total of 2412 individual one-to-one synchronous conferences. Candidates who successfully completed the practicum also successfully completed the sequenced practicum tasks.

Participants

The participants for this study were 150 randomly selected candidates from the practicum and all 45 field supervisors. The demographics of the participant candidates were similar to the demographics of the overall enrollment of the preparation program's practicum. This study examined archival data from the 150 participant candidates and the 45 field supervisors. The focus of this study was to explore the perceptions of the field supervisors and principal candidates regarding the impact, if any, that three coherently sequenced practicum tasks had on the ability of principal candidates to collect and collaboratively use campus data to inform decisions aimed at improving student achievement at their campus.

Procedures

This study involved principal candidates who completed three sequenced practicum tasks designed to improve their instructional leadership skills. Data were collected from two main sources. First, after completing each of the practicum tasks, candidates were required to write reflective responses that provided insight into their experiences. Second, university-employed field supervisors reviewed the candidates' performance during the practicum and provided written observation reports.

The collected data were analyzed using phenomenological qualitative research methods, specifically a basic interpretive approach, which focuses on understanding how individuals make meaning of their experiences (Creswell & Poth, 2018). The analysis involved identifying recurring themes, patterns, and significant insights across the candidates' reflections and the field supervisors' reports. Data were coded, with each piece categorized based on emerging themes relevant to the research question. Following the coding process, the researchers interpreted the data to understand how the candidates perceived their experiences and how the feedback from the field supervisors aligned with the candidate's reflections.

Phase One – The Needs Assessment

During phase one of the sequenced tasks, each candidate worked with a campus site supervisor to initiate a campus needs assessment that addressed the achievement and/or instruction of the campus's socio-economically disadvantaged or at-risk students. After meeting with the campus site supervisor, the candidate met with an appropriate campus faculty group to further discuss the needs assessment and video-record their collaborative discussion regarding gaps in student achievement or barriers that inhibit instruction. The submitted recording became *field observation video #1*. After the observation video submission, field supervisors conducted one-to-one synchronous conferences and shared individualized written feedback with principal candidates. The field supervisors discussed the appropriate use of data, collaborative techniques, time management, and other essential skills needed by campus principals during the development of a needs assessment.

Phase Two – A Focus Group Meeting

During phase two of the sequenced practicum tasks, candidates organized and met with faculty focus groups to develop a proposal for an instructional activity that addressed the targeted achievement gaps or instructional barriers identified in the phase one task. The candidate submitted a video recording of the focus group meeting, and university field supervisors reviewed the submitted videos. The submitted recording became *field observation video #2*. The field supervisors also followed up with a one-on-one individual conference where they shared individualized written feedback with candidates. As mentioned earlier, each field supervisor had successful experience as a campus principal. Many of the field supervisors were still active practitioners in school administration. During the conference, the field supervisors provided professional coaching, provided feedback on the actions of the principal candidate, and helped the candidate develop personal and professional goals.

Phase Three – Reflection and Reporting Progress

During phase three of the sequenced practicum tasks, the activity developed by the focus group in phase two entered the implementation stage. Candidates met with a campus team to reflect on the entire project and report on its progress. Deliberate collection of data was part of this experience. The candidate recorded the meeting and submitted it as a field observation video. The submitted recording became *field observation video #3*. University field supervisors reviewed the observation videos and followed up with one-on-one synchronous conferences. Field supervisors provided principal candidates with individualized written feedback, coaching statements, and goals during the conferences.

Findings and Themes

The researchers examined data from course documents and reflections from the principal candidates and field supervisors to identify themes related to the impact of the sequenced practicum tasks on the instructional leadership skills of principal candidates. Three key themes emerged:

1. The sequenced practicum tasks enhanced principal candidates' ability to use data in leading campus instructional improvement initiatives.
2. The sequenced practicum tasks improved principal candidates' skills in collaborating with faculty to develop strategies for enhancing student achievement.
3. The sequenced practicum tasks strengthened principal candidates' capacity to work with faculty in monitoring instructional strategies and reporting progress.

Discussion of Themes

Theme 1

Table 1 summarizes key points and implications regarding the enhanced abilities of principal candidates to use data effectively when leading campus instructional improvement initiatives. It includes data from documents created by field supervisors and written reflections from candidates. Additionally, the table identifies sources of data, key observations, and implications for leadership practices. Following Table 1, representative statements and a detailed elaboration of the data collected from field supervisors' feedback and candidates' reflections are provided.

Table 1

Theme 1: The sequenced practicum tasks enhanced principal candidates' ability to use data when leading campus instructional improvement initiatives.

Source	Key Observations	Implications for Leadership
Field Supervisor Observation Feedback	• PE teacher struggled with data collection and analysis but improved through mentorship. • Effective data conversation revealed	• Importance of mentorship in developing data skills. • Need for continuous opportunities to lead in data

	scheduling issues impacting teacher workload and student achievement. • Noticed correlation between testing data and student attendance. • Instructional team effectively collaborated despite initial lack of data preparation. • Identified low progress among economically disadvantaged students; focus on tier one reading for K-2. • Need for defining "at-risk" in discussions. • Well-prepared meeting with focused discussion on Algebra I and Biology achievement. • Identified data-supported barriers for at-risk student achievement.	discussions. • Importance of understanding demographics in data discussions. • Emphasis on shared leadership in data analysis. • Need to incorporate definitions and indicators of at-risk students in discussions. • Strengthening collaborative discussions around data can lead to actionable insights. • Continued practice leading discussions is essential for confidence.
Candidate Reflections	• Need for hands-on best practices to support economically disadvantaged students identified through data. • Realization of the need to revamp teaching practices based on student needs. • Preparation is key for leading data discussions; faculty readiness for more in-depth analysis recognized. • Graphing data improved understanding among participants. • Organized meetings and diverse data types (student growth, teacher growth) highlighted struggles of at- risk students. • Enthusiasm and collaboration among teachers noted during discussions.	• Educational leaders must provide more opportunities for faculty data discussions. • Effective practices must be shared for better outcomes. • Visualization tools (graphs) can enhance data comprehension. • Confidence in leading discussions improves with practice. • Collaborative data analysis can foster engagement and generate valuable insights. • Different perspectives are critical in problem-solving.

Elaboration of Data and Statements from Field Supervisor Observation Feedback. The following representative statements related to Theme 1 came from written observation feedback that field supervisors provided to the principal candidates and later discussed with the candidates during one-on-one conferences:

- As a PE teacher, you struggled with data collection and analysis. However, your mentor helped you walk through how your campus collects data. The conversation you led with faculty members regarding achievement data went well. The data conversation revealed that the way the seventh-grade science classes are currently scheduled causes teachers to feel a heavy burden with high enrollment numbers of students and at-risk students. Your data discussion led the teachers to notice a correlation between the testing data and student attendance.
- You should have pulled and structured the student achievement data prior to the data meeting. However, in the end, your instructional team made up of teachers and administrators pulled together, and your meeting goals were met. The big take away from your instructional team was that the low socioeconomic students at your campus are not making progress. The instructional team wants to focus on tier one reading in grades K through second grade. In your reflection with me, you noted that you really need to continue to be put in situations to lead in front of administrators and teachers. You mentioned that you talk in front of teachers and adults regularly to train them, but to lead a meeting that included campus administrators was intimidating and something that made you uncomfortable. You need to continue to have these experiences to become more comfortable and confident. You did a good job describing your campus but did not thoroughly discuss demographics such as ethnicity, school-wide at-risk percentages, and economically disadvantaged percentages. In your next meeting, share with your team the definition of at-risk as found in our education code. Often educators do not realize there are many different indicators which can lead students to be considered at-risk. Through your questioning and use of data, it was evident that you were well-prepared for your meeting. Your meeting flowed smoothly with Ms. R., Ms. K. and you had a well-rounded discussion concerning Algebra I and Biology achievement test results. Your group also stayed on topic, which can sometimes become difficult when leading a data discussion. At the end of the meeting, you left with several data supported barriers that may be preventing at-risk students from achieving as much as their non-at-risk peers. I look forward to continuing to collaborate with you this semester.

Elaboration of Data and Statements from Candidate Reflections. The following representative statements related to Theme 1 came from written activity reflections written by principal candidates and were later discussed with field supervisors during one-on-one conferences:

- To bring this activity to the next level, I need some hands-on best teaching practices to offer my team of teachers. These practices would ideally lead my team of teachers in

the direction of meeting the needs of the economically disadvantaged students that our data identified. This data activity made me realize that as educators we must revamp our teaching practices to meet student needs. As an educational leader, it is my job to provide more opportunities for the faculty to discuss student achievement data.

- The practicum's needs assessment activities led me to understand that it takes a lot of preparation time and knowledge of the data to lead a faculty discussion. The faculty at my data meeting enjoyed going through the data and their comments made me realize that our teachers are ready for more data analysis and discussions. I learned to create graphs for the data so that it was easy to see and digest. The participants got more out of the analysis because of the graphs. Overall, this activity strengthened my ability to disaggregate data and my confidence to lead a team of teachers.
- I learned so many things from this activity. I learned what it takes to organize a meeting and I learned to pull different kinds of data – such as student growth and teacher growth data. My team and I learned that our At-Risk students are struggling with state assessments in all subject areas. We are doing a poor job of providing meaningful interventions. I was very pleased to see the enthusiasm of the teachers as we discussed campus data and heard their ideas. By looking at data together, we were able to share thoughts with each other. Different perspectives were invaluable.

Theme 2

Table 2 encapsulates the essential insights and implications regarding improved principal candidates' skills in collaborating with faculty to develop strategies to improve student achievement. It includes data from documents created by the field supervisors and written reflections from candidates. In addition, it identifies sources of data, key observations, and implications for leadership practices. Table 2 is followed by representative statements, in their entirety, and elaboration on data collected from field supervisors' observation feedback and candidates' reflections.

Table 2

Theme 2: The sequenced practicum tasks improved principal candidates' skills in collaborating with faculty to develop strategies to improve student achievement.

Source	Key Observations	Implications for Leadership
Field Supervisor Observation Feedback	• Ms. W. demonstrated preparation for meetings aimed at closing academic gaps. • Guided team discussions on instructional strategies for high-yield gains. • Suggestion to engage all team members in discussions.	• Importance of structured agendas and follow-up questions in collaborative meetings. • Building confidence in leading discussions is essential for

	• Successfully collaborated with faculty on improvement processes involving data use and evaluation. • Recognized the need for teachers to consider diverse student responses in assignments. • Led a focus group that developed proposals for improving achievement of socio-economically disadvantaged and at-risk students. • Ideas included simplified instruction, peer learning, and bi-weekly data reviews.	effective collaboration. • Principals must model collaborative data use to inform instructional decisions and lesson planning. • Collaborative development of strategies can enhance the support provided to at-risk students. • Inclusion of diverse educators (e.g., ESL, SPED) is crucial for comprehensive strategies.
Student Reflections	• Focus group collaboration produced valuable instructional strategies, with plans to expand initiatives. • Emphasis on the importance of diverse perspectives in decision-making. • Acknowledgment that collaboration leverages collective expertise to build capacity. • Recognition of the value of ensuring all voices are heard in discussions. • Utilization of feedback from supervisors to lead faculty meetings and generate creative solutions for identified gaps. • Interest in conducting surveys to gather student needs for informed decision-making.	• Ongoing collaboration enhances the decision-making process and fosters a culture of shared ideas. • Practicing collaborative approaches can improve comfort and effectiveness in leading discussions. • Feedback is essential for continuous improvement in collaborative practices. • Student input can guide more effective initiatives.

Elaboration of Data and Statements from Field Supervisor Observation Feedback. The following representative statements related to Theme 2 came from written observation feedback that field supervisors provided to the principal candidates and later discussed with the candidates during one-on-one conferences:

- Ms. W., your ability to prepare appropriately for your meetings about closing the student achievement gaps shows that you are working your way towards becoming a collaborative instructional administrator. You guided your team to collaborate on instructional strategies that would provide the best high-yield gains in student achievement. I appreciate how you planned your agenda and guided follow-up

questions to ensure your meeting had rich discussions around student academic success. In the future, try to ask questions to specific members of your team so everyone contributes to the discussion. I can see that you are gaining confidence with each internship observation. I can tell that you are now able to host a meeting that benefits students and teachers and builds capacity on your campus.

- Through this experience, you collaborated with faculty and staff to improve student achievement. Your observation video demonstrates that you have learned what is necessary to collaboratively lead improvement processes that include data use, design, implementation, and evaluation. You are developing the capacity to personally engage in professional learning designed to promote reflection, school improvement, and student success. From this experience you see that teachers often plan assignments for students looking only at the scope and sequence mapped out for them. Teachers do not consider the different ways students who are at-risk will respond to the expectation of understanding and applying the information presented with the assignment. As the principal you must model how to collaboratively use data to drive instructional decisions including lesson planning.
- You effectively led a focus group of teachers that developed a proposal which addressed the teaching and/or learning issues identified in a needs assessment regarding the achievement of socio-economic disadvantaged and/or at-risk students at your campus. The group proposed several ideas to improve student achievement: simplified instruction with vocabulary, peer learning in the classroom, shared tutorials between grade levels by assigning student assistants, and reviewing data every two weeks. Through the process of this observation, you learned the English Department implemented co-teaching to assist teachers in addressing the needs of your at-risk students and strategies such as peer learning has proven beneficial for emerging bilinguals in other classes on campus. You shared that you wished you had more participants in the focus group, including ESL (English as a Second Language) and SPED (Special Education) teachers to provide additional strategies for you to incorporate into future instruction. I can see your passion for student success at your campus. You did a good job collaborating with educators to develop data driven instructional practices that support student growth.

Elaboration of Data and Statements from Candidate Reflections. The following representative statements related to Theme Two came from written activity reflections written by principal candidates and were later discussed with field supervisors during one-on-one conferences:

- During this observation activity, I learned about collaborating with a focus group to brainstorm instructional strategies and activities to improve student learning. Our focus group produced some great ideas, and we are even planning to expand them into next year as well. In the future, I would like to lead more focus groups to address other school related topics. I enjoyed hearing the perspectives of others and sharing ideas. Collaboration is so important when making decisions. I wish I had included a few more participants in our discussions. I now see the merit of

collaboratively involving others in decision making.

- I learned that collaboration is the best way to develop ideas. We can learn so much from each other. Using the expertise and experiences of others can help us build capacity. I will now always value the opinions of others and make sure that all voices are heard on campus. I will use collaborative approaches every chance I get. Practice makes perfect. I was more comfortable in this second observation.
- I have found it beneficial to use the feedback from my site supervisor and field supervisor to help me collaboratively lead faculty meetings. By collaborating with a team of teachers, we produced a lot of creative ideas to address the gaps we identified earlier. There are several programs and initiatives that we can bring to our campus and strategies that we can use to help our students. I would like to expand this idea of collaboration and make use of surveys. For example, I would like to survey my seventh-grade students to get a better understanding of their needs.

Theme 3

Table 3 summarizes key insights and implications related to the strengthened capacity of principal candidates to collaborate with faculty in monitoring instructional strategies and reporting progress. It includes data from documents created by field supervisors and written implications for leadership practices. Following Table 3, representative statements and a detailed

elaboration of the data collected from field supervisors' feedback and candidates' reflections are provided.

Table 3

Theme 3: The sequenced practicum tasks strengthened principal candidates' capacity to team with faculty to monitor instructional strategies and report progress.

Source	Key Observations	Implications for Leadership
Field Supervisor Observation Feedback	• Mr. E. effectively prepared for meetings, summarizing prior discussions and guiding future actions. • Implemented behavioral improvement strategies, such as guided meditation, showing positive results. • Engaged focus group discussions to monitor program strategies, with all members contributing to successes and challenges. • Collaboration emphasized the collective impact on student	• Preparedness and structured meetings enhance collaboration and allow for monitoring of implementation and progress. • Emphasizing collaborative decision-making can lead to more impactful instructional strategies and stronger stakeholder engagement. • Using data in discussions fosters accountability and supports continuous

	outcomes. • Demonstrated growth in leadership by setting clear agendas and maintaining focus on at-risk student outcomes. • Utilized data effectively to assess the impact of strategies, such as reading engagement.	improvement in instructional practices.
Student Reflections	• Sequence of observations aided in analyzing issues and implementing effective intervention plans, resulting in improved student achievement in math. • Collaborative evaluation of efforts led to actionable insights. • Recognition of different perspectives during collaborative meetings enhanced understanding of strategy effectiveness and necessary adjustments.	• Collaboration is essential for comprehensive analysis and improvement, empowering candidates to address student needs effectively. • Fostering a team approach cultivates a proactive culture in addressing student challenges and encourages shared responsibility • Leadership opportunities in monitoring progress build skills essential for effective administration and community impact.

Elaboration of Data and Statements from Field Supervisor Observation Feedback. The following representative statements related to Theme 3 came from written observation feedback that field supervisors provided to the principal candidates and later discussed with the candidates during one-on-one conferences:

- Mr. E., thank you for submitting a quality final observation video that captured your team adjusting and monitoring your practicum efforts. It was evident that you were prepared with questions that guided the meeting. You did a nice job summarizing the first two meetings for the final meeting. At the end of the second meeting, you ended with several ideas to improve the behavior of economically disadvantaged and at-risk students, such as using class DoJo, a token economy system and meditation. You decided on daily guided meditation to help with student behaviors. In this final meeting, you found that those who implemented the program with fidelity saw results, especially in behavior regulation. I am excited that this project has shown you the power of building collaborative relationships and given you confidence to monitor your efforts and report progress. Keep up the great work and keep making a difference!!

- I enjoyed watching your culminating observation video. All five educators in your focus group were actively engaged in the conversation to monitor program strategies and report successes and challenges remaining. Through the practicum process, you learned a campus leader does not lead alone. You must collaborate with other staff members on campus, understanding decisions on the campus not only affect students but impacts all stakeholders. Collaboration allows different ideas, thoughts, and processes to work together to form meaningful and impactful decisions. It is great that you were able to implement some of my suggestions and encourage other teachers. You did an impressive job promoting instruction that supported the growth of individual students and student groups, supporting equity, and ultimately - your monitoring data showed that you are reducing the achievement gap at your campus. You utilized the strengths of your faculty to collectively develop an activity which created ownership, and the ability to prepare appropriately for each meeting indicates you are on the road toward becoming a successful administrator. Congratulations!
- It was great hearing that you have noticed that your leadership skills have developed. It is always good to see growth. Great job setting the stage for the faculty group meeting you led with four faculty members regarding the progress of the action items outlined in observation video #2. You did a nice job keeping the group's attention and focused on how the strategies are impacting the academic outcomes for the at-risk and economically disadvantaged students. Overall, I like that your collaborative discussions led to the improvements needed to some of the strategies you identified earlier. I am sure the adjustments discussed will help academic outcomes. I liked that you used data at this meeting. The results of the reading engagement survey provided evidence of the impact being made. It is impressive to hear that student reading engagement is increasing. I am confident that you will find that this practicum observation activity will be beneficial to you as a campus leader. I wish you the best in your future.

Elaboration of Data and Statements from Candidate Reflections. The following representative statements related to Theme 3 came from written activity reflections written by principal candidates and later discussed with field supervisors during one-on-one conferences:

- The coherent sequence of observations in the practicum had a huge impact on my ability to analyze issues, make decisions, and overcome problems. At our last meeting, we used data to determine that our plan worked and had a great outcome. The students involved in our intervention initiatives demonstrated growth in their math achievement scores. Collaboratively, we developed our own intervention plan to promote higher achievement and evaluated our efforts.
- This activity again taught me the importance of collaborating to analyze our efforts. Working together allows us to see different perspectives and things that we might not notice ourselves. Reflecting together helped us to see how our strategies are coming along and what we need to adjust. The team mindset or our instructional group has grown drastically since our first meeting and has empowered us to focus on the needs

of the students in a proactive manner.

- I feel much more confident in leading a group in making improvements that affect the school community. Specifically, the observations allowed me to follow the process from identifying an issue to monitoring the success of our goals and strategies. I feel equipped to approach this type of work in the future. What I appreciated most was seeing if our plans worked. The observations allowed me to take ownership of the process.

Conclusions

The findings from this study were consistent with studies examined in the review of the literature. Based on the results, it is imperative that aspiring principals increase their knowledge and skills necessary to meet the many challenges educational leaders will face in the next decade. The field supervisors involved in this study were given the opportunity to discuss the findings and themes of this research and provided the following conclusions:

Statements From Selected Field Supervisors

- The sequenced practicum tasks had a positive impact on the principal candidates' growth and learning process. Recording and reviewing oneself can be an effective tool for self- reflection and improvement. By watching themselves in action, candidates could identify areas for improvement and better understand their strengths and weaknesses. The opportunity for field supervisors to review and discuss the observation videos with the candidates was invaluable as it allowed for constructive feedback and coaching, which facilitated deeper learning. Through collaborative discussions between the field supervisor and principal candidate, candidates received guidance on how to enhance their planning, organization, and how to conduct collaborative data-rich meetings. The candidates also learned from the colleagues involved in the practicum project at their campus, thus further enriching their understanding of effective meetings.
- The coherently sequenced process of analyzing data with a team, collaborating with that team to develop a plan of action, and then discussing the impact of the plan gave our candidates an accurate picture of what leadership really looks like. Collaboration is not easy. However, over time, this experience exposed our candidates to the importance of understanding data, knowing your student population, and working together in a community of practice to improve student achievement. This is particularly true for students who are at risk of failure or from economically disadvantaged homes.
- The sequenced practicum tasks and their processes provided candidates with a very realistic and authentic leadership opportunity. I believe that getting the opportunity to live and experience the coherent sequence as a leader was much more beneficial than working on unrelated topics. During my field supervision observation conferences, several of the candidates shared that they enjoyed working with the same field supervisor throughout the semester. I agree. I was able to build stronger relationships and connections. This facilitated unique individualized feedback and coaching for my

assigned candidates. I enjoyed watching candidates grow. I was impressed with their second and third observations. The coherently sequenced model practicum afforded me many opportunities to provide professional feedback and coaching to candidates, which is where and when learning took place.

Implications

The perceptions of principal candidates and field supervisors involved in the sequenced practicum tasks were analyzed in this study. The practicum tasks focused on professional activities and practices. Field supervisors measured and evaluated specific application-level skills demonstrated by principal candidates in their video-recorded practicum tasks. The sequenced task guidelines analyzed in this study were deliberately aligned to state and national standards, and the field supervision processes provided to the candidates maximized professional relationships between the field supervisor and principal candidates. The authors concluded that the principal candidates and field supervisors deemed the sequenced practicum tasks as extremely impactful.

The quality of professional practices, activities, and field supervision within the practicum of a principal preparation program is more important than other contextual matters, such as the length of the practicum or whether the practicum is conducted online or in a face-to- face setting (Faulk et al., 2021). Harvey et al. (2023) called for practicum observations within a principal program to prioritize and evaluate the application-level skills of principal candidates. These researchers also called for practicum programs to be contextually restructured to maximize the building of professional relationships between the field supervisor and principal candidates.

This study contributes to the body of research concerning practicums within a principal preparation program. Data clearly show that coherently sequenced practicum tasks positively impacted the following:

- Principal candidates' abilities to use data when leading campus instructional improvement initiatives.
- Principal candidates' abilities to collaborate and team with faculty and staff to develop strategies to improve student achievement.
- Principal candidates' abilities to team with faculty to monitor instructional strategies and report progress.

Limitations and Recommendations for Future Research

Limitations

This study investigated principal candidates' and field supervisors' perceptions of their experiences with sequenced practicum tasks. The perceptions were limited to a specific, structured project aimed at improving the academic achievement of low socio-economic or at-risk students on their campuses. Though the participant data were significant, including archival data of 150 candidates and 45 field supervisors, the participants' responses represented the structure of one regional university's principal preparation program.

Recommendations for Future Research

To expand the trustworthiness of this study, it would be valuable to collect data on additional coherently sequenced practicum tasks for principal candidates, such as a focus on special populations or English language learners. Exploring the effect of sequenced practicum tasks in other advanced certification programs (e.g., superintendent) would also be beneficial. Lastly, it would be interesting to study the impact the sequenced practicum tasks have on students served on campuses where candidates conduct the activities and follow up with candidates two years after the practicum experiences.

References

19 Texas Administrative Code §241.10 (2018). https://texreg.sos.state.tx.us/

Albiladi, W. S., Lasater, K., & Bengtson, E. (2020). Data use among principals and teachers: Divergent paths or common ground? Implications for the Leadership Preparation Programs. *Journal of School Administration Research and Development, 5*(2), 63-76. https://doi.org/10.32674/jsard.v5i2.2240

Blumenthal, S., Blumenthal, Y., Lembke, E. S., Powell, S. R., Schultz-Petzold, P., & Thomas, E. R., (2021). Educator perspectives on data-based decision making in Germany and the United States. *Journal of Learning Disabilities, 54*(4), 284-299. https://doi.org/10.1177/0022219420986120

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches.* Sage.

Darling-Hammond, L., Wechsler, M. E., Levin, S., Leung-Gagne, M., & Tozer, S. (2022). *Developing effective principals: What kind of learning matters?* [Report]. Learning Policy Institute. https://doi.org/10.54300/641.201

Dutta, V., & Sahney, S. (2016). School leadership and its impact on student achievement: The mediating role of school climate and teacher job satisfaction. *International Journal of Educational Management, 30*(6), 941-958. https://doi.org/10.1108/IJEM-12-2014-0170

Faulk, N., Harvey, T.W., Welch, B., and Martin, G.E. (2021). A comparative analysis of the impact of university field supervision on administrative mindsets: Considerations for redesign. *School Leadership Review, 16*(1). https://scholarworks.sfasu.edu/slr/vol16/iss1/5

Frechette, J., Bitzas, V., Aubry, M., Kilpatrick, K., & Lavoie-Tremblay, M. (2020). Capturing lived experience: Methodological considerations for interpretive phenomenological inquiry. *International Journal of Qualitative Methods*, *19, 1-12.* https://doi.org/10.1177/1609406920907254

Grissom, J. A., Egalite, A. J., & Lindsay, C. A. (2021). *How principals affect students and schools: A systematic synthesis of two decades of research*. The Wallace Foundation. https://www.wallacefoundation.org/

Harvey, T., Faulk, N., & O'Connor, J. (2023). From compliance to coaching: Restructuring field supervision in principal internships. *Southeast Journal of Educational Administration, 22*(1), 1-9. ISSN 2689-307X

Herman, R., Wang, E, Woo, A., Gates, S., Berglund, T, Schweig, J, Andrew, M., & Todd, I. (2022). *Redesigning University Principal Preparation Programs; A Systemic Approach for Change and Sustainability.* Rand Principal Preparation Series Volume 3, Part 2. https://www.wallacefoundation.org/

Implications from UCEA: Using internships in the preparation of school leaders. (2010). University Council for Educational Administration. http://www.ucea.org/

Leithwood, K., Seashore, K., Anderson, S., & Wahlstrom, K. (2004). Review of research: How leadership influences student learning. Wallace Foundation. https://www.wallacefoundation.org/

Lipscombe, K., Tindall-Ford, S., & Kidson, P. (2024). Developing a personalized educational leadership theory: A promising approach to school leadership development? *Journal of Research on Leadership Education*, *1–21*. https://doi.org/10.1177/19427751241245971

Martin, G.E., Danzig, A.B., Wright, W.F., Flanary, R.A., & Orr, M.T. (2022). *School leader internship: Developing, monitoring, and evaluating your leadership experience* (5th ed.). Routledge.

National Policy Board for Educational Administration. (2018). *National Educational Leadership Preparation (NELP) Program Standards - Building Level*. http://www.npbea.org/wp-content/uploads/2018/11/NELP-Building-Standards.pdf

Özdemir, G., Sahin, S., & Öztürk, N. (2020). Teachers' self-efficacy perceptions in terms of school principal's instructional leadership behaviours. *International Journal of Progressive Education, 16*(1), 25-40. https://doi.org/10.29329/ijpe.2020.228.3

Pak, K., & Desimone, L. M. (2019). Developing principals' data-driven decision-making capacity: Lessons from one urban district. *Kappan Online. https://kappanonline.org/*

Pannell, S., & Sergi-McBrayer, J. (2020). An examination of the impact of educational leadership field experience structure on instructional leadership preparedness. *International Journal of Educational Leadership Preparation, 15*(1), 92-106. https://www.icpel.org/

Sanchez, J.E., Burnham, M.M., & Zaki, S. (2019). The dynamic transformation of a principal preparation program: University-district collaborative. *International Journal of Educational Leadership Preparation, 14*(1), 1-12. https://www.icpel.org/

Wang, E. L., Gates, S. M., Herman, R., Mean, M., Perera, R., Tsai, T., . . . Andrew, M. (2018). *Launching a redesign of university principal preparation programs: Partners collaborate for change.* Rand Corporation.

Xu, X. (2018). *Principal's impact on student achievement.* Stronge & Associates. https://cdnsm5ss14.sharpschool.com/

Assessing Principal Preparation: Texas Programs and the NELP Standards

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Abstract

This quantitative, non-experimental, retrospective, descriptive study examined the adequacy of principal preparation program (PPP) training in Texas, using the National Educational Leadership Preparation (NELP) standards as a guiding framework. Survey responses from 245 principals were analyzed to determine whether perceptions of preparation varied by program type, years of service, or geographic region. Findings revealed that participants generally perceived a high level of preparation aligned with the NELP standards; however, preparation related to internships (Standard 8) showed significant regional differences, with rural principals reporting lower perceived adequacy. No significant differences emerged based on program type or years of service. Strengths were noted in ethics and professional norms, while areas for improvement included instructional leadership and field-based experiences. Implications for enhancing program design are discussed, particularly regarding equitable access to high-quality internships.

Keywords: principal preparation, NELP standards, school leadership, program evaluation, Texas principals

Principal leadership is the second most influential school-related factor affecting student learning across all grade levels (Grissom et al., 2021). Effective principals set clear expectations, foster a climate conducive to learning, and support teachers in their instructional roles (Cunningham & Lochmiller, 2020; Tsai & Jao, 2020). Given the critical role principals play in school success, principal preparation programs (PPPs) are essential in ensuring that these leaders are adequately trained to meet the demands of the position (Gates et al., 2019; Grayson & Pescatore, 2020).

Principal preparation programs in the United States vary in effectiveness. Although accreditation standards exist for principal preparation programs, the quality and depth of training across institutions vary significantly (Darling-Hammond et al., 2022; Grissom et al., 2020). The National Association of Secondary School Principals (2017) highlights a significant gap between principal training and job demands, contributing to the national principal shortage. Although universities within states must meet state requirements, variations still exist in how programs are structured and delivered. This lack of standardization is compounded by inconsistent outcomes data for PPP graduates, such as placement rates, retention rates, and effectiveness in improving student achievement (Bastian & Drake, 2023; Grissom et al., 2019).

Graduates of principal preparation programs (PPPs) often report positive experiences, indicating that their programs contributed to developing their leadership abilities (Beard, 2018; Boyland et al., 2022). However, significant training gaps persist, particularly in self-efficacy and leadership challenges (Boys et al., 2022; Snodgrass Rangel, 2018). Many principals enter the role with low self-efficacy due to the heavy demands of the job, which can lead to avoidance of leadership responsibilities and reduced effectiveness (Darling-Hammond et al., 2022). Research suggests that self-efficacy is best developed through integrated experiences within PPPs, such as field-based internships and mentoring. However, these opportunities are not universally required, and the lack of structured mentoring can hinder principals' confidence and leadership skills (Drake, 2022; Fusarelli et al., 2019).

Moreover, PPPs often fail to address principals' responsibilities, particularly in social-emotional learning and teacher support (Gallup, 2017; Mahfouz & Gordon, 2021). Many principals feel unprepared to support students' social-emotional development (Gallup, 2017) and lack preparation for maintaining their well-being (Mahfouz & Gordon, 2021). Similarly, programs often provide general knowledge of personnel management but fail to equip principals with specific strategies for staff evaluation and improvement (Viloria et al., 2019).

There is a need to evaluate how well these programs train future principals, such as through the lens of the National Educational Leadership Preparation (NELP) standards (Boyland et al., 2022; Dexter et al., 2017). While some studies link effective PPPs to improved leadership practices and school performance, these conclusions are not definitive, leading to a limited understanding of PPP outcomes (Bastian & Drake, 2023). Many programs do not track key performance indicators for graduates, such as school improvement or leadership effectiveness (Fuller & Hollingworth, 2017; Grissom et al., 2020), further complicating this understanding. This limitation underscores the need for further research into the quality and success of these programs to ensure they adequately prepare school leaders.

This quantitative, non-experimental, retrospective, descriptive study (O'Dwyer & Bernauer, 2013) examined principals' perceptions of the adequacy of training they received in their principal preparation program (PPP) to answer the central research question: *Do Texas principal's perceptions of their preparation programs differ based on their program type, years of service, and geographic region in which they serve?* This study sought to address unequal preparation by analyzing the preparation and training based on the perceptions of current principals framed by the eight NELP standards. Mastering the NELP standards promotes principal candidates' ability to lead effectively and collaboratively, increasing student opportunity and achievement (Young et al., 2018).

Conceptual Framework

The following eight National Educational Leadership Preparation (NELP) standards served as the conceptual framework for this study (NPBEA, 2018).

1. Mission, Vision, and Improvement
2. Ethics and Professional Norms
3. Equity, Inclusiveness, and Cultural Responsiveness
4. Learning and Instruction
5. Community and External Leadership
6. Operations and Management
7. Building Professional Capacity
8. Internship

The extensive research done on the creation of these standards (Dexter et al., 2017; Frick et al., 2013; Kearney et al., 2013; Murphy & Torre, 2014; Price, 2012; Scanlan & Lopez, 2012; Sebastian & Allensworth, 2012; Young & Crow, 2017), illustrate it is the current understanding of best practices regarding the skills and knowledge beginning principals should possess. In analyzing PPPs, these standards served as an anchor for the study since the standards outline both curricular requirements and the knowledge and skill outcomes aspiring principals should obtain following the completion of these programs. The NELP standards are imperative to ensure PPPs cover the necessary knowledge and skills beginning principals should possess to be effective.

Mission, Vision, and Improvement

Mission and vision are central to effective leadership and organizational success. The mission outlines the journey, describing how an organization will reach its goals, while the vision is the destination—what the organization aspires to achieve. In school leadership, a clear mission and vision are essential for guiding actions and setting priorities for staff and students. Transformational leadership emphasizes the importance of leaders' ability to communicate and work towards these goals to bring about meaningful improvement (Antonakis, 2012; Dinh et al., 2014).

Organizational leadership also underscores the significance of a shared vision in driving success. Research has shown that organizations with clear, actionable mission and vision statements tend to have more engaged employees and better overall performance (Dobrinić & Fabac, 2021; Griffin et al., 2010). Similarly, studies in education indicate that principals who establish and actively pursue a clear vision improve teacher satisfaction and student achievement (Tickle et al., 2016). However, merely having a mission or vision is not enough; principals must implement these statements effectively by engaging all stakeholders and making them central to the school's practices. Leadership is thus not just about setting goals but ensuring those goals are actively pursued, which requires clear communication, planning, and commitment from everyone involved.

Ethics and Professional Norms

Ethics and professional norms are fundamental to leadership across various sectors, including education. In K-12 education, ethics guide leaders' decision-making process, ensuring their actions prioritize the welfare of students, staff, and the broader community (Mayger & Provinzano, 2022a). Ethical leadership is not merely a set of rules but a framework that shapes how leaders respond to challenges and make critical decisions. Research shows leaders must model ethical behavior and create environments where professional norms are respected and upheld (NPBEA, 2018).

Principals are expected to embody and advocate for ethical decision-making within their schools. Studies have indicated a gap between principals' understanding of ethics and their ability to apply these principles effectively in their leadership practices (Mayger & Provinzano, 2022b). In Texas, for example, the Texas Administrative Code enforces professional ethical standards for school leaders, emphasizing the importance of providing principals with a strong ethical foundation as part of their preparation programs (19 Tex. Admin. Code §247.2, 2018). Future principals must understand these ethical standards and be equipped to model and apply them to foster positive school climates.

Equity, Inclusiveness, and Cultural Responsiveness

Equity and inclusiveness are essential for addressing the diverse needs of students in today's schools. While equality ensures that all students receive the same resources, equity focuses on providing resources based on each student's unique needs to ensure fair opportunities for success (Cramer et al., 2018). In the U.S., demographic shifts, such as the increasing number of Hispanic students, highlight the need for principals to understand and implement equity in their leadership (Wang & Dinkes, 2020). Principals must ensure that all students, regardless of race, socioeconomic status, or ability, have access to the resources and opportunities necessary to succeed. Effective equity leadership requires principals to recognize and address their biases, fostering an environment that values fairness and inclusivity.

Research also emphasizes the importance of cultural responsiveness, where principals understand cultural differences and apply this knowledge to support students and staff. Principals must create schools where cultural differences are respected and celebrated, ensuring that every student feels valued. Studies show that when principals apply culturally responsive leadership practices, students from diverse backgrounds experience positive

academic and social outcomes (Scribner et al., 2021; McGovern et al., 2020). By promoting inclusiveness and addressing equity gaps, principals can create school environments that support the success of all students, particularly those from historically marginalized groups

Learning and Instruction

Classroom instruction remains the most significant school-related factor influencing student learning and achievement (Sebastian & Allensworth, 2012). As instructional leaders, principals play a crucial role in shaping the quality of instruction. Research has shown that principals who lead instructional efforts through coaching, setting clear expectations, and fostering collaboration significantly impact student outcomes (Tsai & Jao, 2020).

Effective principals understand the importance of instructional quality and create a school culture where teaching and learning are prioritized. Cunningham and Lochmiller (2020) emphasize that principals' leadership styles must support teachers in implementing effective instructional strategies. One critical leadership approach is distributive leadership, where principals share leadership responsibilities with teachers and other staff members. This collaborative approach strengthens the overall instructional capacity of the school and improves student learning (Sebastian & Allensworth, 2012). Additionally, principals must ensure that staff have the resources, professional development, and support needed to be successful in the classroom.

Community and External Leadership

Effective principals lead within their schools and engage with the broader community. Community leadership is a concept studied across various fields, including business and medicine, and is just as relevant in educational leadership (Carapetis & Brown, 2020). Principals must develop relationships with external stakeholders, including parents, local organizations, and other community members, to foster a supportive student environment.

Kirby and DiPaola (2011) identified several leadership actions in urban elementary schools that positively influenced student achievement, including fostering community involvement and building collective efficacy. Research has shown that principals who engage with their communities and external partners contribute significantly to student success (NPBEA, 2018). Effective community leadership also involves creating channels for communication between the school and external organizations, ensuring that the school's needs are met and that students have access to a range of supportive services

Operations and Management

Operations management is a critical responsibility of principals. They oversee non-instructional functions such as budgeting, staffing, and facilities management. While these tasks may not directly involve instruction, they are essential in creating an environment that supports teaching and learning. Principals must have the skills to manage school operations efficiently, as this impacts everything from classroom time to the availability of resources for students and teachers (Grissom & Loeb, 2011).

In addition to the practical aspects of operations management, principals must be adept at strategic planning and decision-making. Research by Sheng et al. (2017) emphasizes that

principals need skills in organizing, planning, and controlling school functions. Effective operations management ensures that instructional time is maximized, well-maintained learning facilities, and students can access the resources they need to succeed. Principals must be prepared to handle these complex tasks, which are essential for the smooth functioning of schools.

Building Professional Capacity

Building professional capacity involves enhancing the skills and competencies of teachers and staff. Research has shown that when principals support the development of their staff, student outcomes improve (Goddard et al., 2015). Principals must provide effective coaching, professional development opportunities, and feedback to do this. Leadership must create a school culture where staff feel supported in their professional growth, which enhances the learning environment for students.

Effective capacity building requires principals to develop technical and soft skills like communication, problem-solving, and creativity. Hall and Freeman (2014) found that schools benefit from strong leadership that actively supports staff development. Principals who foster collaboration and create opportunities for teachers to develop professionally ensure that their schools remain dynamic, responsive, and focused on continuous improvement.

Internship

Internships or practicums are essential components of principal preparation programs. These field experiences allow aspiring principals to apply their theoretical knowledge in real-world settings, gaining hands-on experience crucial for their future leadership roles. Research shows that internships improve job awareness, confidence, and leadership skills, vital for successful principalship transitions (Galloway et al., 2014).

Simons et al. (2012) found that internships offer valuable opportunities for students to improve their multicultural skills and apply their knowledge in practical settings. While research on the optimal length and structure of internships is still needed, the benefits of these hands-on experiences are clear. Internships provide aspiring principals with practical leadership experience, enabling them to apply classroom knowledge in real school settings and build the self-efficacy necessary for successful school leadership (Boys et al., 2022).

Methodology

This quantitative, non-experimental, retrospective, descriptive study (O'Dwyer & Bernauer, 2013) investigated the perceived adequacy of principals' training based on their preparation program type, years of service as principals, and the geographic region they currently serve. Retrospective studies look at past experiences to draw inferences. This study sought insights into the effectiveness of PPPs from the perspective of principals who have already completed their programs. Previous studies on PPPs primarily employed qualitative methods (Davis & Darling-Hammond, 2012; Johnson & James, 2018), making this quantitative approach valuable to the field.

The study population included all 8,057 principals currently serving in Texas at the time of the study, as listed by the Texas Education Agency (TEA). The study survey was sent

electronically via Qualtrics to all principals, with those who completed it forming the convenience sample. Principals were given two weeks to complete the survey, with a reminder sent after the first week. The final sample of 245 (n = 245) still allowed for reliable results despite the lower-than-desired response rate (Fosnacht et al., 2017).

Instrumentation

Two instruments were utilized for this study: Boyland et al.'s (2022) Seven NELP Standards Survey and Dodson's (2015) Principal Preparation Field Experience Survey. The combined survey contained demographic questions followed by the two instruments. Demographic questions ensured that participants met the study's criteria and helped contextualize responses. These included questions about their years as principals, the region where they currently work, and the type of PPP they completed. The variation in principal preparation programs (e.g., alternative certification and university graduate programs) was considered to understand how program type influences variances in perceptions of their preparation.

This study's participants averaged seven years of service as principals and represented all twenty Texas Education Service Center (ESC) regions. For analysis, these regions were grouped into four larger geographic areas: South (78 participants), East (57 participants), North (68 participants), and West (42 participants). Most participants (109) completed their PPPs via a traditional in-person university program, with the second highest group (74) completing their program in a fully online university program. Twenty participants earned alternative certification through an ESC.

Seven NELP Standards Survey

Boyland et al. (2022) designed the Seven NELP Standards Survey (SNSS) to measure principals' preparedness according to the seven NELP standards. The original nine-item survey uses a four-point Likert-type scale, ranging from strongly disagree to strongly agree, to ask perception questions for NELP Standards 1-7. Survey items use direct language from the NELP standards with the sentence stem, "I was well prepared by my principal preparation program in my capacity to…" used for each item. Reliability yielded a Cronbach's alpha of 0.85, indicating good internal consistency.

The SNSS was modified for this study in two ways. Rather than using only the overarching NELP standard language, each standard's components (NPBEA, 2018) generated items, expanding the survey from 9 to 60. This modification allowed each NELP standard to serve as a separate survey dimension for analysis. The revised survey items retained the sentence stem from the original survey. A six-point Likert scale, ranging from "strongly disagree" to "strongly agree," replaced the original four-point scale. Simms et al. (2019) found that increasing Likert response options resulted in higher internal consistency, with those benefits stopping after six response options.

Factor loadings were calculated to assess the convergent validity of the expanded SNSS (Table 1). The results indicate strong support for the items' alignment with their respective standards, as evidenced by statistically significant factor loadings (p <.001) with estimates ranging from 0.53 to 0.94. Most items demonstrate high factor loadings (≥ 0.70), providing strong evidence of convergent validity.

Table 1

Seven NELP Standards Survey Factor Loadings

Factor	Item	Estimate	SE	Z	p
Standard 1	1	0.71	0.05	14.10	< .001
	2	0.72	0.05	14.67	< .001
	16	0.89	0.05	16.60	< .001
	17	0.73	0.05	16.18	< .001
	31	0.89	0.05	17.29	< .001
	46	0.73	0.05	13.63	< .001
Standard 2	3	0.55	0.04	12.63	< .001
	4	0.54	0.04	12.04	< .001
	18	0.62	0.05	13.48	< .001
	19	0.67	0.05	14.72	< .001
	32	0.69	0.04	16.62	< .001
	33	0.69	0.04	17.00	< .001
	47	0.74	0.04	17.32	< .001
	48	0.74	0.04	16.54	< .001
Standard 3	5	0.63	0.06	10.59	< .001
	6	0.81	0.06	13.65	< .001
	20	0.78	0.05	16.15	< .001
	21	0.79	0.05	15.61	< .001
	34	0.82	0.05	16.39	< .001
	35	0.75	0.05	15.47	< .001
	36	0.90	0.05	18.09	< .001
	49	0.80	0.05	16.70	< .001
	50	0.78	0.05	16.71	< .001
	51	0.94	0.05	18.50	< .001
Standard 4	7	0.88	0.06	14.16	< .001
	8	0.83	0.06	14.67	< .001
	9	0.78	0.06	13.74	< .001
	22	0.88	0.06	15.81	< .001
	23	0.87	0.05	18.19	< .001
	24	0.75	0.05	15.66	< .001
	37	0.80	0.05	16.29	< .001
	38	0.84	0.05	16.24	< .001
	39	0.85	0.05	18.09	< .001
	52	0.76	0.05	16.50	< .001
	53	0.83	0.05	16.52	< .001
	54	0.87	0.05	17.85	< .001
Standard 5	10	0.85	0.06	14.98	< .001
	11	0.70	0.05	13.59	< .001
	25	0.80	0.05	15.98	< .001
	26	0.77	0.06	13.35	< .001

	40	0.85	0.05	16.32	< .001
	55	0.76	0.05	16.20	< .001
Standard 6	12	0.77	0.05	15.35	< .001
	13	0.53	0.05	10.65	< .001
	27	0.81	0.05	15.76	< .001
	28	0.65	0.05	12.28	< .001
	41	0.87	0.05	18.83	< .001
	42	0.83	0.05	17.86	< .001
	43	0.64	0.05	12.43	< .001
	56	0.83	0.05	17.73	< .001
	57	0.81	0.05	17.07	< .001
Standard 7	14	0.70	0.05	14.25	< .001
	15	0.77	0.05	14.21	< .001
	29	0.86	0.05	15.96	< .001
	30	0.69	0.05	14.80	< .001
	44	0.80	0.05	16.97	< .001
	45	0.78	0.05	17.09	< .001
	58	0.85	0.05	17.69	< .001
	59	0.88	0.05	17.95	< .001
	60	0.82	0.05	18.09	< .001

Inter-factor correlations were performed to determine the expanded SNSS's discriminant validity (Table 2). The inter-factor correlation matrix shows relatively high correlations among the NELP Standards, ranging from 0.69 to 0.90. These strong relationships are expected, as the standards are designed to function as an integrated framework for educational leadership preparation. However, the higher correlations (> 0.85) suggest an overlap between some standards that may not adequately demonstrate discriminant validity, even though this is consistent with the standards' conceptual design.

Table 2

Seven NELP Standards Survey Inter-Factor Correlations

	S1	**S2**	**S3**	**S4**	**S5**	**S6**	**S7**
S1	—						
S2	0.78	—					
S3	0.79	0.77	—				
S4	0.81	0.69	0.90	—			
S5	0.77	0.74	0.89	0.85	—		
S6	0.79	0.73	0.84	0.90	0.84	—	
S7	0.80	0.77	0.87	0.88	0.89	0.90	—

Reliability was assessed to examine internal consistency improvements from the original SNSS (Table 3). The results indicate strong internal consistency across all seven standards, as evidenced by high Cronbach's alpha values ranging from 0.92 to 0.97. These values exceed the

acceptable threshold of 0.70 and the original survey's value of 0.85 (Boyland et al., 2022), indicating that the six-point Likert scale used improved the overall reliability as anticipated (Simms et al., 2019).

The means for NELP Standards 1-7 (Table 3) indicate a generally high level of perceived preparation among the participants across all standards. Standard 2: Ethics and Professional Norms (*M* = 5.09) received the highest average rating, suggesting that participants feel most prepared in this area. In contrast, Standard 4: Learning and Instruction (*M* = 4.48) has the lowest mean score, indicating a lower perception of preparation than the other standards.

Table 3

Seven NELP Standards Survey Reliability

	Mean	SD	Cronbach's α
Standard 1	4.73	0.81	0.92
Standard 2	5.09	0.68	0.94
Standard 3	4.61	0.82	0.95
Standard 4	4.48	0.85	0.97
Standard 5	4.66	0.83	0.92
Standard 6	4.75	0.78	0.94
Standard 7	4.75	0.81	0.96

Principal Preparation Field Experience Survey

The Principal Preparation Field Experience Survey (PPFES) (Dodson, 2015) covers a list of field experiences aligned to critical success factors recommended by the Southern Regional Education Board (SREB) for inclusion in all PPPs in the nation's southern region, which includes Texas. The SREB standards are being revised to align with NELP (WestEd, 2022), which makes this survey appropriate for measuring Standard 8.

The instrument includes yes/no response items to confirm whether a formal internship was required as part of their PPP and whether a mentor was provided, which supports NELP Standard 8 Components 2 and 3, respectively (NPBEA, 2018). Most participants in this study (89%) completed an internship, and most of those same participants (89%) were provided with a mentor.

The instrument also includes seven items to measure various field experience activities intended to interact with stakeholders, akin to NELP Standard 8, Component 1 (NPBEA, 2018). It uses a four-point Likert-type scale, ranging from strongly disagree to strongly agree, which was modified to a six-point scale for consistency with the SNSS modification. The combined mean of these seven items was used to operationalize Standard 8 for this study. The reliability of the PPFES was not directly reported with Dodson's original instrument, so reliability was calculated to determine the internal consistency of the seven items. The Cronbach alpha value of 0.86 exceeds the acceptable threshold of 0.70, which indicates these items have high internal consistency.

The resulting mean indicates participants' agreement with their access to and completion of the noted experiences as part of their internship. The overall mean of 3.51 indicates a general slight disagreement with access and completion, which the specificity of the experiences could explain. Table 4 provides the means of the individual items, comparing them with the means of the associated standards from the SNSS. The results indicate variability in the mean ratings of the Standard 8 activities compared to the overall standard means for each respective NELP standard. The Standard 4 activity was the highest rated with a mean of 4.07, closely aligning with the Standard 4 mean of 4.48. Conversely, the Standard 5 activity has the lowest mean rating at 2.64, significantly below the Standard 5 mean of 4.66, suggesting this activity was less frequently accessed or completed. These means indicate that while the overall standards were rated highly, specific internship activities on the PPFES may require additional emphasis if deemed necessary in principal preparation.

Table 4

Comparison of PPFES to SNSS

PPFES Items	Standard	Item Mean	SNSS Mean
1. Developed a school improvement plan.	1	4.00	4.73
2. Participated in an evaluation of ethics-based decisions.	2	3.59	5.09
3. Completed an equity opportunity inventory of extra-curricular activities.	3	3.23	4.61
4. Led a data-driven faculty meeting.	4	4.07	4.48
5. Developed and shared best practices on communicating with the community.	5	2.64	4.66
6. Administered, analyzed, and shared the results of a student satisfaction survey.	6	3.21	4.75
7. Led a presentation on the steps in developing a professional growth plan.	7	3.81	4.75

Results

Data was analyzed using Jamovi version 2.3. One-way ANOVAs were used to test for significant differences in perceptions of training adequacy separately based on program type, years of service, and geographic region. Post-hoc analyses, such as Tukey's HSD, were employed to explore significant findings further.

The results of the first research question, comparing each NELP standard with the principal preparation program type, found no significant difference ($p > .05$) for all standards. The results are presented in Table 5.

Table 5

Program Type ANOVA Results

	F	df1	df2	p
Standard 1	0.82	4	240	0.512
Standard 2	1.57	4	240	0.183
Standard 3*	0.98	4	40.96	0.427
Standard 4	0.93	4	240	0.448
Standard 5	0.66	4	240	0.622
Standard 6	0.85	4	240	0.496
Standard 7	0.92	4	240	0.452
Standard 8*	1.19	4	37.16	0.332

Note. (*) indicates Welch's ANOVA was used due to heterogeneity.

The results in Table 6 show variability in mean scores across program types for each NELP Standard. In-person programs consistently have the highest mean scores across most standards, indicating that participants in traditional programs rate their preparation more positively. Hybrid programs generally follow closely behind, with slightly lower means. Online programs tend to have lower mean scores, particularly in Standards 3, 4, and 8, suggesting potential gaps in perceived preparation. District Alternative Certification participants show mixed results, with relatively high scores for Standard 8 (M = 4.09). ESC Alternative Certification program participants consistently report the lowest means across most standards, particularly in Standards 4 (M = 4.32) and 8 (M = 3.19), suggesting areas for improvement.

Table 6

Program Type Descriptives

	Program Type	N	Mean	SD	SE
Standard 1	In-Person	109	4.82	0.81	0.08
	Hybrid	33	4.70	0.68	0.12
	Online	74	4.63	0.88	0.10
	District Alt Cert	9	4.52	1.08	0.36
	ESC Alt Cert	20	4.71	0.61	0.14
Standard 2	In-Person	109	5.19	0.66	0.06
	Hybrid	33	5.12	0.44	0.08
	Online	74	4.97	0.74	0.09
	District Alt Cert	9	5.11	0.86	0.29
	ESC Alt Cert	20	4.89	0.73	0.16
Standard 3	In-Person	109	4.72	0.86	0.08
	Hybrid	33	4.50	0.66	0.11
	Online	74	4.57	0.76	0.09
	District Alt Cert	9	4.32	1.41	0.47
	ESC Alt Cert	20	4.46	0.72	0.16

Standard 4	In-Person	109	4.59	0.87	0.08
	Hybrid	33	4.35	0.69	0.12
	Online	74	4.42	0.88	0.10
	District Alt Cert	9	4.36	1.06	0.35
	ESC Alt Cert	20	4.32	0.77	0.17
Standard 5	In-Person	109	4.74	0.87	0.08
	Hybrid	33	4.57	0.64	0.11
	Online	74	4.66	0.82	0.10
	District Alt Cert	9	4.52	1.14	0.38
	ESC Alt Cert	20	4.47	0.76	0.17
Standard 6	In-Person	109	4.85	0.81	0.08
	Hybrid	33	4.72	0.55	0.10
	Online	74	4.69	0.83	0.10
	District Alt Cert	9	4.73	0.91	0.30
	ESC Alt Cert	20	4.55	0.71	0.16
Standard 7	In-Person	109	4.85	0.83	0.08
	Hybrid	33	4.70	0.57	0.10
	Online	74	4.67	0.87	0.10
	District Alt Cert	9	4.72	1.03	0.34
	ESC Alt Cert	20	4.55	0.77	0.17
Standard 8	In-Person	97	3.58	1.38	0.14
	Hybrid	30	3.79	1.36	0.25
	Online	65	3.28	1.77	0.22
	District Alt Cert	8	4.09	1.23	0.44
	ESC Alt Cert	18	3.19	1.55	0.37

Results for the second research question comparing each NELP standard with the participants' years of service as principals also found no significant difference ($p > .05$) for all standards. The results are presented in Table 7.

Table 7

Years of Service ANOVA Results

	F	**df1**	**df2**	**p**
Standard 1	0.88	3	241	0.453
Standard 2	2.47	3	241	0.062
Standard 3	0.89	3	241	0.448
Standard 4	1.06	3	241	0.367
Standard 5	0.15	3	241	0.930
Standard 6*	1.02	3	66.17	0.391
Standard 7	1.00	3	241	0.392
Standard 8	0.22	3	214	0.884

Note. (*) indicates Welch's ANOVA was used due to heterogeneity.

The results in Table 8 indicate that mean scores across all NELP Standards generally increase with years of service, suggesting that participants with more experience perceive higher competency levels. For most standards, individuals with 16 or more years of service have the highest mean scores, particularly for Standard 2 (*M* = 5.41) and Standard 1 (*M* = 4.90). In contrast, participants with 0-5 years of service consistently report the lowest mean scores, with notable gaps in Standards 2 (*M* = 5.01) and Standard 3 (M = 4.56). Standard 8 has the lowest means across all groups (*M* = 3.45–3.68).

Table 8

Years of Service Descriptives

	Years of Service	N	Mean	SD	SE
Standard 1	0-5 Years	127	4.66	0.76	0.07
	6-10 Years	61	4.72	0.87	0.11
	11-15 Years	33	4.85	0.91	0.16
	16 or More Years	24	4.90	0.80	0.16
Standard 2	0-5 Years	127	5.01	0.67	0.06
	6-10 Years	61	5.10	0.65	0.08
	11-15 Years	33	5.14	0.79	0.14
	16 or More Years	24	5.41	0.55	0.11
Standard 3	0-5 Years	127	4.56	0.79	0.07
	6-10 Years	61	4.57	0.79	0.10
	11-15 Years	33	4.78	0.90	0.16
	16 or More Years	24	4.74	0.96	0.20
Standard 4	0-5 Years	127	4.39	0.81	0.07
	6-10 Years	61	4.53	0.85	0.11
	11-15 Years	33	4.64	0.81	0.14
	16 or More Years	24	4.59	1.07	0.22
Standard 5	0-5 Years	127	4.66	0.75	0.07
	6-10 Years	61	4.61	0.79	0.10
	11-15 Years	33	4.70	0.96	0.17
	16 or More Years	24	4.74	1.13	0.23
Standard 6	0-5 Years	127	4.67	0.68	0.06
	6-10 Years	61	4.81	0.79	0.10
	11-15 Years	33	4.88	0.83	0.14
	16 or More Years	24	4.88	1.10	0.22
Standard 7	0-5 Years	127	4.66	0.76	0.07
	6-10 Years	61	4.79	0.81	0.10
	11-15 Years	33	4.89	0.89	0.15
	16 or More Years	24	4.88	1.00	0.20
Standard 8	0-5 Years	118	3.45	1.59	0.15
	6-10 Years	53	3.49	1.47	0.20
	11-15 Years	26	3.65	1.53	0.30
	16 or More Years	21	3.68	1.27	0.28

Finally, results for the third research question comparing each NELP standard with the participants' geographic region found no significant difference ($p > .05$) for Standards 1-7. However, the result for Standard 8 was significant (F (3,241) = 4.20, $p < .01$), indicating that participants' preparation specific to their internship varied based on the region they currently work. The results are presented in Table 9.

Table 9

Region ANOVA Results

	F	df1	df2	p
Standard 1	0.56	3	241	0.643
Standard 2	0.30	3	241	0.827
Standard 3	0.42	3	241	0.742
Standard 4	0.74	3	241	0.527
Standard 5*	0.98	3	128.73	0.405
Standard 6	0.75	3	241	0.522
Standard 7	0.63	3	241	0.597
Standard 8	4.20	3	241	**0.007**

Note. (*) indicates Welch's ANOVA was used due to heterogeneity.

The results in Table 10 indicate differences in mean scores between regions, with statistically significant variation observed only between the South and West regions ($\Delta M = 1.05$, $p < .01$). Other regional comparisons do not show significant differences, suggesting limited regional influence.

Table 10

Region Standard 8 Post Hoc

		South	East	North	West
South	Mean diff.	—	0.26	0.36	1.05
	p-value	—	0.772	0.519	**0.003**
East	Mean diff.		—	0.10	0.78
	p-value		—	0.985	0.064
North	Mean diff.			—	0.68
	p-value			—	0.120
West	Mean diff.				—
	p-value				—

The results in Table 11 show regional variation in mean scores across the NELP Standards. For most standards, differences between regions are relatively small. Standard 1 has comparable means, with the highest score in the East ($M = 4.82$) and the lowest in the North ($M = 4.65$). Similarly, Standard 2 shows consistently high means across regions, with the East and West scoring slightly higher ($M = 5.14$ and 5.13, respectively). In Standard 8, however, the

South scores notably higher (*M* = 3.85), while the West reports the lowest mean (*M* = 2.81), suggesting a regional gap in this area.

Table 11

Region Descriptives

	Region	N	Mean	SD	SE
Standard 1	South	78	4.76	0.77	0.09
	East	57	4.82	0.76	0.10
	North	68	4.65	0.95	0.11
	West	42	4.67	0.73	0.11
Standard 2	South	78	5.04	0.71	0.08
	East	57	5.14	0.60	0.08
	North	68	5.07	0.75	0.09
	West	42	5.13	0.62	0.10
Standard 3	South	78	4.66	0.91	0.10
	East	57	4.65	0.73	0.10
	North	68	4.53	0.90	0.11
	West	42	4.58	0.63	0.10
Standard 4	South	78	4.55	0.85	0.10
	East	57	4.54	0.77	0.10
	North	68	4.36	0.96	0.12
	West	42	4.44	0.75	0.12
Standard 5	South	78	4.69	0.86	0.10
	East	57	4.78	0.70	0.09
	North	68	4.54	0.99	0.12
	West	42	4.63	0.59	0.09
Standard 6	South	78	4.83	0.71	0.08
	East	57	4.79	0.70	0.09
	North	68	4.65	0.93	0.11
	West	42	4.71	0.74	0.11
Standard 7	South	78	4.77	0.83	0.09
	East	57	4.85	0.72	0.09
	North	68	4.66	0.92	0.11
	West	42	4.70	0.72	0.11
Standard 8	South	69	3.85	1.31	0.16
	East	52	3.59	1.44	0.20
	North	58	3.49	1.55	0.20
	West	39	2.81	1.73	0.28

Discussion

This study contributes to the growing body of research on principal preparation programs (PPPs) and provides valuable insights into their effectiveness in preparing individuals for the

principalship. By analyzing outcomes data, institutions offering these programs can identify and address learning gaps to better align with the evolving demands of the principalship. The study's findings, grounded in robust data and supported by literature, underscore the importance of high-quality programs that provide relevant, practical learning experiences (Sebastian & Allensworth, 2012; Levin & Bradley, 2019).

Furthermore, the findings reinforce the critical role of the National Educational Leadership Preparation (NELP) Standards in shaping effective PPPs. The results demonstrate that participants' programs were adequately aligned with these national standards, equipping them with the knowledge and skills necessary for the principalship. This study highlights the importance of connecting theoretical concepts to practical application, a key component emphasized in the NELP Standards (NPBEA, 2018). The findings validate the value of the standards in preparing aspiring principals and underscore the need for programs to integrate the comprehensive knowledge and competencies outlined in the NELP framework, as reflected in the principals' perspectives in this study.

Program Type

The results indicate no significant difference in principals' perceived adequacy of training based on the type of program completed. Across all eight NELP Standards, program type did not influence perceptions of training adequacy, which may be attributed to the increasingly shared nature of learning through online platforms. The National Center for Education Statistics (2018) reported a 29% increase in enrollment in distance education courses between 2012 and 2018, with a 33% rise in hybrid courses during the same period. From 2019 to 2021, online education became the predominant option, further normalizing virtual learning. These findings suggest that PPPs effectively meet student needs in virtual and traditional in-person environments, consistent with research showing no variation in perceived training adequacy between delivery modes (Burazer & Skela, 2021).

While not statistically significant, alternative certification programs offered through regional education service centers (ESCs) reported the lowest mean adequacy scores among the five program types. Unlike other PPPs, ESCs, though part of the Texas Education Administration (TEA), lack regulatory authority and are governed by lay boards responsible for determining operations, programs, and services (TEA, 2023). Accountability for ESC programs is limited to an annual evaluation by the ESC commissioner, which does not include performance outcome data for PPP completers. This lack of alignment with NELP Standards and insufficient oversight may explain the lower ratings for ESC-based programs. Addressing these gaps through improved accountability measures and closer alignment with national standards could enhance the perceived adequacy of training in ESC programs.

Years of Service

More than half of the participants in this study reported having five or fewer years of experience as a principal, though nearly 45% had between 21 and 30 years of experience in education overall. This distribution aligns with recent trends in principal turnover, which have been exceptionally high over the past five years (Levin & Bradley, 2019). The increased turnover has resulted in a younger cohort of principals, with many entering the role with less experience

in leadership positions. Despite this variability, ANOVA results revealed no significant difference in principals' perceived adequacy of training based on their years of experience as principals. However, there was an upward trend in perceived preparedness scores with more years of principal experience, suggesting that these scores may reflect a principal's accumulated knowledge and practical experience rather than solely the quality of their preparation program.

This trend supports the idea that the ability to uphold the NELP Standards effectively is influenced by the cumulative impact of years spent in the role. While these findings contrast with Boyland et al.'s (2022) study, which suggested that years of experience do not significantly impact confidence in meeting leadership standards, they align with research indicating that increased experience fosters higher self-efficacy (Ikonomopoulos et al., 2016). Experienced principals may draw on their practical expertise to interpret and apply the standards more confidently, even if this confidence is not directly attributable to their preparation program. These findings underscore the importance of combining high-quality principal preparation programs with ongoing professional development opportunities, allowing principals to continue refining their skills and aligning their practices with the NELP Standards.

Geographic Region

The results indicate no significant differences in principals' perceived adequacy of training in the first seven NELP Standards based on the ESC region in which they serve. This consistency may be attributed partly to Texas Senate Bill 1383, which mandates the involvement of national experts in developing training systems for aspiring principals, requiring all accredited programs to adhere to national standards. Although no U.S.-based studies have specifically explored urban-rural disparities in PPPs, international research highlights challenges in addressing educational needs in rural areas compared to urban ones (Khan et al., 2019; Newbold & Brown, 2015; Zhang et al., 2018).

A statistically significant difference, however, was observed for NELP Standard 8: Internship, based on the ESC region. Principals in the West Texas region reported a significantly lower perception than those from the South Texas region. This disparity may stem from the West Texas region's limited number of traditional PPPs, just ten across ESC regions 9, 14, 15, 16, 17, 18, and 19. and the complete absence of traditional programs in Region 14. Additionally, the rural nature of West Texas, with its sparse population and geographic challenges, exacerbates the difficulty of providing comprehensive internships, echoing broader research that identifies limited resources and contemporary expertise as barriers in rural areas (Hoover & Erickson, 2015; Maheady et al., 2016; Robinson et al., 2013). Participants in rural regions of Texas reported internship experiences less aligned with practical realities and less beneficial than those of their counterparts in other regions. These findings align with prior research indicating that many PPP graduates lacked a comprehensive understanding of the principalship upon graduation (Duncan et al., 2011; Slater et al., 2018). Addressing these challenges through increased resources, better alignment with standards, and expanded program availability could improve internship experiences and outcomes in rural areas.

Implications for Principal Preparation

The findings contribute valuable insights into what makes an effective principal preparation

program (PPP). While national studies have highlighted variations in the quality and structure of PPPs (Anderson & Reynolds, 2015; Davis, 2010), Texas programs showed consistency across most components. Principals across the state reported aligned levels of preparation, except for variations in internship experiences between rural and urban locations. This suggests that Texas institutions successfully align program curricula with best practices, but there remains room for improvement in ensuring equitable access to high-quality internships. To enhance effectiveness, PPPs should move beyond delivering knowledge and concepts, focusing instead on providing students with meaningful opportunities for implementation and practical application through internships.

To address these gaps, several key improvements are recommended. Strengthening collaboration between rural school districts and regional preparation programs is critical to improving the perceived adequacy of internships in rural areas. These partnerships can help create practical, standards-aligned internship experiences that account for the unique challenges of resource-limited rural settings, which research has shown hinder the preparation of principals (Hoover & Erickson, 2015; Maheady et al., 2016; Robinson et al., 2013). Additionally, preparation programs should adopt explicit, authentic pedagogical approaches to bridge the gap between theoretical concepts and practical leadership applications. Faculty should align instruction with NELP standards and regional needs while integrating high-quality, technology-rich curricula that allow students to demonstrate leadership competencies, as supported by Orr and Orphanos (2011), who emphasized the importance of practice-based learning in preparing principals effectively. Programs must also regularly evaluate their effectiveness by collecting data on graduate outcomes to identify and address gaps in training, thereby tailoring their approaches to the specific contexts and challenges future principals will face. Finally, equipping students with up-to-date knowledge of state and national standards and providing opportunities to practice implementing them is essential to ensuring their readiness for the evolving demands of the principalship.

Limitations

This study offers valuable insights into the perceived adequacy of principal preparation programs (PPPs) across Texas. However, several limitations should be noted to contextualize the findings. First, participants were asked to reflect on their preparation program experiences, which often occurred several years ago. This reliance on retrospective recall introduces the possibility of memory bias, as participants' perceptions may have been shaped by the passage of time or by their subsequent professional experiences. Consequently, their responses may not fully represent their preparation programs' original content or quality. In addition, the response rate was relatively low, with 245 completed surveys out of more than 8,000 principals contacted. Although the sample was geographically diverse and consistent with acceptable standards for survey research in education, using a convenience sample may limit the generalizability of findings.

Internship quality and access also varied by region, particularly in rural areas such as West Texas, where traditional PPPs are limited. This geographic imbalance likely contributed to the significant differences found for NELP Standard 8 and may not reflect statewide patterns in PPPs. Although the study measured perceived preparedness across all eight NELP Standards, it

did not include longitudinal outcome data such as school improvement metrics or leadership performance indicators. As such, the results reflect participants' perceptions of training adequacy rather than verified program effectiveness. Future research should address these limitations by incorporating longitudinal designs, collecting performance-based outcome data, and ensuring more representative sampling strategies across diverse geographic regions.

Conclusion

Principal preparation programs (PPPs) play a critical role in shaping the future of educational leadership by equipping aspiring principals with the skills and knowledge necessary to lead effectively. This study provides important insights into the effectiveness of Texas's PPPs, highlighting their strong alignment with the National Educational Leadership Preparation (NELP) Standards. The findings show that, despite minor variations, Texas programs are consistent in their curriculum and training, demonstrating their commitment to preparing future principals for the challenges of modern educational leadership. Most notably, the study underscores the importance of internships as a cornerstone of principal preparation, with nearly 89% of participants completing an internship as part of their program. However, 11% of participants reported that an internship was not required, a critical oversight given research by Orr and Orphanos (2011) indicating that a lack of integrated internship practice is negatively associated with school climate and improvement. This issue is particularly concerning in rural areas, where PPP participants perceived internships as less aligned with practice and less beneficial, reflecting broader challenges faced by remote communities with limited resources and contemporary expertise (Hoover & Erickson, 2015; Maheady et al., 2016; Robinson et al., 2013).

While Texas's alignment with national standards is commendable, certain areas require further attention to close the gap between theory and practice. For instance, NELP Standard 4: Learning and Instruction received the lowest mean score (4.48), revealing a perceived inadequacy in preparing principals to implement equitable and effective systems of curriculum, instruction, and assessment. This gap aligns with research by Johnson and Young (2019), which found that more than half of principals felt their programs did not adequately prepare them to support the needs of students with disabilities. Conversely, NELP Standard 2: Ethics and Professional Norms achieved the highest mean score (5.09), reflecting participants' confidence in ethical leadership—a skill reinforced by Texas's Administrative Code (19 Tex. Admin. Code §247.2, 2018) and continuing professional education requirements mandated by Senate Bill 1267. Research by Webster and Litchka (2020) also highlights the strong relationship between ethical leadership and overall leadership abilities as perceived by teachers, underscoring the importance of this standard. To further enhance PPPs, this study emphasizes the need for meaningful application opportunities, such as internships that involve leading data-driven initiatives, relationship-building, and change management (Anast-May et al., 2011; Orr & Orphanos, 2011; Reyes-Guerra & Barnett, 2017). By addressing these gaps and ensuring ongoing alignment with national standards, PPPs can better prepare principals to lead inclusive, effective, and adaptive schools that meet the evolving demands of education.

Building on these findings, future research should explore how different types of PPPs can continue to evolve to meet the needs of aspiring principals better. Examining the strengths and limitations of various program structures could provide deeper insights into innovative

practices that support both equitable access and effective leadership preparation. Future studies might, for example, investigate how program delivery mode (in-person, hybrid, online) influences the development of instructional leadership competencies, or how variations in internship structure impact novice principals' self-efficacy. Comparative research examining the effectiveness of alternative certification versus university-based programs in preparing principals to support diverse student populations would also offer valuable insights. Such investigations would guide PPPs in making evidence-based adjustments to better align their models with the evolving demands of school leadership.

References

19 Texas Administrative Code §247.2 (2018).

Anast-May, L., Buckner, B., & Geer, G. (2011). Redesigning principal internships: Practicing principals' perspectives. *International Journal of Educational Leadership Preparation*, *6*(1), 1-7. Retrieved from https://eric.ed.gov/?id=EJ972878

Anderson, E., & Reynolds, A. (2015). The state of state policies for principal preparation program approval and candidate licensure. *Journal of Research on Leadership Education*, *10*(3), 193-221. https://doi.org/10.1177/1942775115614292

Antonakis, J. (2012). Transformational and charismatic leadership. *The Nature of Leadership*, 256-288.

Bastian, K. C., & Drake, T. A. (2023). School leader apprenticeships: Assessing the characteristics of interns, internship schools, and mentor principals. *Educational Administration Quarterly, 59*(5), 1002-1037. https://doi.org/10.1177/0013161X231196502

Beard, K. S. (2018). Toward a theory of engaged school leadership: Positive psychology and principal candidates' sense of engagement and their preparedness to lead engagement. *Journal of School Leadership, 28*(6), 742-771. https://doi.org/10.1177/105268461802800603

Boyland, L. G., Quick, M. M., Geesa, R. L., Sriver, S. K., & Dyke, E. M. (2022). Effectiveness of principal preparation per the NELP standards: An assessment of one university's performance. *International Journal of Educational Leadership Preparation*, *17*(1), 23-40. Retrieved from https://eric.ed.gov/?id=EJ1345896

Boys, S., Bartholomew, J., & Patras, A. (2022). Where are the social workers? A practicum model to engage social workers in political advocacy for social justice. *Journal of Teaching in Social Work, 42*(5), 489-500. http://dx.doi.org/10.1080/08841233.2022.2120162

Burazer, L., & Skela, J. (2021). The effectiveness of in-person versus online instruction in the pre-service teacher preparation programme. *ELOPE: English Language Overseas Perspectives and Enquiries, 18*(2), 117-137. https://doi.org/10.4312/elope.18.2.117-137

Carapetis, J. R., & Brown, A. (2020). Community leadership and empowerment are essential for eliminating rheumatic heart disease. *Medical Journal of Australia, 213*(3), 116-117. https://doi.org/10.5694/mja2.50695

Cramer, E., Little, M. E., & McHatton, P. A. (2018). Equity, equality, and standardization: Expanding the conversations. *Education and Urban Society, 50*(5), 483-501. https://doi.org/10.1177/0013124517713249

Cunningham, K. M. W., & Lochmiller, C. R. (2020). Content-specific leadership: Identifying literature-based implications for principal preparation. *Journal of Research on Leadership Education, 15*(4), 261-282. https://doi.org/10.1177/1942775119845004

Darling-Hammond, L., Wechsler, M. E., Levin, S., & Tozer, S. (2022). Developing effective principals: What kind of learning matters? *Learning Policy Institute*.

Davis, S. H. (2010). Analysis of site-level administrator and superintendent certification requirements in the USA. *California Commission on Teacher Credentialing.* http://www.ctc.ca.gov/educator-prep/ASC/ASC-analysis-of-USA-requirements.pdf.

Davis, S. H., & Darling-Hammond, L. (2012). Innovative principal preparation programs: What works and how we know. *Planning and Changing*, *43*, 25-45. Retrieved from http://education.illinoisstate.edu/planning/articles/vol43.php

Dexter, S., Richardson, J. W., Nash, J. B. (2017). Recent National Studies on Principalship. In M.D. Young and G. Crow (Eds.), *Handbook of research on the education of school leaders* (2nd ed., pp. 202–228). Routledge.

Dinh, J. E., Lord, R. G., Gardener, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *The Leadership Quarterly, 25*(1), 36-62. https://doi.org/10.1016/j.leaqua.2013.11.005

Dobrinić, D., & Fabac, R. (2021). Familiarity with mission and vision: Impact on organizational commitment and job satisfaction. *Business Systems Research, 12*(1), 124-143. https://doi.org/10.2478/bsrj-2021-0009

Dodson, R. L. (2015). What makes them the best? An analysis of the relationship between state education quality and principal preparation practices. *International Journal of Education Policy and Leadership*, *10*(7), 1-21. Retrieved from https://eric.ed.gov/?id=EJ1138292

Drake, T. A. (2022). Learning by doing: A daily life study of principal interns' leadership activities during the school year. *Journal of Research on Leadership Education, 17*(1), 24-54. https://doi.org/10.1177/1942775120941549

Duncan, H., Range, B., & Scherz, S. (2011). From professional preparation to on-the-job development: What do beginning principals need? *International Journal of Educational Leadership Preparation*, *6*(3), 1-20. Retrieved from https://eric.ed.gov/?id=EJ974249

Fosnacht, K., Sarraf, S., Howe, E., Peck, L. (2017). How important are high response rates for college surveys? *The Review of Higher Education, 40*(2), 245-265. https://doi.org/10.1353/rhe.2017.0003

Frick, W. C., Faircloth, S. C., & Little, K. S. (2013). Responding to the collective and individual "best interests of students": Revisiting the tension between administrative practice and ethical imperatives in special education leadership. *Educational Administration Quarterly, 49*(2), 207-242. https://doi.org/10.1177/0013161X12463230

Fuller, E. J., & Hollingworth, L. (2017). Questioning the use of outcome measures to evaluate principal preparation programs. *Leadership and Policy in Schools, 17*(2)*,* 167-188. http://dx.doi.org/10.1080/15700763.2016.1270332

Fusarelli, B. C., Fusarelli, L. D., & Drake, T. A. (2019). NC State's principal leadership academies: Context, challenges, and promising practices. *Journal of Research on Leadership Education, 14*(1), 11-30. https://doi.org/10.1177/1942775118819678

Galloway, L., Marks, A., & Chillas, S. (2014). The use of internships to foster employability, enterprise and entrepreneurship in the IT sector. *Journal of Small Business and Enterprise Development, 21*(4), 653–667. https://doi.org/10.1108/JSBED-09-2014-0150

Gallup. (2017). *Leadership perspectives on public education: The Gallup 2017 survey of K-12 school district superintendents.* Gallup.

Gates, S. M., Baird, M. D., Master, B. K., & Chavez-Herrerias, E. R. (2019). *Principal pipelines: A feasible, affordable, and effective way for districts to improve schools*. Wallace Foundation. https://www.rand.org/pubs/research_reports/RR2666.html

Goddard, R., Goddard, Y., Kim, E. S., & Miller, R. (2015). A theoretical and empirical analysis of the roles of instructional leadership, teacher collaboration, and collective efficacy beliefs in support of student learning. *American Journal of Education, 121*(4), 501-530. https://doi.org/10.1086/681925

Grayson, A., & Pescatore, L. (2020, July 24). Principals benefit when principal supervisors have a supporting role, studies find. *Ed Prep Matters | AACTE Blog.* https://edprepmatters.net/2020/07/principals-benefit-when-principal-supervisors-have-a-supporting-role-studies-find/

Griffin, M.A., Parker, S.K., & Mason, C.M. (2010). Leader vision and the development of adaptive and proactive performance: A longitudinal study. *Journal of Applied Psychology*, *95*(1), 174-182. https://doi.org/10.1037/a0017263

Grissom, J. A., Egalite, A. J., & Lindsay, C. A. (2021). *How Principals Affect Students and Schools: A Systematic Synthesis of Two Decades of Researc*h. The Wallace Foundation.

Grissom, J. A., & Loeb, S. (2011). Triangulating principal effectiveness: How perspectives of parents, teachers, and assistant principals identify the central importance of managerial skills. *American Educational Research Journal, 48*(5), 1091-1123. https://doi.org/10.3102/0002831211402663

Grissom, J. A., Mitani, H., & Woo, D. S. (2019). Principal preparation programs and principal outcomes. *Educational Administration Quarterly*, *55*(1), 73-115. https://doi.org/10.1177/0013161X18785865

Grissom, J. A., Woo, D., & Bartanen, B. (2020). *Ready to lead on day one: Predicting novice principal effectiveness with information available at time of hire* (EdWorkingPaper No. 20-276). Annenberg Institute at Brown University. https://doi.org/10.26300/vfbg-h337

Hall, J. N., & Freeman, M. (2014). Shadowing in formative evaluation: Making capacity building visible in a professional development school. *The American Journal of Evaluation, 35*(4), 562-578. https://doi.org/10.1177/1098214014537397

Hoover, J. & Erickson, J. (2015). Culturally responsive special education referrals of English learners in one rural county school district: Pilot project. *Rural Special Education Quarterly*, 34, 18-28. https://doi.org/10.1177/875687051503400403

Ikonomopoulos, J., Vela, J. C., Smith, W. D., & Dell'Aquila, J. (2016). Examining the practicum experience to increase counseling students' self-efficacy. *The Professional Counselor, 6*(2), 161-173. https://doi.org/10.15241/ji.6.2.161

Johnson, A. D., & James, S. (2018). Principal and professor perspectives on principal preparation, program redesign, and educational planning. *Educational Planning, 25*(3), 19-30. Retrieved from https://eric.ed.gov/?id=EJ1207945

Johnson, W. R., & Young, C. J. (2019). *Principal and teacher preparation to support the needs of diverse students: National findings from the American educator panels*. Rand.

Kearney, W. S., Kelsey, C., & Herrington, D. (2013). Mindful leaders in highly effective schools: A mixed-method application of Hoy's M-scale. *Educational Management Administration & Leadership, 41*(3), 316-335. https://doi.org/10.1177/1741143212474802

Khan, S., Hwang, G., Azeem Abbas, M., & Rehman, A. (2019). Mitigating the urban–rural educational gap in developing countries through mobile technology-supported learning. *British Journal of Educational Technology, 50*(2), 735-749. https://doi.org/10.1111/bjet.12692

Kirby, M. M., & DiPaola, M. F. (2011). Academic optimism and community engagement in urban schools. *Journal of Educational Administration, 49*(5), 542-562. https://doi.org/10.1108/09578231111159539

Levin, S. & Bradley, K. (2019). *Understanding and addressing principal turnover: A review of the research*. National Association of Secondary School Principals.

Maheady L., Magiera K., Simmons R. (2016). Building and sustaining school-university partnerships in rural settings: One approach for improving special education service delivery. *Rural Special Education Quarterly*, 35(2), 33-40. https://doi.org/10.1177/875687051603500205

Mahfouz, J., & Gordon, D. P. (2021). The case for focusing on school principals' social–emotional competencies. *Management in Education, 35*(4), 189-193. https://doi.org/10.1177/0892020620932351

Mayger, L. K & Provinzano, K. (2022a). Community school leadership: Identifying qualities necessary for developing and supporting equity-centered principals, *Leadership and Policy in Schools, 21*(2), 281-302. https://doi.org/10.1080/15700763.2020.1759652

Mayger, L., & Provinzano, K. (2022b). Leadership for family and community engagement: A qualitative policy analysis of state principal evaluation processes. *Educational Administration Quarterly, 58*(1), 141-177. https://doi.org/10.1177/0013161X211052501

McGovern, G., Raffaelli, M., Moreno Garcia, C., & Larson, R. (2020). Leaders' cultural responsiveness in a rural program serving latinx youth. *Journal of Adolescent Research, 35*(3), 368-394. https://doi.org/10.1177/0743558419873893

Murphy, J., & Torre, D. (2014). Vision essential scaffolding. *Educational Management Administration & Leadership, 43*(2), 177-197. https://doi.org/10.1177/1741143214523017

National Association of Secondary School Principals. (2017). *Position statement: Principal shortage.* Retrieved from https://www.nassp.org/wordpress/wp-content/uploads/2018/04/Principal_Shortage.pdf

National Center for Education Statistics. (Fall 2018). *Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics component, Fall 2018.* U.S. Department of Education.

National Policy Board for Educational Administration. (2018). *National educational leadership preparation (NELP) program standards - Building level.* Retrieved from www.npbea.org

Newbold, K. B., & Brown, W. M. (2015). The urban-rural gap in university attendance: Determinants of university participation among Canadian youth. *Journal of Regional Science, 55*(4), 585-608. https://doi.org/10.1111/jors.12197

O'Dwyer, L., & Bernauer, J. (2013). *Quantitative Research for the Qualitative Researcher.* Sage.

Orr, M. T., & Orphanos, S. (2011). How graduate-level preparation influences the effectiveness of school leaders: A comparison of the outcomes of exemplary and conventional leadership preparation programs for principals. *Educational Administration Quarterly, 47*(1), 18-70. https://doi.org/10.1177/0011000010378610

Price, H. E. (2012). Principal-teacher interactions: How affective relationships shape principal and teacher attitudes. *Educational Administration Quarterly, 48*(1), 39-85. https://doi.org/10.1177/0013161X11417126

Reyes-Guerra, D. & Barnett, B. G. (2016). Clinical practice in educational leadership. In M.D. Young, G.M. Crow, J. Murphy, R.T. Ogawa. *Handbook of Research on the Education of School Leaders* (pp. 243-275). Routledge.

Robinson G. R., Bursuck W. D., Sinclair K. D. (2013). Implementing RTI in two rural elementary schools: Encouraging beginnings and challenges for the future. *Rural Educator*, 34, 1-9. https://doi.org/10.35608/ruraled.v34i3.394

Scanlan, M., & Lopez, F. (2012). Vamos! How school leaders promote equity and excellence for bilingual students. *Educational Administration Quarterly, 48*(4), 583-625. https://doi.org/10.1177/0013161X11436270

Scribner, J. P., Weingand, D. H., & Sanzo, K. L. (2021). Fostering cultural responsiveness in an urban high school: A case study. *NASSP Bulletin, 105*(3), 153-172. https://doi.org/10.1177/01926365211036513

Sebastian, J., & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational Administration Quarterly, 48*(4), 626-663. https://doi.org/10.1177/0013161X11436273

Senate Bill 1267, Texas Legislature, 87 Reg. Sess. (Texas, 2021).

Senate Bill 1383, Texas Legislature. 85 Reg. Sess. (Texas, 2017).

Sheng, Z., Wolff, L., Kilmer, L., & Yager, S. (2017). School administration manager: Redefining the principal's role as an instructional leader. *Journal of School Leadership, 27*(1), 119-142. https://doi.org/10.1177/105268461702700105

Simms, L. J., Zelazny, K., Williams, T. F., & Bernstein, L. (2019). Does the number of response options matter? Psychometric perspectives using personality questionnaire data. *Psychological Assessment*, *31*(4), 557. https://doi.org/10.1037/pas0000648

Simons, L., Fehr, L., Blank, N., Connell, H., Georganas, D., Fernandez, D., & Peterson, V. (2012). Lessons learned from experiential learning: What do students learn from a practicum/internship? *International Journal of Teaching and Learning in Higher Education*, *24*(3), 325-334. Retrieved from https://eric.ed.gov/?id=EJ1000685

Slater, C. L., Garcia Garduno, J. M., & Mentz, K. (2018). Frameworks for principal preparation and leadership development: Contributions of the international study of principal preparation (ISPP). *Management in Education, 32*(3), 126-134. https://doi.org/10.1177/0892020617747611

Snodgrass Rangel, V. (2018). A review of the literature on principal turnover. *Review of Educational Research, 88*(1), 87-124. https://doi.org/10.3102/0034654317743197

Texas Education Agency. (2023). *Education Service Centers.* Texas Education Agency. https://tea.texas.gov/about-tea/other-services/education-service-centers

Tickle, M., Mann, R., & Adebanjo, D. (2016). Deploying business excellence – success factors for high performance. *The International Journal of Quality & Reliability Management, 33*(2), 197-230. https://doi.org/10.1108/IJQRM-10-2013-0160

Tsai, M., & Jao, J. (2020). Evaluation of the effectiveness of student learning and teacher instruction on team-based learning during quality control of diagnostic imaging. *Medical Education Online, 25*(1). https://doi.org/10.1080/10872981.2020.1732159

Viloria, M. L., Volpe, T., Guajardo, R., & Kyle, R. (2019). Novice school principals' advice to educational administration students. *Journal of Latinos and Education*. https://doi.org/10.1080/15348431.2019.1568251

Wang, K., & Dinkes, R. (2020, June 10). *Bar chart races: Changing demographics in K-12 public school enrollment*. National Center for Education Statistics. Retrieved from https://nces.ed.gov/blogs/nces/post/bar-chart-races-changing-demographics-in-k-12-public-school-enrollment

Webster, K., & Litchka, P. (2020). Planning for effective school leadership: Teachers' perceptions of the leadership skills and ethical behaviors of school principals. *Educational Planning*, *27*(1), 31-47. Retrieved from https://eric.ed.gov/?id=EJ1250500

WestEd. (2022, June). *The bridge project: Statewide supports for future Illinois principals of color.* https://oese.ed.gov/files/2022/10/S423A220042_Narrative_Redacted_508.pdf

Young, M. D., & Crow, G. (2017). *The Handbook of Research on the Education of School Leaders.* (2nd Edition). Routledge.

Young, M. D., Richardson, I., Auchter, J., & Schiffman, C. (2018). *Preparing for the National Educational Leadership Preparation (NELP) Program Review.* National Policy Board for Educational Administration.

Zhang, J., Jin, S., Torero, M., & Li, T. (2018). Teachers and urban-rural gaps in educational outcomes. *American Journal of Agricultural Economics, 100*(4), 1207-1223. https://doi.org/10.1093/ajae/aay009

Examining Perceptions of Educational Leadership Skills in Principal Internship Experiences

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Abstract

This study examined perceptions of educational leadership skills within principal internship experiences, focusing on the National Educational Leadership Preparation (NELP) building level standards related to instructional leadership. Using a quantitative survey design, the study collected data from 53 participants (29 principals and 24 interns) in a rural Rocky Mountain state to investigate the perceived importance of specific leadership skills and the extent to which internship experiences support their acquisition. Findings revealed consistent gaps between perceived importance and skill acquisition across all examined NELP standards, with notable differences between principal and intern perspectives. While both groups prioritized data-driven improvement processes and academic program evaluation, interns generally rated skill importance and acquisition higher than principals, particularly in areas of mission/vision development and non-academic evaluation. Results also indicated limited development of technology integration skills and non-academic leadership competencies during internships. These findings suggest a need to redesign principal internship experiences to better align with contemporary leadership demands, particularly in developing comprehensive leadership capabilities beyond a traditional instructional leadership focus. The study contributes to the understanding of how principal preparation programs can better bridge the gap between theoretical importance and practical skill development in educational leadership.

Key Words: principal preparation, principal internships, leader development, leadership standards

Effective principal preparation programs promote development of the leadership knowledge, skills, and practices needed to make a positive difference in student achievement and school success (Augustine-Shaw & Reilly, 2017; Doss et al., 2022; Grissom et al., 2021; Leithwood et al., 2004). However, as the role of public school principals has become more demanding and complex (Fuller, et al., 2018), this has changed the function of leadership preparation programs in developing future school leaders ready to meet the demands of diverse and complex school environments. Improved student and school outcomes rely on quality preparation of educational leaders, so providing high quality programs that address the challenges of the increasingly difficult role of a school principal is critical for the future of PK-12 education.

Within an effective leadership preparation program, principal internships are widely recognized as an important aspect for providing hands-on, practical experiences to develop future school leaders (Darling-Hammond et al., 2022; Dodson, 2014, 2015; Gümüş, 2015; Ni et al., 2019). Although it is common for educational leadership preparation programs to include an internship component, there is little information in the research that explores the role of the principal internship in cultivating educational leadership skills. Evidence from research confirms the need for a substantial and sustained educational leadership internship that includes school-based field experience, clinical internship practice within a school setting, and monitoring by a qualified on-site principal mentor (NPBEA, 2018).

To ensure quality and consistency, leadership preparation programs and their internship components adhere to established professional standards. The National Educational Leadership Preparation (NELP) building level standards (NPBEA, 2018) offer guidance for educational leadership programs across the country. The standards provide a comprehensive framework for understanding how to best prepare, support, and evaluate beginning educational leaders. Developing proficiency on the NELP Standards fosters principal candidates' ability to lead collaboratively and effectively with the goal of improving opportunities and achievement for all students (Young et al., 2018). Since a principal candidate needs to demonstrate awareness, understanding, and application of the specialized skills outlined in the NELP standards (NPBEA, 2018), the final NELP standard (Standard 8: Internship), addresses this by stipulating that preparation programs include an internship component. A high-quality internship engages candidates in multiple and diverse settings, providing "coherent, authentic, and sustained opportunities to synthesize and apply the knowledge and skills identified in NELP standards 1-7" (NPBEA, 2018, p.30).

Purpose of the Study

This research examines the internship experience from the perspective of principals and principal interns. The purpose of the study is to understand perceptions of the educational leadership skills identified in the NELP standards (NPBEA, 2018) in relation to the principal internship experience and determine any differences among principals and principal interns. NELP standards 1, 4, and 7 are utilized as a framework for the study to provide a focus on instructional leadership skills. More specifically, the researcher gathered information about these NELP educational leadership skills from two perspectives: the perceived importance of each skill for effective leadership development and beliefs about the extent to which an internship experience supports the acquisition of each skill.

Research Questions

The research questions which guided the study include:

1. What do principals and principal interns identify as the most and least important educational leadership skills for effective leadership development within a principal internship experience?
2. To what extent do principals and principal interns believe that an internship experience supports the acquisition of each educational leadership skill?
3. What are the differences between principal and principal intern perceptions regarding the importance of educational leadership skills and the extent of their acquisition within an internship experience ?

Context of the Study

The setting for this research is an educational leadership program at a public land-grant research university in a rural Rocky Mountain state. The program recently aligned to the NELP standards (NPBEA, 2018) which were revised from the 2011 Educational Leadership Constituent Council (ELCC) standards (NPBEA, 2011). A requirement of the program is a 440-hour supervised internship. There are two parts to the internship:

1. Internship fieldwork with 120 logged hours at the elementary, middle school, and high school levels (360 of the 440 hours) under the supervision of a principal mentor, and
2. Six credits of supervised internship coursework which include 24 NELP standards-based internship activities (80 of the 440 hours) that are completed, posted, and discussed in online threaded discussions over two semesters.

Principal interns and their mentors refer to the NELP standard components as part of the internship requirements. Interns complete a pre-internship self-assessment and post-internship self-assessment aligned to the standard components. They are encouraged to share their pre-internship self-assessment with their principal mentors and use it to guide discussion, set goals, and inform the direction of their internship hours. Mentors at the elementary, middle school, and high school complete an internship evaluation addressing the same NELP standard components.

Connection to the Literature

Research has long shown that principal leadership is critical to student learning and school success. In a 2004 review of research funded by the Wallace foundation, Leithwood et al. (2004) concluded that classroom instruction is the only school-related factor with a greater impact on student learning than the school leader. There have been many changes since 2004 that influence the work of educational leaders. Expectations for school leaders have evolved with high-stakes accountability, more complex teacher evaluation systems, increased attention to educational equity, pandemic modifications, post-pandemic shifts, and other local and national political occurrences. A recent synthesis of the research (Grissom et al., 2021) suggests these changes have resulted in the role of a school principal being even more important than asserted in earlier work. An effective principal positively impacts learning, attendance, teacher

satisfaction and retention, and many additional important outcomes. Extending this research, Davis and Nixon (2024) assert that the global pandemic and societal unrest have fundamentally transformed principal responsibilities, requiring preparation programs and districts to collaborate on developing curricula and providing meaningful clinical practices that incorporate emerging leadership issues. These studies highlight the need for preparing principals who can address these demands and promote equitable education in our nation's schools.

Principal Preparation Programs

Principal preparation has evolved from general administrative credentialing to a more holistic approach with instruction-focused programs, including authentic field experiences. This shift acknowledges that the principal's role has expanded significantly beyond traditional administrative tasks to include instructional leadership, community engagement, and staff development, necessitating more comprehensive preparation (Darling-Hammond, et al., 2022). Expanding this perspective, Davis and Nixon (2024) observe that despite ongoing efforts to enhance principal preparation programs, school leaders face continuously evolving job expectations driven by major challenges including COVID-19, societal disagreements, policy shifts, and social disruptions.

In response to these expanding responsibilities and evolving challenges, researchers have identified several essential components that characterize high-quality preparation programs. Effective preparation programs provide foundational knowledge and dispositions for successful school leadership while cultivating leadership skills (Williams & Burgess, 2025). In addition to traditionally included areas such as instructional leadership, educational change, and managerial competence, principal preparation programs have added ethical leadership, inquiry skills, conflict management, and social justice to the curriculum (Crow & Whiteman, 2016). A safe, equitable school culture with leadership supporting career advancement and student success has also become an emphasis (Doss et al., 2022; Goldring et al., 2022; Grissom et al., 2019; Pan & Chen, 2021). To address these priorities, recent principal preparation redesign initiatives incorporate collaboration between universities, high-need school districts, and state partners to better reflect the real-world demands of the job (Wang, et al., 2018).

Researchers have found that principals who receive quality preparation are better equipped to handle contemporary challenges including instructional improvement, staff development, and creating equitable learning environments (Goldring et al., 2021; Grissom et al. 2019). Principal preparation programs can significantly influence the education of aspiring administrators by exposing them to varying leadership approaches which support the development of effective leadership skills and communication styles (Brauckmann et al., 2023; Johnson et al., 2021). According to Darling-Hammond et al. (2022), a strategic approach to leadership development, with well-designed, contextually relevant, and equity-focused learning opportunities, is critical for developing school leaders capable of meeting contemporary educational challenges. Their research also indicates that high-quality principal preparation and professional development programs are consistently associated with positive principal, teacher, and student outcomes, ranging from principals' feelings of preparedness to stronger teacher retention and improved student outcomes.

Key components of robust principal preparation programs emphasize applied learning, mentorship, and a commitment to equity and instructional leadership to support improved student and teacher outcomes through collaborative partnerships (Bartanen, 2020; Darling-Hammond et al., 2022; Goldring et al., 2021; Herman et al, 2022; Pan & Chen, 2021). While research has identified important features of successful programs, criticism persists regarding inconsistent quality and design across programs (Young, 2015; Backor & Gordon, 2015). Crow and Whiteman (2016) affirm that there is much we do not know about the design and effectiveness of principal preparation programs. Adding to this is a significant increase in preparation programs, including many that are part of the private, for-profit sector, which has raised further concerns about adherence to established best practices such as a high-quality internship experience (Baker, 2012).

Principal Internships

The principal internship represents a cornerstone of effective leadership preparation programs, providing aspiring administrators with authentic opportunities to apply theoretical knowledge in real-world contexts. The Southern Regional Education Board (2007) emphasized this importance, concluding that field-based placements should be a high priority and central focus of educational leadership programs. Since then, researchers have consistently identified the principal internship as a critical component of effective principal preparation programs, as it provides aspiring administrators with their primary, and sometimes only opportunity to apply theoretical knowledge in authentic leadership contexts (Cunningham & Sherman, 2008; Darling-Hammond et al., 2007, 2022; Jackson & Remer, 2014; Orr & Orphanos, 2011; Perez et al., 2011; Rhodes, 2012; Young et al., 2009).

Components of Effective Internships

Over the years, there has been growing agreement about the components needed for a successful principal internship. A high-quality internship provides opportunities for leading, facilitating, and making typical educational leadership decisions as well as developing perspectives on school improvement through the lens of an educational leader (Darling Hammond et al., 2009, 2022; Orr & Orphanos, 2011; Reyes-Guerra & Barnett, 2016; Young et al., 2009; Young & Crow, 2017). Key elements include clear expectations (Clayton & Myran, 2013), and excellent mentoring and coaching (Duncan et al, 2011; Shoho et al., 2012; Syed, 2015).

Building on these foundational elements, Sherman and Crum (2009) identified actions necessary for a productive internship: district collaboration; experiences that connect to leadership standards; district priorities and school needs; prolonged internship engagement throughout preparation rather than at the end of the program; careful pairing of mentors and interns; time for interns to reflect and share experiences; and university support for the intern, principal mentor, and district leadership. More recently, research has highlighted the importance of preparing leaders to serve diverse student populations through applied learning and reflective activities that help principals understand and address systemic inequities (Darling-Hammond, et al., 2022). These experiences are most worthwhile when involving collaboration with districts and community partners (Darling-Hammond et al., 2022; Davis & Nixon, 2024; Doss et al., 2022; Gates et al., 2020), leading to redesign initiatives that emphasize

partnerships between universities, high-need school districts, and state agencies to better align preparation with real-world job demands (Wang et al., 2018).

Outcomes and Benefits

Multiple studies have documented positive outcomes from well-designed principal internships, including the acquisition of educational leadership skills related to standards (Barton & Cox, 2012; Ringler, et al., 2012; Stevenson & Cooner, 2011). At its core, Huber (2008) explained that the primary benefit of an internship experience lies in the synthesis of coursework and practical experience in schools, allowing theoretical knowledge to inform real-world decision-making. This integration fosters a transformed perspective on leadership, as interns begin to recognize the complexity of the principal's role and develop critical competencies such as leading others toward a shared vision; mobilizing collaborative effort; building individual and organizational capacity; and using data to inform change (Perez, at al., 2011).

Adding to this research, Ringler, et al. (2012) found that the internship component yields the greatest development in instructional leadership and managerial leadership enactment compared to other program elements. This practical impact is further affirmed by Darling-Hammond et al. (2022), who noted that graduates of comprehensive preparation programs attribute their leadership skills, including staff supervision, problem-solving, and collaborative decision-making, directly to program structure and challenging field experiences. Extending this research, Pardosi and Utari (2022) demonstrate how these cultivated leadership abilities ultimately translate to broader institutional success, as internship-prepared leaders are better equipped to foster positive school cultures that fundamentally influence overall school outcomes.

Challenges and Future Directions

Despite widespread agreement about the critical role of principal internships, significant implementation challenges remain. In practice, fewer than half of principal candidates in the United States report participating in an internship, and only about 40% of principals report having internships that provided authentic leadership responsibilities during their preparation (Darling-Hammond et al., 2022). This access gap is further complicated by considerable disparity in the requirements, implementation, mentorship, leadership activities, and evaluation of internship experiences across programs and regions (Darling-Hammond et al, 2022; Hafner et al., 2012; Thessin & Clayton, 2013).

The gap between ideal and reality is particularly concerning given the intended purpose of these experiences. Internships are designed to place aspiring leaders in schools to authentically engage in the work of principals (Drake, 2022), facilitating a critical transition from teacher to leader by shifting focus from managing a single classroom or subject area to addressing system-wide goals and challenges (Drake et al., 2021). Yet historical practices have often undermined this purpose, with many internship experiences focused primarily on passive and observational activities rather than active and direct leadership opportunities (Fry et al., 2005). Recognizing this misalignment, Cunningham & Sherman (2008) advocated for greater emphasis on frequently overlooked tasks for developing instructional leadership, promoting

school improvement, and enhancing student achievement, core responsibilities of effective school leaders.

As educational contexts continue to evolve, continuous revision of internship experiences is needed to address the changing nature of school leadership (Darling-Hammond et al., 2022; Davis & Nixon, 2024; Thessin & Clayton, 2013). This ongoing development requires robust partnerships between preparation programs and current educational leaders to ensure relevance and authenticity (Darling-Hammond et al., 2022; Davis & Nixon, 2024). Such collaborative relationships provide the foundation for internship experiences that meaningfully align with the national standards, creating a coherent framework for comprehensive leadership development that bridges theoretical preparation with practical application (Young et al., 2018).

National Standards as Foundational Theory

The NELP standards, standard components, and educational leadership skills (NPBEA, 2018) serve as a valuable framework for understanding principal and principal intern perceptions of educational leadership skills within the context of the internship experience. Clear and consistent leadership standards assist all educational stakeholders in understanding expectations for student success and teacher effectiveness (Canole & Young, 2013). The NELP standards are aligned to the 2015 *Professional Standards for Educational Leaders (PSEL)* which are grounded in research and describe the knowledge and skills expected of educational leaders (NPBEA, 2015). However, NELP standards specify performance expectations addressing the most critical knowledge and skills for beginning building-level administrators (Young, 2016). Therefore, the NELP standards, standard components, and educational leadership skills are applied as the foundational theory to make sense of and give meaning to the data from the study.

Seven leadership domains are reflected in the NELP standards with multiple standard components in each domain, imbedding both research and practice. For each of the standard components, the NELP standards document includes a list of content knowledge and educational leadership skills needed for success as a school leader. Developing proficiency in the NELP standards promotes the ability of a principal candidate to lead collaboratively and effectively with the goal of increasing student achievement and teacher effectiveness (Young et al., 2018). This includes demonstrating awareness, understanding, and application of the specialized skills outlined in the NELP standards (NPBEA, 2018).

Methods

A quantitative survey design was employed for this study, allowing information to be gathered for determining perceptions about the internship experience. The NELP standards provided the foundation for the survey design with survey items derived from the NELP educational leadership skills. The skills were summarized and divided as needed to create single items appropriate for survey methodology.

Participants

The study utilized a convenience sampling by recruiting all principals in the state and principal

interns who recently completed the educational leadership program focused on for this study. Email addresses for 290 current principals were obtained from the state's department of education directory. Email addresses for 97 principal interns who completed the program between December 2020 to May 2023 were obtained from program records. Table 1 shows selected characteristics of participants. While there were 127 responses (33% response rate) to the survey, only 53 participants rated every item (14% response rate). Of these 53 survey respondents, 29 were principals and 24 were principal interns. Half of the principal interns had moved into building leadership roles as a principal or assistant principal.

Table 1

Selected participant demographics

Characteristic	**n (%)**
Principals	
1-3 years experience	9 (31.0)
4-10 years experience	8 (27.6)
11-17 years experience	6 (20.7)
18-24 years experience	5 (17.2)
25+ years experience	1 (3.4)
Interns (completed internship in the past 3 years)	
Not currently a school principal or assistant principal	12 (50.0)
Currently an early career assistant principal (1-3 years)	6 (25.0)
Currently an early career principal (1-3 years)	6 (25.0)

Data Collection

Following IRB approval, emails were sent to the principals and principal interns with information about the study and a link to the online survey. A multiple rating matrix scale was employed to determine perceptions and beliefs about the NELP educational leadership skills. Information about these skills was gathered from two perspectives: the perceived importance of each skill for effective leadership development and the extent to which an internship experience supports the acquisition of each skill. This study used the data from NELP Standards 1, 4, and 7 to narrow the focus to the educational leadership skills most connected to instructional leadership. Appendix I illustrates the relationship among the standards, standard components, educational leadership skills, and the survey items.

Data Analyses

Descriptive statistics were used to describe the research sample based on responses to demographic questions. Frequencies, percentages, means, and standard deviations of the importance of each educational leadership skill and the extent to which the internship experience supports the acquisition of each skill were computed as a measure of data analysis. In addition, Cohen's D was calculated to measure effect size and determine the difference between principal and intern importance ratings and acquisition ratings for each skill (Kotz et al., 2005).

Findings

Participants in the study rated the educational leadership skill survey items by responding to two questions. The first question asked: How important is each skill for effective leadership development (specifically within an internship experience)? The scale required participants to rate (1) *not important,* (2) *somewhat important,* (3) *moderately important,* or (4) *very important*. The second question asked: To what extent do you believe an internship experience supports the acquisition of each skill? The corresponding scale asked that participants rate (1) *not at all,* (2) *to a minimal extent,* (3) *to a moderate extent,* or (4) *to a great extent*. The findings are organized by the focus NELP Standards (1, 4, and 7) to address the research questions: 1) importance of the educational leadership skills, 2) acquisition of skills during the internship, and 3) differences between principal and intern perceptions.

NELP Standard 1 – Mission, Vision, and Improvement

NELP Standard 1 emphasizes that school principals must have the knowledge and skills to promote success for every student through collaboratively leading, designing, and implementing a school mission, vision, and process for continuous improvement that reflects a core set of values and priorities (NPBEA, 2018). The standard comprises two components: school mission and vision (1.1) and improvement processes (1.2).

Table 2 provides the mean and standard deviation for both principals and principal interns on the importance of each educational leadership skill and the extent to which an internship experience supports acquisition of the skill. In addition, the effect size is included as a measure of difference between principals and principal interns.

Table 2

Means and Standard Deviations for NELP Standard 1 Educational Leadership Skills

Survey Item	**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Importance**			**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Acquisition**		
	Principals N=29	Interns N=24	Effect Size	Principals N=29	Interns N=24	Effect Size
Evaluate a School Mission (1.1)	M=2.83 SD=0.66	M=3.29 SD=0.75	.65 Med.	M=2.48 SD=0.87	M=2.96 SD=0.81	.57 Med.
Evaluate a School Vision (1.1)	M=2.86 SD=0.69	M=3.25 SD=0.79	.53 Med.	M=2.48 SD=0.87	M=2.92 SD=0.83	.52 Med.
Collaboratively Develop a School Mission (1.1)	M=3.14 SD=0.88	M=3.33 SD=0.82	.22 Small	M=2.45 SD=0.91	M=2.67 SD=1.01	.23 Small
Collaboratively Develop a School Vision (1.1)	M=3.14 SD=0.88	M=3.25 SD=0.90	.12 Small	M=2.48 SD=0.95	M=2.63 SD=1.01	.15 Small
Develop a Plan for Communicating a School Mission (1.1)	M=3.34 SD=0.72	M=3.29 SD=0.69	.07 Small	M=2.69 SD=0.89	M=2.63 SD=1.01	.06 Small

Develop a Plan for Communicating a School Vision (1.1)	M=3.34 SD=0.72	M=3.33 SD=0.70	.01 Small	M=2.69 SD=0.89	M=2.67 SD=1.05	.02 Small
Evaluate Existing School Improvement Processes (1.2)	M=3.62 SD=0.56	M=3.75 SD=0.44	.26 Small	M=3.07 SD=0.84	M=3.08 SD=0.58	.01 Small
Use Research to Develop a School Improvement Process (1.2)	M=3.21 SD-0.68	M=3.46 SD-0.66	.37 Small	M=2.90 SD-0.82	M=2.79 SD-0.72	.14 Small
Use Data to Develop a School Improvement Process (1.2)	M=3.79 SD=0.41	M=3.88 SD=0.34	.24 Small	M=3.21 SD=0.82	M=3.13 SD=0.74	.10 Small
Develop an Implementation Plan to Support the Improvement Process (1.2)	M=3.79 SD=0.41	M=3.71 SD=0.55	.16 Small	M=3.21 SD=0.90	M=2.88 SD=0.80	.39 Small

Importance of Educational Leadership Skills

Principals placed highest importance on improvement process skills (Standard Component 1.2), specifically using data to develop a school improvement process, and developing and implementation plan to support the improvement process, as the most important skills (both M=3.79). This was followed by evaluating existing school improvement processes (M=3.62). In contrast, principals rated mission and vision skills (Standard Component 1.1) as relatively less important, particularly evaluating a school mission (M=2.83) and evaluating a school vision (M=2.86). Principal interns showed similar priorities within Standard Component 1.2, rating the use of data for school improvement processes highest (M=3.75), followed by evaluating existing improvement processes (M=3.75). Like principals, they rated Standard Component 1.1 lower, including evaluating school vision (M=3.25) and mission (M=3.29).

Acquisition of Skills During Internship

Both principals and interns consistently rated skill acquisition lower than importance across all Standard 1 Components. For Standard Component 1.2, principals reported the highest acquisition in using data to develop school improvement processes and developing implementation plans (both M=3.21), followed by evaluating existing school improvement processes (M=3.07). Principal interns similarly reported highest acquisition in using data for school improvement (M=3.13) and evaluating existing school improvement processes (M=3.08).

Differences Between Principal and Principal Intern Perceptions

The most notable differences emerged in Standard Component 1.1, specifically in evaluating school mission and vision. These skills showed medium effect sizes for both importance (.65 and .53 respectively) and acquisition (.57 and .52 respectively), with interns consistently rating these areas higher than principals. Most other differences between the groups showed small effect sizes, though interns generally rated items slightly higher in importance. The acquisition

ratings showed mixed patterns across both Standard Components 1.1 and 1.2, with neither group consistently rating acquisition higher across all skills.

NELP Standard 4 – Learning and Instruction

NELP Standard 4 focuses on the knowledge and skills principals need for promoting student success through the evaluation, development, and implementation of coherent systems of curriculum and instruction (NPBEA, 2018). This standard encompasses four components: technology-rich curricula programs and academic programs (4.1), equitable academic and non-academic instructional practices (4.2), culturally responsive assessments (4.3); and collaborative work for systematic approaches to curriculum, instruction, technology, data systems, and assessments (4.4).

Means and standard deviations for the importance of each educational leadership skill and the extent to which an internship experience supports acquisition of the skill are provided in Table 3. The calculated effect size showing the difference between principals and principal interns is also included.

Table 3

Means and Standard Deviations for NELP Standard 4 Educational Leadership Skills

Survey Item	**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Importance**			**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Acquisition**		
	Principals N=29	Interns N=24	Effect Size	Principals N=29	Interns N=24	Effect Size
Evaluate Academic Curricula (4.1)	M=3.45 SD=0.69	M=3.63 SD=0.58	.28 Small	M=3.00 SD=0.80	M=2.96 SD=0.86	.05 Small
Evaluate Non-Academic Curricula (4.1)	M=2.97 SD=0.68	M=3.46 SD=0.72	.70 Med.	M=2.79 SD=0.77	M=2.83 SD=0.92	.05 Small
Propose Designs for High-Quality Academic Programs (4.1)	M=3.41 SD=0.73	M=3.42 SD=0.65	.01 Small	M=2.90 SD=0.90	M=2.75 SD=0.90	.17 Small
Propose Designs for High-Quality Non-Academic Programs (4.1)	M=3.03 SD=0.78	M=3.29 SD=0.75	.34 Small	M=2.76 SD=0.79	M=2.54 SD=0.88	.26 Small
Propose Implementation Strategies for High-Quality Academic Programs (4.1)	M=3.48 SD=0.69	M=3.67 SD=0.56	.30 Small	M=2.93 SD=0.80	M=2.83 SD=0.87	.12 Small
Propose Implementation Strategies for High-Quality Non-Academic Programs (4.1)	M=3.07 SD=0.75	M=3.42 SD=0.72	.48 Small	M=2.79 SD=0.73	M=2.58 SD=0.83	.27 Small
Evaluate the School's Academic Systems (4.2)	M=3.59 SD=0.50	M=3.67 SD=0.48	.16 Small	M=2.93 SD=0.88	M=3.13 SD=0.74	.25 Small

Evaluate the School's Non-Academic Systems (4.2)	M=3.24 SD-0.64	M=3.46 SD-0.72	.32 Small	M=2.83 SD-0.85	M=2.88 SD-0.80	.06 Small
Propose Designs for Improving the Impact of Academic Systems Supporting Student Learning (4.2)	M=3.41 SD=0.73	M=3.63 SD=0.49	.35 Small	M=2.86 SD=0.92	M=2.63 SD=0.82	.26 Small
Propose Implementation Strategies for High-Quality Non-Academic Programs (4.2)	M=3.38 SD=0.78	M=3.67 SD=0.48	.45 Small	M=2.90 SD=0.90	M=2.58 SD=0.83	.37 Small
Evaluate the Quality of Assessments of Student Learning (4.3)	M=3.69 SD=0.54	M=3.46 SD=0.59	.41 Small	M=3.07 SD=0.84	M=2.71 SD=0.86	.42 Small
Implement Assessments of Student Learning (4.3)	M=3.48 SD-0.74	M=3.38 SD-0.77	.13 Small	M=2.83 SD-0.97	M=2.63 SD-0.88	.22 Small
Interpret Data from Assessments for Use in Educational Planning (4.3)	M=3.83 SD=0.38	M=3.79 SD=0.51	.09 Small	M=3.28 SD=0.75	M=3.17 SD=0.87	.14 Small
Cultivate Teachers' Capacity to Improve Instruction Based on Analysis of Assessment Data (4.3)	M=3.76 SD=0.44	M=3.92 SD=0.28	.43 Small	M=3.10 SD=0.90	M=3.04 SD=0.95	.06 Small
Engage Faculty in Using Data to Evaluate Academic Practices (4.4)	M=3.79 SD=0.41	M=3.92 SD=0.28	.35 Small	M=3.03 SD=0.82	M=3.29 SD=0.91	.30 Small
Propose Designs for Improving Academic Systems (4.4)	M=3.48 SD=0.74	M=3.83 SD=0.38	.60 Me.	M=2.86 SD=0.92	M=3.00 SD=0.83	.16 Small
Propose Implementation Strategies for Improving Academic Systems (4.4)	M=3.52 SD-0.69	M=3.83 SD=0.38	.56 Me.	M=2.93 SD=0.93	M=3.04 SD=0.91	.12 Small
Engage Faculty in Using Technology Systems Related to Academic Practices and Results (4.4)	M=3.48 SD=0.63	M=3.63 SD=0.49	.27 Small	M=2.90 SD=0.86	M=2.96 SD=0.86	.07 Small

Importance of Educational Leadership Skills

For Standard Component 4.1, principals rated academic elements higher than non-academic ones, with evaluating academic curricula (M=3.45) and proposing implementation strategies for academic programs (M=3.48) rated highest, while non-academic curricula evaluation received

the lowest ratings (M=2.97). In Standard Component 4.2, principals highly valued evaluating academic systems (M=3.59) and within Standard Component 4.3, principals emphasized assessment-related skills, rating data interpretation for educational planning highest (M=3.79), followed by evaluating assessment quality (M=3.69). For Standard Component 4.4, principals placed highest importance on engaging faculty in data evaluation of academic practices (M=3.79). Principal interns showed similar patterns but with generally higher ratings. For Component 4.1, interns also rated implementation strategies for academic programs highest (M=3.67), while proposing designs for non-academic programs received the lowest mean rating for Standard 4 skills (M=3.29). In Component 4.2, interns equally valued academic system evaluation and non-academic program implementation (both M=3.67). For Component 4.3, interns prioritized cultivating teachers' data-based improvement capacity (M=3.92) and within Component 4.4, they gave the highest ratings to faculty data engagement and improving academic systems (both M=3.92).

Acquisition of Skills During Internship

Across all four Standard Components, both groups reported lower acquisition levels compared to importance ratings. For Component 4.1, principals reported highest acquisition in evaluating academic curricula (M=3.00). Within Component 4.2, principals rated academic system evaluation highest (M=2.93) and in Component 4.3, the strongest acquisition rating was in data interpretation skills (M=3.28). In Component 4.4, faculty data engagement showed the highest acquisition (M=3.03). Principal interns showed similar patterns in acquisition. For Component 4.1, interns rated academic curricula evaluation highest (M=2.96). Within Component 4.2, academic system evaluation was highest (M=3.13). For Component 4.3, data interpretation showed strongest acquisition (M-3.17) and faculty data engagement showed the highest level of acquisition for Component 4.4 (M=3.29).

Differences Between Principal and Principal Intern Perceptions

The most substantial differences for importance appeared in Standard Components 4.1 and 4.4. In Standard Component 4.1, evaluating non-academic curricula showed a medium effect size (.70) for importance, with interns rating it higher. Component 4.4 showed medium effect sizes for improving academic systems (importance effect sizes=.60 and .56), with interns again rating these higher. Across Components 4.2 and 4.3, differences were generally smaller. For acquisition, differences were small across all components, with the largest appearing in Component 4.3 for assessment quality evaluation (effect size=.42) and Component 4.2 for non-academic program implementation (effect size=.37).

NELP Standard 7 – Building Professional Capacity

NELP Standard 7 addresses the role of the principal in building professional capacity, fostering a collaborative culture, and improving the systems of staff supervision, evaluation, support, and professional learning (NPBEA, 2018). The standard is comprised of four components: recruiting, selecting, and hiring staff (7.1), engaging staff in collaborative professional culture (7.2), professional learning and distributed leadership (7.3), and supervision and evaluation systems (7.4).

Table 4 shows the mean and standard deviation for the importance of each educational leadership skill and the extent to which an internship experience supports acquisition of the skill. Effect sizes are also included to show the difference between principals and intern perceptions.

Table 4

Means and Standard Deviations for NELP Standard 7 Educational Leadership Skills

Survey Item	**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Importance**			**Mean (M), Standard Deviation (SD) and Effect Size (ES) On Acquisition**		
	Principals N=29	Interns N=24	Effect Size	Principals N=29	Interns N=24	Effect Size
Evaluate Professional Staff Capacity Needs (7.1)	M=3.41 SD=0.63	M=3.67 SD=0.56	.44 Small	M=2.76 SD=0.91	M=3.21 SD=0.83	.52 Medium
Collaboratively Hire Staff (7.1)	M=3.69 SD=0.60	M=3.71 SD=0.62	.03 Med.	M=2.93 SD=1.00	M=3.17 SD=0.92	.25 Small
Use Research to Create a Collaborative Professional Culture (7.2)	M=3.48 SD=0.51	M=3.67 SD=0.56	.35 Small	M=2.83 SD=0.89	M=3.17 SD=0.92	.38 Small
Model Effective Communication (7.2)	M=3.93 SD=0.26	M=3.83 SD=0.48	.26 Small	M=3.17 SD=0.93	M=3.71 SD=0.55	.71 Med.
Foster Effective Communication (7.2)	M=3.90 SD=0.31	M=3.88 SD=0.34	.06 Small	M=3.17 SD=0.93	M=3.67 SD=0.56	.65 Med.
Develop a Comprehensive Plan for a Healthy School Building Environment (7.2)	M=3.45 SD=0.69	M=3.75 SD=0.53	.49 Small	M=2.69 SD=0.93	M=2.96 SD=0.95	.29 Small
Evaluate Management Practices (7.3)	M=3.38 SD=0.62	M=3.67 SD=0.56	.49 Small	M=2.97 SD=0.82	M=3.13 SD=0.80	.20 Small
Identify Leadership Capabilities of Staff (7.3)	M=3.52 SD-0.57	M=3.75 SD-0.61	.39 Small	M=2.93 SD-0.84	M=3.25 SD-0.85	.38 Small
Plan Opportunities for Professional Growth (7.3)	M=3.62 SD=0.62	M=3.67 SD=0.56	.08 Small	M=2.93 SD=0.96	M=3.00 SD=0.78	.08 Small
Engage Staff in Leadership Roles (7.3)	M=3.48 SD=0.63	M=3.75 SD=0.53	.45 Small	M=2.86 SD=0.92	M=3.29 SD=0.86	.48 Small
Utilize Digital Technology to Foster Professional Learning for Self (7.3)	M=3.07 SD=0.75	M=3.38 SD=0.71	.42 Small	M=2.79 SD=0.77	M=2.79 SD=0.83	.00 Small
Utilize Digital Technology to Foster Professional Learning for Others (7.3)	M=3.00 SD-0.77	M=3.33 SD-0.64	.47 Small	M=2.72 SD-0.80	M=2.75 SD-0.79	.04 Small

Observe Teaching in a Variety of Classrooms (7.4)	M=3.90 SD=0.31	M=4.00 SD=0.00	.46 Small	M=3.48 SD=0.69	M=3.83 SD=0.38	.63 Med.
Analyze District Policies on Instructional Expectations (7.4)	M=3.45 SD=0.57	M=3.71 SD=0.55	.46 Small	M=3.03 SD=0.78	M=3.29 SD=0.81	.33 Small
Provide Teaching Staff with Actionable Feedback to Support Improvement (7.4)	M=3.83 SD=0.47	M=3.96 SD=0.20	.36 Small	M=3.28 SD=0.88	M=3.67 SD=0.56	.53 Medium
Develop a System for Monitoring Whether Supervision and Evaluation Strategies Promote Improvement (7.4)	M=3.55 SD=0.57	M=3.88 SD=0.34	.70 Med.	M=2.97 SD=0.98	M=3.38 SD=0.82	.45 Small

Importance of Educational Leadership Skills

For Component 7.1, both principals and interns rated collaborative hiring highly (principals M=3.69, interns, M=3.71). Within Component 7.2, both groups gave the highest ratings to communication skills, with principals rating modeling effective communication (M=3.93 and fostering effective communication (M=3.90) as most important. For Component 7.3, principals prioritized planning professional growth opportunities (M=3.62) and identifying staff leadership capabilities (M=3.52), while rating digital technology use for self and others lower (M=3.07 and M=3.00 respectively). In Component 7.4, both groups highly valued classroom observation (principals M=3.90, interns M=4.00) and providing actionable feedback (principals M=3.83, interns M=3.96).

Acquisition of Skills During Internship

For Component 7.1, acquisition ratings were notably lower than importance ratings, with principals rating collaborative hiring at M=2.93 and interns at M=3.17. Within Component 7.2, interns reported substantially higher acquisition of communication skills (M=3.71, M=3.67) compared to principals (both M=3.17). For Component 7.3, both groups reported lower acquisition of digital technology skills (principals M=2.79, M=2.72; interns M=2.79, M=2.75). Component 7.4 showed stronger ratings, particularly for classroom observation (principals M=3.48, interns M=3.83) and providing feedback (principals M=3.28, interns M=3.67).

Differences Between Principal and Principal Intern Perceptions

The most significant differences emerged in Component 7.4, with developing monitoring systems showing a medium effect size for importance (.70). Components 7.2 and 7.4 showed notable differences in acquisition, particularly in communication skills (effect sizes .71 and .65) and classroom observation (.63). Component 7.1 showed a medium effect size (.52) for evaluating staff capacity needs.

Discussion

Findings from this study provide information about the perceptions of principals and principal interns on the educational leadership skills for NELP standards addressing instructional

leadership (1, 4, and 7). Specifically the data examines how principals and interns rate the importance of the skills, the extent to which the internship experience supports their acquisition, and differences found between the two groups.

NELP Standard 1 – Mission, Vision, and Improvement

The data reveals that both principals and interns prioritize data-driven improvement processes as most important and consider these skills to be most effectively developed during internships. This aligns with Darling-Hammond et al.'s. (2022) finding that successful preparation programs provide foundational knowledge and dispositions while cultivating leadership skills through contextually relevant learning opportunities. However, the consistently lower acquisition ratings compared to importance suggest that internship experiences may not fully support the development of NELP Standard 1 leadership skills. This gap reflects Darling-Hammond et al.'s (2022) discovery that only about 40% of principals report having internships that provided authentic leadership responsibilities during preparation.

The most notable perception gaps center on evaluating school mission and vision, where interns consistently assigned higher ratings for both importance and acquisition compared to principals. This disconnect may stem from what Perez et al. (2011) identified as interns' evolving understanding of leadership complexity during their internship experience, particularly in discovering the significance of leading others toward a shared vision of excellence. These differences highlight the varying perspectives between principals and interns regarding the relative importance and attainability of mission and vision-related skills during internship experiences, suggesting a need for what Wang et al. (2018) described as collaboration between universities, high-need districts, and state partners to better align preparation with real-world demands.

NELP Standard 4 – Learning and Instruction

The findings reveal clear patterns in how principals and interns view and acquire the leadership skills associated with Standard 4. Both groups prioritize academic programs and data-driven decision-making over non-academic aspects of school leadership, reflecting Cunningham and Sherman's (2008) recommendation for increased emphasis on tasks facilitating instructional leadership, school improvement, and student achievement. The consistently higher ratings from interns might indicate their idealistic perspectives about the comprehensive nature of school leadership, while principals' lower ratings may reflect more focused priorities based on practical experience. This aligns with Crow and Whiteman's (2016) observation that principal preparation programs have evolved to include both traditional instructional leadership areas and emerging leadership challenges.

Similar to the finding for Standard 1, the consistently lower acquisition ratings compared to importance ratings for Standard 4 components suggest a potential gap in internship experiences across all components. The gap appears particularly pronounced in non-academic areas, supporting research on the disparity in access to high-quality learning opportunities (Darling-Hammond et al., 2022) and findings of significant inconsistency in internship requirements, implementation, and leadership activities (Darling-Hammond et al, 2022; Hafner et al., 2012; Thessin & Clayton, 2013). Meanwhile, the differences in principal and intern

perceptions suggests a disconnect between how principals and interns view the relative importance of various leadership skills, particularly in non-academic areas and system improvement. This again reflects research about the significant variation in the internship experiences (Darling-Hammond et al, 2022; Hafner et al., 2012; Thessin & Clayton, 2013) and Perez et al.'s (2012) observation about how interns are just beginning to recognize the complexity of the principals role. The smaller differences in in acquisition ratings might indicate that despite perspectives on importance, both groups identify similar limitations in skill development during internships, supporting Pardosi and Utari's (2022) research on how essential leadership abilities are cultivated through school-based practical experiences.

NELP Standard 7 – Building Professional Capacity

Both principals and principal interns recognize the critical importance of effective communication and instructional leadership, aligning with research confirming that high-quality internships should provide opportunities for leading, facilitating, and making typical educational leadership decisions (Darling-Hammond et al., 2022; Orr & Orphanos, 2011; Reyes-Guerra & Barnett, 2016; Young et al., 2009; Young & Crow, 2017). The lower ratings for technology-related skills might indicate an undervaluation of digital literacy in professional development, or perhaps reflect pre-pandemic perspectives on technology's role in education. This gap was identified by Thessin and Clayton (2013) who noted variation in how internship experiences incorporate contemporary educational needs and Darling-Hammond et al. (2022) who found variation across states and school poverty levels for aspiring principal access to valuable learning opportunities. Findings suggest that internship experiences may develop instructional supervision skills better than other professional capacity-building competencies. This is supported by recent principal preparation program redesign initiatives which have been found to better reflect the real-world demands of the job (Wang et al., 2018).

The particularly low acquisition ratings for digital technology skills indicate a potential gap in internship experiences related to modern professional development approaches, reflecting Davis and Nixon's (2024) identification of emerging requirements for principals including specific technological competencies and virtual instruction leadership. Differences in principal and intern perceptions indicate that interns may have more optimistic views about the importance and attainability of systematic approaches to professional development and supervision. The larger differences in acquisition ratings for communication and observation skills might signify that recent internship experiences are providing more intensive focus on these areas compared to when principals completed their internships, supporting the need for high-quality mentoring and coaching (Duncan et al., 2011; Shoho et al., 2012; Syed, 2015).

Implications for Practice

The findings from this study suggest several key improvements for principal preparation programs. First, the consistent gap between importance and acquisition ratings indicates a need to restructure internship experiences to provide more intensive skill development opportunities, particularly in data-driven processes, academic program evaluation, and instructional supervision. This suggests that internship experiences may need enhancement to better support comprehensive leadership development, as called for by Davis and Nixon (2024) who noted how recent global crises have permanently altered the principalship, necessitating

enhanced collaboration between universities and school districts. Darling-Hammond et al.'s. (2022) research connects to this finding, highlighting the concerning discovery that many principals candidates lack internship activities, and only 40% gaining meaning leadership experience during their preparation.

Second, lower acquisition rates for non-academic components suggests internships should expand beyond traditional instructional leadership tasks to include structured experiences with non-academic curricula, student support services, and comprehensive school improvement processes. This responds to Crow and Whiteman's (2016) finding that preparation programs need to address both traditional and emerging leadership areas which aligns with Darling-Hammond et al.'s, (2022) research on how the principal's role has expanded beyond traditional administrative tasks. Davis and Nixon (2024) further support this view, acknowledging that principals have taken on the important role of providing social-emotional support resulting from the pandemic, and recommending further development and resources for principals to address the social, emotional, and well-being issues that teachers and students experience in schools.

Third, low technology skill acquisition ratings show a need to modernize preparation programs by incorporating contemporary digital tools for professional development, data analysis, and supervision. This ties to Davis and Nixon's (2024) documentation of the post-pandemic need for principals to develop in-depth knowledge and understanding of technology and various applications. Furthermore, this addresses Thessin and Clayton's (2013) observation about the need for continuous revision to meet evolving educational demands, particularly as Wang, et al. (2018) have identified the importance of reconfiguring preparation programs to correspond with the practical leadership challenges encountered in today's school.

Fourth, the perception differences between principals and interns, particularly in mission/vision development, non-academic evaluation, and supervision systems, suggest a need to better bridge theory and practice through structured mentor relationships. Supporting this approach, Pardosi and Utari (2022) demonstrate that authentic leadership competencies develop through immersive field-based learning opportunities. This aligns with Wang et al.'s (2018) findings on the critical role of university-district-state partnerships in program development. Similarly, Horner and Jordan (2020) advocate for preparation programs to establish curricular advisory teams including practicing principals who regularly evaluate program strengths and identify areas of improvement. This collaboration narrows the divide between academic theory and practitioner experience, ensuring preparation programs reflect current principalship realities.

Finally, higher ratings from interns indicate preparation programs should incorporate more realistic scenarios to balance idealistic perspectives with practical constraints. This responds to Drake et al.'s (2021) emphasis on facilitating the critical transition from teacher to leader, shifting from a classroom focus to addressing system-wide challenges. Additionally, this study's findings about skill acquisition gaps align with the historical concerns about internships focusing too heavily on observational rather than active leadership experiences (Fry et al., 2005) and the need for greater emphasis on instructional leadership, school improvement, and student achievement tasks (Cunningham & Sherman, 2008).

These targeted improvements could create improved internship experiences that better align with both current leadership demands and emerging educational priorities. This directly supports Darling-Hammond et al.'s (2022) research-based conclusion that strategic leadership development approaches with contextually relevant learning opportunities are essential for preparing school leaders capable of meeting contemporary educational challenges and improving outcomes for principals, teachers, and students.

Limitations and Future Research

The specific state and university context limits the generalizability of the findings. This study is further constrained by the relatively low response rate of participants who completed the entire survey. The small sample size potentially affects the overall validity and generalizability of the findings, making it difficult to draw meaningful conclusions and apply the results to broader populations. An additional limitation is the reliance on self-reported data, as principals and interns rated both the importance of educational leadership skills and the extent to which these skills are acquired in internship experiences without additional research methods to verify the accuracy of their ratings.

While this study provides a comprehensive view of principal and principal intern perceptions of the importance of NELP educational leadership skills related to instructional leadership, several areas for future research emerged. First, research could examine the educational leadership skills from the remaining NELP Standards (2, 3, 5, and 6) to provide broader insights into the importance and acquisition of critical skills for developing future leaders. Second, to address current limitations, future studies could expand to multiple states, employ mixed methods research with interviews and focus groups to provide deeper understandings, and utilize observational studies and documentation analysis to verify self-reported data through internship portfolios and supervisor evaluations. Finally, investigation of the consistent gaps between importance and acquisition ratings could explore why highly valued skills show lower acquisition rates, particularly examining the significant differences between principals and interns in areas showing medium effect sizes such as mission and vision (Standard 1), non-academic curricula (Standard 4), and supervision systems (Standard 7). These research directions could inform improvements to principal preparation programs and better align internship experiences with school leadership demands.

Conclusion

There remains a "critical need for sustained and expansive studies to better inform the preparation of educational leaders" (Fusarelli & Fusarelli, 2024, p. 9). This study reveals a significant gap related to the internship component of principal preparation. While both principals and interns recognize the importance of comprehensive leadership skills, current internship experiences fall short in developing these competencies.

The findings demonstrate that despite evolving educational demands, internships continue to prioritize traditional instructional leadership while underemphasizing crucial areas such as non-academic program management, technology integration, and mission/vision development. The disconnect between skill importance and acquisition, coupled with the differing perspectives of principals and interns, signals a need to reimagine principal

internships. This need is particularly critical given Grissom et al.'s (2021) comprehensive synthesis of research demonstrating that successful principals exert an even greater impact than previously understood on multiple measures of school success.

Educational leadership programs must evolve to create experiences that not only develop data-driven instructional leadership, but also build capacity in the full spectrum of skills needed for effective school leadership. As the principal's role grows increasingly complex, the quality of their preparation directly impacts student outcomes. Preparation programs must bridge the gap between aspiration and practice by designing internship experiences that truly prepare future leaders for the multifaceted challenges of contemporary school leadership.

References

Augustine-Shaw, D., & Reilly, M. (2017). I am mentor, I am coach. *The Learning Professional*, *38*(5), 52-56,

Backor, K. T., & Gordon, S. P. (2015). Preparing principals as instructional leaders: Perceptions of university faculty, expert principals, and expert teacher leaders. *NASSP Bulletin*, 99, 105-126.

Baker, B. (2012, December 1). Ed schools—The sequel: Rise of the intellectually dead. School Finance 101. http://schoolfinance101.wordpress.com/2012/12/01/ed-schools-the-sequel-rise-of-the-intellectually-dead/

Barton, L., & Cox, K. (2012). Experiences in Leadership: Gauging the Impact of Fieldwork. *International Journal of Educational Leadership Preparation*, *7*(1), n1.

Bartanen, B. (2020). Principal Quality and Student Attendance. Educational Researcher, 49(2), 101–113

Brauckmann, S., Pashiardis, P., & Ärlestig, H. (2023). Bringing context and educational leadership together: Fostering the professional development of school principals. Professional Development in Education, 49(1), 4–15.

Canole, M., & Young, M. (2013). Standards for educational leaders: An analysis. *Council of Chief State School Officers*.

Clayton, J. K., & Myran, S. (2013). Content and context of the administrative internship: How mentoring and sustained activities impact preparation. *Mentoring & Tutoring: Partnership in Learning*, *21*(1), 59-75.

Crow, G. M., & Whiteman, R. S. (2016). Effective preparation program features: A literature review. *Journal of Research on Leadership Education, 11*(1), 120-148. https://doi.org/10.1177/1942775116634694

Cunningham, W. G., & Sherman, W. H. (2008, October). Effective internships: Building bridges between theory and practice. In *The Educational Forum*, *72*(4), 308-318.

Taylor & Francis Group.

Darling-Hammond, L., LaPointe, M., Meyerson, D., Orr, M. T., & Cohen, C. (2007). Preparing school leaders for a changing world: Lessons from exemplary leadership development programs. Stanford Educational Leadership Institute.

Darling-Hammond, L., Meyerson, D. E., Lapointe, M., Orr, M. T., Barber, M. E., Cohen, C. E., Dailey, K., Davis, S., Flessa, J. J., Murphy, J., Pecheone, R. L., & Tushnet, N. C. (2009). Preparing Principals for a Changing World: Lessons From Effective School Leadership Programs.

Darling-Hammond, L., Wechsler, M. E., Levin, S., Leung-Gagné, M., & Tozer, S. (2022). Developing effective principals: What kind of learning matters? Learning Policy Institute.

Davis Jr, C., & Nixon, A. (2024). The Changing Role of Principals: Are District Leaders and University Preparation Programs Providing the Needed Supports?. *AASA Journal of Scholarship & Practice*, *21*(1), 14-29.

Dodson, R. L. (2014). Which field experiences best prepare future school leaders? An analysis of Kentucky's principal preparation program. *Educational Research Quarterly, 37*(4), 41-56.

Dodson, R. L. (2015). What makes them the best? An analysis of the relationship between state education quality and principal preparation practices*. International Journal of Education Policy & Leadership, 10*(7), 1-21.

Doss, C., Zaber, M. A., Master, B. K., Gates, S. M., & Hamilton, L. S. (2022). The relationship between measures of preservice principal practice and future principal job performance. Educational Evaluation and Policy Analysis, 44(1), 3–28.

Drake, T. A. (2022). Learning by doing: A daily life study of principal interns' leadership activities during the school year. Journal of Research on Leadership Education, 17(1), 24–54.

Drake, T. A., Ivey, L., & Seaton, L. (2021). Principal candidates' reflective learning during a fulltime internship. Journal of Research on Leadership Education, 18(2), 207–227. https://doi. org/10.1177/19427751211062640

Duncan, H., Range, B., & Scherz, S. (2011). From Professional Preparation to On-the-Job Development: What Do Beginning Principals Need? *International journal of educational leadership preparation*, *6*(3), n3.

Fuller, E., Young, M., Richardson, S., Pendola, A., & Winn, K. (2018). The 2018 NAESP 10-year study. National Association of Elementary School Principals.

Fusarelli, B. C., Fusarelli, L. D. (2024). Leadership for the future: Enhancing principal preparation through standards and innovation. *Education Sciences, 14*(12), 1403. https://doi.org/10.3390/educsci14121403

Fry, B., Bottoms, G., & O'Neill, K. (2005). The principal internship: How can we get it right? Atlanta, GA: Southern Regional Education Board.

Gates, S. M., Woo, A., Xenakis, L., Wang, E. L., Herman, R., Andrew, M., & Todd, I. (2020). Using state-level policy levers to promote principal quality: Lessons from seven states partnering with principal preparation programs and districts. RAND Corporation. Available online: https://www.rand.org/pubs/research_reports/RRA413-1.html

Goldring, E., Rubin, M., & Herrmann, M. (2021). The role of assistant principals: Evidence and insights for advancing school leadership. Vanderbilt University and Mathematica Policy Research.

Grissom, J. A. Egalite, A. J., & Lindsay, C. A. (2021). How principals affect students and schools: A systematic synthesis of two decades of research. The Wallace Foundation. http://www.wallacefoundation.org/principalsynthesis

Gümüş, E. (2015). Investigation regarding the pre-service trainings of primary and middle school principals in the United States: The case of the state of Michigan. *Educational Sciences: Theory & Practice, 15*(1), 61-72.

Hafner, A. L., Allison, B., Jones, A., & Herrera-Stewart, I. (2012). Assessing the development of apprentice principals in traditional and residency programs. Procedia-Social and Behavioral Sciences, 69, 1134-1141.

Herman, R., Wang, E. L., Woo, A., Gates, S. M., Berglund, T., Schweig, J., Andrew, M., & Todd, I. (2022). Redesigning university principal preparation programs: A systemic approach for change and sustainability (Report in Brief, Vol. 3, Part 2). RAND Corporation.

Horner, M., & Jordan, D. (2020). The partnership imperative for preparing effective principals in North Carolina schools. Journal of Organizational and Educational Leadership, 5(2), article 3. https://digitalcommons.gardner-webb.edu/joel/vol5/iss2/3

Huber, S. (2008). School development and school leader development: New learning opportunities for school leaders and their schools. In J. Lumby, G. Crow, & P. Pashiardis (Eds.), International handbook on the preparation and development of school leaders (pp. 163- 175). Routledge.

Jackson, S., & Remer, C. (2014). Building Leadership in Schools (re: VISION No. 04, Part 5). Hunt Institute.

Johnson, A. D., Clegorne, N., Croft, S. J., & Ford, A. Y. (2021). The professional learning needs of school principals. Journal of Research on Leadership Education, 16(4), 305–338.

Kotz, S., Balakrishnan, N., Read, C. B., Vidakovic, B., & Johnson, N. L. (2005). *Encyclopedia of Statistical Sciences, Volume 1*. John Wiley & Sons.

Leithwood, K. A., Seashore, K. S., Anderson, S., & Wahlstrom, K. (2004). Review of research: How leadership influences student learning. University of Minnesota.

National Policy Board for Educational Administration. (2011). Educational leadership program standards: 2011 ELCC building level. www.ncate.org/LinkClick.aspx?fileticket=zRZI73R0nOQ%3d&tabid=676

National Policy Board for Educational Administration. (2015). Professional standards for educational leaders 2015. www.npbea.org/wp-content/uploads/2017/06/Professional-Standards-for-Educational-Leaders_2015.pdf

National Policy Board for Educational Administration. (2018). National Educational Leadership Preparation (NELP) program standards - building level. www.npbea.org

Ni, Y., Rorrer, A. K., Pounder, D., Young, M., & Korach, S. (2019). Leadership matters: Preparation program quality and learning outcomes. *Journal of Educational Administration, 57*(2), 185–206.

Orr, M. T., & Orphanos, S. (2011). How graduate-level preparation influences the effectiveness of school leaders: A comparison of the outcomes of exemplary and conventional leadership preparation programs for principals. *Educational administration quarterly*, *47*(1), 18-70.

Pan, H.-L. W., & Chen, W.-Y. (2021). How principal leadership facilitates teacher learning through teacher leadership: Determining the critical path. Educational Management Administration & Leadership, 49(3), 454–470.

Pardosi, J., & Utari, T. I. (2022). Effective principal leadership behaviors to improve the teacher performance and the student achievement. *F1000Research*, *10*, 465.

Perez L. G., Uline C. L., Johnson J. F., James-Ward C., Basom M. R. (2011). Foregrounding fieldwork in leadership preparation: The transformative capacity of authentic inquiry. *Educational Administration Quarterly*, *47*(1), 217–257.

Reyes-Guerra D., Barnett B. G. (2016). Clinical practice in educational leadership. In Young M. D., Crow G. M. (Eds.), *Handbook of research on the education of school leaders* (pp. 243–275). Routledge.

Rhodes, C. (2012). Mentoring and coaching for leadership development in schools. In S. J. Fletcher & C. A. Mullen (Eds.), *Mentoring and coaching for leadership development in schools* (pp. 243-256). SAGE Publications Ltd. https://doi.org/10.4135/9781446247549

Ringler, M., Rouse, W., & St. Clair, R. (2012). Evaluating Masters of School Administration Internship Experiences: Practices and Competencies Quantified. *International Journal of Educational Leadership Preparation*, *7*(1), n1.

Sherman, W. H., & Crum, K. S. (2009). Designing the internship in educational leadership as a transformative tool for improved practice. *International Journal of Educational Reform*, *18*(1), 63-81.

Shoho, A. R., Barnett, B. G., & Martinez, P. (2012). Enhancing" OJT" Internships with Interactive Coaching. *Planning and Changing*, *43*, 161-182.

Southern Regional Education Board. (2007). Good principals aren't born-they're mentored: Are we investing enough to get the school leaders we need? Southern Regional Education Board. https://www.sreb.org/publication/good-principals-arent-born-theyre-mentored

Stevenson, C., & Cooner, D. (2011). Mapping the journey toward the principalship: Using standards as a guide. *Planning and Changing*, *42*, 288-301.

Syed, S. "Building Principal Pipelines: A Strategy to Strengthen Education Leadership. Update." *Wallace Foundation* (2015).

Thessin, R. A., & Clayton, J. (2013). Perspectives of school leaders on the administrative internship. *Journal of Educational Administration, 51*(6), 790-811. https://doi-org.libproxy.uwyo.edu/10.1108/JEA-12-2011-0113

Wang, E. L., Gates, S. M., Herman, R., Mean, M., Perera, R., Berglund, T., Whipkey, K., & Andrew, M. (2018). Launching a redesign of university principal preparation programs. *Rand: Santa Monica, CA, USA*.

Williams, T. M., & Burgess, W. K. (2025). Advancing middle level leadership: Middle school principal preparation programs and approaches to leadership. *Education Sciences, 15*(1), 62. doi:https://doi.org/10.3390/educsci15010062

Young, M. D. (2015). Effective leadership preparation: We know what it looks like and what it can do. *Journal of Research on Leadership Education, 10*(1), 3–10.

Young, M. D. (2016, summer). National Educational Leadership Preparation (NELP) Standards: What they are, how they were developed, and what purpose they serve. UCEA Review, 57(2), 4-5.

Young, M. D., & Crow, G. M. (Eds.). (2017). Handbook of research on the education of school leaders (2nd ed.). Routledge.

Young, M. D., Crow, G. M., Murphy, J., & Ogawa, R. T. (Eds.). (2009). Handbook of research on the education of school leaders. Routledge.

Young, M., Richardson, I., Auchter, J., & Schiffman, C. (2018). Preparing for the National Educational Leadership Preparation (NELP) Program Review. National Policy Board for Educational Administration.

Appendix 1

NELP Standard	NELP Standard Component	Educational Leadership Skill	Educational Leadership Skill Survey Item
Standard 1: Candidates who successfully complete a building-level educational leadership preparation program understand and demonstrate the capacity to promote the current and future success and well-being of each student and adult by applying the knowledge, skills, and commitments necessary to collaboratively lead, design, and implement a school mission, vision, and process for continuous improvement that reflects a core set of values and priorities.	1.1: Program completers understand and demonstrate the capacity to collaboratively evaluate, develop, and communicate a school mission and vision designed to reflect a core set of values and priorities.	• Evaluate existing mission and vision processes and statements • Collaboratively design a school mission and vision attentive to values and priorities that include data, technology, values, equity, diversity, digital citizenship, and community • Develop a comprehensive plan for communicating the mission and vision	• Evaluate a school mission • Evaluate a school vision • Collaboratively develop a school mission • Collaboratively develop a school vision • Develop a plan for communicating a school mission • Develop a plan for communicating a school vision
	1:2 Program completers understand and demonstrate the capacity to lead improvement processes that include data use, design, implementation, and evaluation.	• Evaluate existing improvement processes • Use research and data to develop an improvement process that includes the following components: diagnosis, design, implementation, and evaluation • Develop an implementation plan to support the improvement process	• Evaluate existing school improvement processes • Use research to develop a school improvement process • Use data to develop a school improvement process • Develop an implementation plan to support the improvement process
Standard 4: Candidates who successfully complete a building-level	4.1 Program completers understand and can demonstrate	• Evaluate (a) curricula, use of technology, and other supports and (b) academic and non-academic systems	• Evaluate academic curricula • Evaluate non-academic curricula

educational leadership preparation program understand and demonstrate the capacity to promote the current and future success and well-being of each student and adult by applying the knowledge, skills, and commitments necessary to evaluate, develop, and implement coherent systems of curriculum, instruction, data systems, supports, and assessment.	the capacity to evaluate, develop, and implement high-quality, technologically rich curricula, programs, and other supports for academic and non-academic student programs.	• Propose designs and implementation strategies for high-quality, technology-rich, and coherent curricula and supports for academic and non-academic programs	• Propose designs for high-quality academic programs • Propose designs for high-quality non-academic programs • Propose implementation strategies for high-quality academic programs • Propose implementation strategies for high-quality non-academic programs
	4.2 Program completers understand and can demonstrate the capacity to evaluate, develop, and implement high-quality and equitable academic and non-academic instructional practices, resources, technologies, and services that support equity, digital literacy, and the school's academic and non-academic systems.	• Evaluate coordination and coherence among the practices, resources, and services that support equity, digital literacy, and the school's academic and non-academic systems • Propose designs and implementation strategies for improving the impact of academic practices, resources, and services that support student learning	• Evaluate the school's academic systems (in terms of coordination/coherence) • Evaluate the school's non-academic systems (in terms of coordination/coherence) • Propose designs for improving the impact of the academic systems that support student learning • Propose implementation strategies for improving the impact of the academic systems that support student learning
	4.3 Program completers understand and can demonstrate	• Use research to evaluate the quality of formative and summative	• Evaluate the quality of assessments of student learning (using research)

	the capacity to evaluate and implement formal and informal culturally responsive and accessible assessments that support data-informed instructional improvement and student learning and well-being.	assessments of student learning • Implement formal and informal culturally responsive and accessible assessments of student learning • Interpret data from formative and summative assessments for use in educational planning • Cultivate teachers' capacity to improve instruction based on analysis of assessment data	• Implement assessments of student learning (that are culturally responsive and accessible) • Interpret data from assessments for use in educational planning • Cultivate teachers' capacity to improve instruction based on analysis of assessment data
	4.4 Program completers understand and demonstrate the capacity to collaboratively evaluate, develop, and implement the school's curriculum, instruction, technology, data systems, and assessment practices in a coherent, equitable, and systematic manner.	• Engage faculty in gathering, synthesizing and using data to evaluate the quality, coordination, and coherence of the school's curriculum, instruction, and assessment practices • Use research and evidence to propose designs and implementation strategies for improving coordination and coherence among the school's curriculum, instruction, and assessment practices • Use technology and performance management systems to monitor, analyze, implement, and	• Engage faculty in using data to evaluate the school's academic practices (curriculum, instruction, & assessment) • Propose designs for improving the school's academic systems (using research and evidence) • Propose implementation strategies for improving the school's academic systems (using research and evidence) • Engage faculty in using technology systems related to the school's academic practices and results (to monitor, analyze,

		evaluate school curriculum, instruction, and assessment practices and results	implement, and evaluate)
Standard 7: Candidates who successfully complete a building-level educational leadership preparation program understand and demonstrate the capacity to promote the current and future success and well-being of each student and adult by applying the knowledge, skills, and commitments necessary to build the school's professional capacity, engage staff in the development of a collaborative professional culture, and improve systems of staff supervision, evaluation, support, and professional learning.	7.1 Program completers understand and have the capacity to collaboratively develop the school's professional capacity through engagement in recruiting, selecting, and hiring staff.	• Evaluate school's professional staff capacity needs • Evaluate applicant materials • Use research and data to plan and engage in candidate recruitment and selection that reflects the diversity of the student body	• Evaluate the school's professional staff capacity needs • Collaboratively hire staff (recruitment, review of applicants, selection)
	7.2 Program completers understand and have the capacity to develop and engage staff in a collaborative professional culture designed to promote school improvement, teacher retention, and the success and well-being of each student and adult in the school.	• Use research to design and cultivate a collaborative professional culture • Model and foster effective communication • Develop a comprehensive plan for providing school community members with a healthy and positive school building environment	• Use research to create a collaborative professional culture • Model effective communication • Foster effective communication • Develop a comprehensive plan for a healthy school building environment
	7.3 Program completers understand and have the capacity to personally	• Evaluate professional staff capacity needs and management practices • Identify leadership capabilities of staff	• Evaluate management practices • Identify leadership capabilities of staff • Plan opportunities for professional growth

	engage in, as well as collaboratively engage school staff in, professional learning designed to promote reflection, cultural responsiveness, distributed leadership, digital literacy, school improvement, and student success.	• Plan opportunities for professional growth that promotes reflection, cultural responsiveness, digital literacy, school improvement and school success • Engage staff in leadership roles • Utilize digital technology in ethical and appropriate ways to foster professional learning for self and others	(that promotes school improvement and success) • Engage staff in leadership roles • Utilize digital technology to foster professional learning for self • Utilize digital technology to foster professional learning for others
	7.4 Program completers understand and have the capacity to evaluate, develop, and implement systems of supervision, support, and evaluation designed to promote school improvement and student success.	• Observe teaching in a variety of classrooms • Gather and analyze district policies on instructional expectations • Provide teaching staff with actionable feedback to support improvement • Develop a system for monitoring whether supervision and evaluation strategies promote improvement	• Observe teaching in classrooms • Analyze district policies on instructional expectations • Provide teaching staff with actionable feedback to support improvement • Develop a system for monitoring whether supervision and evaluation strategies promote improvement

The Intersection of Collaboration Spaces & Social Emotional Learning: Enhancing Student Engagement through Strategic Leadership

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Abstract

This study synthesizes findings from two complementary qualitative research projects to explore how physical learning environments influence both instructional practices and student outcomes. The first study examined teachers' perspectives on the role of classroom design in implementing social and emotional learning (SEL), while the second investigated middle school students' experiences with collaboration spaces and their effects on engagement. Together, the findings emphasize the critical role of flexible, SEL-aligned environments in promoting student autonomy, emotional well-being, and academic engagement. Implications for school leaders highlight the need for intentional space design, strategic integration of SEL practices, and targeted professional development to foster inclusive, student-centered learning environments.

Keywords: Social and Emotional Learning (SEL), collaboration spaces, flexible learning environments, student engagement, educational leadership, student autonomy, learning space design

As education continues to evolve, school leaders face the challenge of creating environments that not only support academic achievement but also foster the social and emotional development of students. Two critical components of education's continuous changes are the use of collaboration spaces and the incorporation of social and emotional learning (SEL) practices into daily instruction.

Collaboration spaces are flexible environments that encourage student interaction and autonomy, while SEL emphasizes the development of emotional intelligence, including skills like self-awareness, relationship-building, and responsible decision-making. This paper synthesizes findings from two distinct studies: one that explored teachers' perceptions of how learning environments support SEL (Oliveras et al., 2023), and another that focused on middle school students' engagement in collaboration spaces (Oliveras et al., 2024). By combining these two perspectives, the paper provides school leaders with actionable insights on how to design and utilize learning spaces that promote both academic and emotional well-being.

The analysis of the two studies' findings sought to answer two key questions:

1. What role does the physical learning environment play in supporting teachers' ability to implement SEL strategies, and how can this be integrated into school leadership practices?
2. How can school leaders optimize the use of collaboration spaces to enhance middle school students' engagement and learning outcomes?

Literature Review

Collaboration Spaces and Engagement

Collaboration spaces are a relatively recent innovation in educational environments that move away from traditional, fixed classroom layouts (Iasevoli, 2019). These flexible spaces allow students to interact, collaborate, and engage with their peers in ways that foster deeper learning (Oliveras-Ortiz et al., 2019; Columbia Center for Teaching and Learning, 2021).
The constructivist learning theory emphasizes the importance of student-centered, active learning, where learners construct their own understanding of the material (Piaget, 1952). Collaboration spaces support this framework by providing opportunities for hands-on, group-based activities, enabling students to build knowledge in an interactive, social environment.

Self-determination theory (SDT) also emphasizes the role of autonomy and agency in enhancing intrinsic motivation (Deci & Ryan, 1985). Collaboration spaces provide students with a sense of autonomy, as they allow for flexible seating and movement, which enables students to take ownership of their learning (Oliveras-Ortiz et al., 2019, 2020). However, for these spaces to be used effectively, leadership is crucial in ensuring they are integrated into the school's instructional framework in ways that align with educational goals.

Social and Emotional Learning (SEL) and the Learning Environment

Social and Emotional Learning (SEL) has emerged as a critical component of educational practice, complementing efforts to enhance student engagement and autonomy in learning environments. While collaboration spaces promote active engagement and student-driven

learning, SEL provides the emotional and social framework necessary for students to succeed in these settings. According to the Collaborative for Academic Social and Emotional Learning (CASEL), SEL refers to the process through which students develop essential emotional and interpersonal skills, such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (n.d.). These competencies are vital for students' success not only in academic settings but also in their future personal and professional lives.

Research shows that SEL is most effective when it is integrated into every aspect of schooling. The physical design of learning spaces plays an important role in supporting SEL by creating environments that foster emotional safety, inclusiveness, and positive interactions among students. Frey et al. (2019) emphasize that SEL helps students manage emotions, build healthy relationships, and make responsible decisions, skills that are deeply influenced by the learning environment. Flexible spaces that promote collaboration and provide areas for reflection are particularly beneficial for supporting SEL competencies (Tyng et al., 2017).

Teachers' Role in Student Engagement and Instructional Practices

While the design of collaboration spaces and SEL strategies are critical, their impact is maximized when teachers effectively integrate these elements into their instructional practices. Teachers play an essential role in shaping student engagement, particularly through their instructional decisions and use of learning spaces. Research shows that teacher practices have a direct influence on how students interact with content and manage their learning within flexible learning environments (Bouslama & Kalota, 2013). Effective use of purposefully designed spaces by teachers can facilitate deeper engagement and creativity among students.

Our study highlights how teachers' instructional decisions in these newly designed learning spaces impact student engagement. The study showed that when teachers effectively use flexible spaces, they enable more creative, student-driven learning experiences. This connects with the existing literature on the importance of teacher practices in fostering a positive learning environment. Teacher instructional decisions significantly influence how students engage in learning. In purposefully designed learning spaces, students reported that teachers who facilitated student-centered learning, utilizing the flexibility of the space, enabled deeper engagement and creativity (Oliveras-Ortiz et al., 2020).

These findings support the broader understanding that instructional practices tailored to flexible learning spaces enhance both cognitive engagement and social-emotional development. By intentionally designing lessons that leverage the flexibility of the space, teachers can create environments that promote autonomy, collaboration, and problem-solving (Charteris & Smardon, 2019).

The Role of Educational Leaders

Educational leaders are drivers of school success, and their influence extends to both the physical learning environment and the implementation of SEL strategies. Effective school leadership is essential in creating a culture that values collaboration, student autonomy, and social-emotional well-being. Leaders play a critical role in ensuring that physical spaces, such as collaboration areas, are not just designed well but also used in ways that enhance learning outcomes.

Leadership and Learning Environment Design

Educational leaders must engage in the design and adaptation of learning environments to meet student and teacher needs. According to Leithwood et al. (2008), leadership has a significant indirect effect on student learning, primarily by influencing school conditions, including the physical environment. Leaders who prioritize flexible and collaborative spaces create opportunities for innovative teaching and learning approaches, fostering both student engagement and teacher efficacy. Fullan (2014) adds that leaders who support a culture of collaboration and innovation encourage the use of spaces that allow students to engage more deeply with content and with one another.

Leaders are responsible for ensuring that these spaces align with the school's instructional vision. Grissom and Loeb (2011) argue that effective principals manage instructional leadership by setting clear goals, supporting teachers, and providing the necessary resources to optimize teaching environments. School leaders who strategically implement collaboration spaces and ensure their use in alignment with teaching goals are more likely to see improved student engagement and academic performance.

Leadership and Social and Emotional Learning (SEL)

Educational leaders also play a pivotal role in the successful implementation of SEL practices within schools. The role of leaders in SEL is multifaceted, involving the creation of a school climate that prioritizes emotional well-being, providing professional development for teachers, and integrating SEL into the curriculum (Reeves & Schlechty, 2009). Hoffman (2009) stresses that SEL must be operationalized in a way that becomes embedded in the school's daily practices, which is a process that requires strong leadership.

According to Reeves and Schlechty (2009), leaders who create a supportive school culture, provide teachers with the necessary tools and training, and encourage collaboration among staff are more likely to see successful SEL outcomes. School leaders are responsible for setting the tone for SEL by modeling empathy, encouraging positive relationships, and promoting emotional well-being for both students and staff. In addition, leaders must ensure that SEL is not viewed as an add-on but as a core element of the school's instructional approach (Hargreaves & Shirley, 2022).

Leadership is particularly critical when integrating SEL into the physical learning environment. As Zins et al. (2004) note, the design of learning environments should be aligned with SEL principles, providing spaces where students feel emotionally safe and supported. Leaders must work with architects, designers, and teachers to ensure that learning spaces foster emotional well-being and inclusiveness. This requires a collaborative approach where the needs of both teachers and students are considered in the design process.

Professional Development and Leadership Support

For the successful integration of both collaboration spaces and SEL strategies, educational leaders must provide ongoing professional development to teachers. Research indicates that without proper training and guidance, teachers may struggle to effectively use flexible spaces or implement SEL practices (Fullan, 2014; Oliveras-Ortiz et al., 2020). Leaders should ensure

that teachers receive training on how to use collaboration spaces to support group work, problem-solving, and social interactions. In addition, professional development should focus on how to integrate SEL practices into daily instruction, with a specific emphasis on how the physical environment can support these practices.

Hallinger and Heck (2010) emphasize the importance of continuous professional learning, where teachers are equipped with the skills to adapt to new teaching methods and environments. By fostering a professional learning culture, leaders can help teachers feel more confident in their ability to use both physical spaces and SEL strategies to enhance student learning and well-being.

Methods

This study integrates findings from two qualitative research projects: one examining how learning environments influence teachers' ability to implement Social and Emotional Learning (SEL) practices (Oliveras et al., 2023), and the other exploring the impact of collaboration spaces on middle school student engagement (Oliveras et al., 2024). Both studies employed qualitative methodologies to provide in-depth insights into student and teacher experiences, focusing on how physical spaces in schools can enhance both academic and social-emotional outcomes. By combining data from these two studies, this research aimed to draw connections between the physical design of learning environments and their role in fostering student engagement and SEL.

Study One: Social and Emotional Learning (SEL) and Learning Spaces

Research Design

The first study employed a qualitative survey methodology to examine teachers' perceptions of how learning environments either support or hinder their ability to implement SEL practices. This study was conducted in collaboration with VLK Architects, an architectural firm specializing in educational design. The study focused on exploring the physical environment's role in supporting the development of SEL competencies, such as self-awareness, self-management, and relationship skills, within the classroom.

This study utilized an exploratory design to assess teachers' beliefs about SEL and the learning environment, considering both traditional and flexible spaces. By including photographs of various types of learning spaces in the survey, the researchers ensured that participants had a shared understanding of what was meant by “traditional” and “flexible” spaces (Oliveras et al., 2023).

Participants

Participants in this study were 34 teachers from four Texas school districts, representing urban, suburban, and rural settings. The districts were recruited by VLK Architects based on their previous work with the firm. Out of the five districts invited to participate, four agreed to distribute the survey to their teachers. Teachers from diverse educational backgrounds participated, including those who taught at the elementary, middle, and high school levels. The majority of participants (58.8%) were middle school teachers, which provided a strong alignment with the student data collected in Study Two. The teachers varied in years of

experience, with participants ranging from those with up to three years of experience to those with over 25 years in the field.

Data Collection

Data for the first study were collected using an online Qualtrics survey, which included both closed- and open-ended questions. The survey asked teachers to reflect on their experiences with traditional versus flexible learning spaces and how these environments influenced their ability to implement SEL strategies. The survey also inquired about specific SEL competencies, such as self-awareness and relationship-building, and how teachers felt these competencies were either supported or hindered by the physical space.

The inclusion of photographs of traditional and flexible spaces was a key feature of the survey design. Teachers were asked to describe how each type of space influenced their teaching practices and the social-emotional development of their students. This approach allowed the researchers to capture a nuanced understanding of how teachers perceive different learning environments.

Study Two: Collaboration Spaces and Student Engagement

Research Design

The second study was a qualitative case study designed to explore middle school students' perceptions of collaboration spaces and their effects on engagement in learning. The research took place at a public middle school in Dallas, Texas, which had undergone a renovation to include open collaboration spaces. The case study approach was chosen to allow for an in-depth exploration of students' experiences within a specific environment (Creswell, 2014). The focus was on understanding how students utilized these newly designed spaces and how these environments impacted their engagement, motivation, and learning behaviors.

Participants

The participants for this study included 33 middle school students aged 12 to 14, who were divided into seventh and eighth-grade groups. The students were selected using a convenience sampling method, with teachers and administrators nominating a diverse sample that represented the school's overall demographic profile. A total of seven focus groups were conducted: four groups with seventh graders and three with eighth graders. Both male and female students were included in the sample to ensure that a range of perspectives were captured.

Data Collection

Data were collected through semi-structured focus group interviews, which were designed to elicit detailed information about the students' experiences in the collaboration spaces. The focus group interviews consisted of open-ended questions exploring how students used the spaces, their feelings about learning in these environments, and whether they felt these spaces contributed to their engagement. Questions were structured to investigate specific aspects of the collaboration spaces, such as freedom of movement, group work, and emotional comfort.

All focus group sessions were audio-recorded with the students' consent and were subsequently transcribed for analysis. During the interviews, the researcher used probing questions to clarify responses and ensure the accuracy of the data through member checking.

Data Analysis

The data from both studies were analyzed using a combination of deductive and inductive coding approaches. The teacher survey data from Study One (Oliveras et al., 2023) were analyzed using an inductive coding approach to allow new themes to emerge from the data. The open-ended responses from Study One were analyzed using inductive coding to allow themes to emerge organically from teachers' reflections. These emergent codes were synthesized into higher-order thematic categories, learner ownership (aligned with self-management competencies), collaborative interaction (tied to SEL domains of relationship skills), and inclusive instructional practices (supporting social awareness and belonging). Each thematic category was mapped to the core competencies outlined in SEL frameworks, allowing for alignment between practitioner insights and established constructs in the literature. NVivo software supported this process, facilitating both focused and axial coding to explore interrelationships and strengthen analytical rigor.

This dual strategy allowed the analysis to be both exploratory and theory informed. Inductive coding in the teacher data enabled the emergence of practitioner-driven insights, while deductive coding was applied to the student focus group data using pre-established SEL and engagement constructs drawn from existing literature. This approach ensured that the analysis captured both grounded perspectives and theoretically relevant themes.

For the student focus group data in Study Two, the researchers began with a priori themes based on existing literature, such as autonomy, engagement, and emotional well-being. Deductive coding allowed the researchers to organize the data around these pre-identified themes, while inductive coding was used to identify any emerging themes that were unique to the students' experiences in collaboration spaces. As with Study One, the transcripts were analyzed using NVivo qualitative data analysis software to identify recurring patterns and themes across the focus groups. While each study was analyzed individually to preserve the contextual richness of teacher and student perspectives, a subsequent cross-analysis employed shared thematic lenses, such as autonomy, collaboration, and emotional well-being, to integrate findings. This approach allowed for a holistic interpretation that connects instructional design with student experience.

Cross-Study Analysis

To integrate findings from both studies, a cross-study analysis was conducted to identify shared themes—such as autonomy, engagement, and collaboration—and examine how learning environments support both academic outcomes and social-emotional learning (SEL). The analysis revealed that flexible learning spaces, particularly collaboration areas, not only enhance student engagement but also empower teachers to implement SEL practices more effectively. By synthesizing perspectives from both students and teachers, the study presents a comprehensive framework for school leaders, demonstrating how intentionally designed environments can foster cognitive, behavioral, and emotional development in tandem.

Findings

The analysis of data from both the student focus groups and teacher surveys revealed several key themes related to the role of collaboration spaces and SEL practices in enhancing student engagement and emotional well-being. These themes were consistent across both studies, emphasizing the importance of intentionally designed learning environments and the integration of SEL into instructional practices.

Autonomy and Agency

A noticeable theme that emerged from the student focus groups was the increased sense of autonomy and agency that collaboration spaces provided. Students expressed that these spaces allowed them to take ownership of their learning by offering flexibility in how and where they worked. Students in the replacement schools shared similar sentiments, explaining that the new, spacious environments allowed them to lay out their materials and work independently or in groups, which helped them focus better (Oliveras-Ortiz et al., 2021). One student noted, “When we use the collaboration spaces, we can work at our own pace and choose who to work with. It makes us feel like we’re in control of our learning” (Oliveras et al., 2024). This sense of control over their environment was closely linked to increased motivation and engagement, as students felt more responsible for their academic outcomes when given the freedom to make decisions about their learning process (Oliveras et al., 2024; Yazdi, 2016).

Similarly, teachers emphasized the role of the physical environment in supporting SEL strategies that promote student autonomy. The teachers surveyed noted that flexible spaces allowed students to take responsibility for managing their work, making choices about where they felt most productive, and collaborating with peers. Teachers reported that when students were given more autonomy, they demonstrated stronger self-management skills, a core SEL competency. One teacher stated, “Students take on more responsibility for their learning when they are allowed to move around and find the right environment that helps them focus.” (Oliveras et al., 2023)

Socialization and Collaboration

Students and teachers reported that collaboration spaces fostered social interaction and peer collaboration (Oliveras et al., 2023, 2024). Students frequently mentioned that working in groups in these spaces was more enjoyable and productive than in traditional classroom settings. Similarly, students in the newly designed replacement schools shared that collaboration areas and open-concept spaces allowed them to work more effectively with their peers, using both indoor and outdoor spaces for group work and interactive projects (Oliveras-Ortiz et al., 2021). They expressed a preference for the open, flexible layout of the collaboration spaces, which facilitated natural conversations and group work. One student shared, “It’s easier to talk to my friends and work on projects together when we’re in the collaboration space. It feels less like school and more like a place where we can actually get things done” (Oliveras et al., 2024).

Teachers also recognized the value of collaboration spaces for supporting relationship skills, a key component of SEL. Several teachers reported that these spaces allowed students to engage in peer learning, share ideas, and develop important social skills. One teacher explained,

“The design of the space promotes group work and interaction, which is crucial for developing SEL skills like empathy and cooperation. Students learn to work together and help each other” (Oliveras et al., 2023).

Emotional Well-Being and Engagement

A recurring theme in both the student and teacher data was the positive impact that collaboration spaces and SEL practices had on emotional well-being. Teachers commented on how the environment influenced student emotional regulation and engagement. Flexible spaces allowed for a more comfortable learning environment, helping students manage their emotions better, especially when they were overwhelmed. One teacher noted, “The space creates a calm atmosphere where students feel comfortable, and that helps with managing their emotions, particularly in moments of frustration or stress” (Oliveras et al., 2023).

Students also described the collaboration spaces as "relaxed" and "comfortable," contributing to a more positive emotional state while learning. In elementary schools, students also reported feeling more engaged and emotionally comfortable in the new building, especially noting the impact of natural light, which made the spaces feel 'open' and 'free,' contributing to better focus and well-being (Oliveras-Ortiz et al., 2021). One student stated, “I feel less stressed when we’re in the collaboration space. It doesn’t feel as serious as the classroom, so I can focus better” (Oliveras et al., 2024). The flexibility and openness of these spaces seemed to reduce anxiety and promote a sense of freedom, which, in turn, increased students’ engagement and productivity (Oliveras et al., 2024).

Inclusiveness and Engagement

Another significant finding from the teacher survey was the role of flexible spaces in promoting inclusiveness. Teachers reported that these environments were particularly beneficial for students with diverse learning needs, as they allowed for differentiated instruction and varied learning modalities. One teacher explained, “Flexible spaces provide opportunities for all students to engage in the way that works best for them. Whether they need a quiet area to work independently or a space to collaborate with peers, the environment supports inclusivity” (Oliveras et al., 2023).

This inclusiveness was closely tied to student engagement. Teachers reported that when students felt included and their individual learning needs were met, they were more likely to participate actively in their education. Another teacher stated, “I’ve seen students who normally struggle in traditional classroom settings thrive in flexible spaces. They’re more engaged because they feel like the space is designed for them” (Oliveras et al., 2023).

Discussion

The findings from both studies highlight the impact that collaboration spaces and SEL-aligned environments have on student engagement, emotional well-being, and overall academic success (Oliveras et al., 2023, 2024). These results confirm previous research suggesting that learning environments play a crucial role in shaping not only academic outcomes but also social-emotional development (Frey et al., 2019). The discussion of key themes—autonomy, socialization, emotional well-being, and inclusiveness—reveals several critical insights.

Autonomy and Agency as Drivers of Engagement

The sense of autonomy that students experienced in collaboration spaces directly contributed to their engagement and motivation (Oliveras et al., 2024). This aligns with self-determination theory **(**SDT**)**, which emphasizes the importance of autonomy in fostering intrinsic motivation (Deci & Ryan, 1985). Students who feel in control of their learning are more likely to engage deeply with content and take responsibility for their academic outcomes. Similarly, the findings suggest that when students are given the freedom to make choices about their learning environment, they develop stronger self-management skills, which are key to SEL (Oliveras et al., 2023, 2024). Student agency is a key component of engagement, and purposefully designed spaces can amplify this by offering students flexibility in how they interact with the environment and manage their learning. Students in newly designed spaces reported that increased control over their learning environment helped them engage more deeply with the content (Oliveras-Ortiz et al., 2020).

For educational leaders, this stresses the importance of designing spaces that promote student autonomy. By creating flexible environments where students can choose how and where to work, schools can foster greater engagement and responsibility among students. Leaders must ensure that these spaces are accessible and integrated into daily instructional practices.

Collaboration Spaces as Catalysts for Social-Emotional Development

The findings also highlight the role of collaboration spaces in promoting socialization and peer collaboration, which are essential components of SEL (Oliveras et al., 2023, 2024). These spaces provide opportunities for students to build relationships, develop empathy, and practice cooperation—skills that are critical for both academic and personal success (Zins et al., 2004). The social dynamics facilitated by collaboration spaces help students navigate interpersonal relationships, enhancing their social awareness and relationship skills.

For school leaders, this finding emphasizes the need to prioritize social learning in the design and use of collaboration spaces. Leaders should encourage teachers to use these spaces not only for academic group work but also for activities that promote social-emotional learning, such as group discussions and peer mentoring (Oliveras et al., 2024).

The Role of the Environment in Emotional Well-Being

Students and teachers reported that collaboration spaces contributed to a positive emotional climate, reducing stress and anxiety (Oliveras et al., 2023, 2024). This finding aligns with research suggesting that the physical environment plays a critical role in supporting emotional regulation and well-being (Frey et al., 2019). For instance, students in newly designed replacement schools noted that the open spaces, filled with natural light and designed for flexible movement, reduced their stress and made learning feel less rigid, contributing to a more relaxed and productive mindset (Oliveras-Ortiz et al., 2021). When students feel comfortable and emotionally safe in their learning environment, they are more likely to engage fully in the learning process and manage their emotions effectively (Oliveras et al., 2023, 2024).

For school leaders, this highlights the importance of creating spaces that foster emotional well-being. Elements such as natural lighting, comfortable seating, and flexible layouts can create a calming atmosphere that supports students' mental health (Oliveras et al., 2024). Leaders must work closely with architects and designers to ensure that these factors are considered in the design of learning spaces.

Inclusiveness as a Key to Engagement

The role of flexible learning spaces in promoting inclusiveness was another significant finding. Teachers reported that these spaces allowed them to meet the diverse needs of their students, from those who preferred quiet, independent work to those who thrived in group settings (Oliveras et al., 2023). This inclusiveness was closely tied to increased engagement, as students felt that the environment was designed with their individual learning preferences in mind (Oliveras et al., 2024).

For school leaders, this emphasizes the need to create inclusive learning environments that accommodate a variety of learning styles and abilities. By ensuring that collaboration spaces are adaptable and flexible, leaders can create environments where all students feel valued and supported.

Implications for School Leaders

The findings from these studies have several important implications for school leaders, who play a critical role in shaping both the physical and social-emotional environments in schools.

Intentional Design of Learning Spaces

School leaders must prioritize the intentional design of learning spaces that promote both academic engagement and social-emotional development. A study of newly designed replacement elementary schools demonstrated that when students are provided with varied learning spaces—such as collaboration areas, flexible classrooms, and open libraries—they feel more engaged and motivated to learn (Oliveras-Ortiz et al., 2021). Collaboration spaces, in particular, should be designed with flexibility in mind, allowing students to make choices about how and where they work. Leaders should collaborate with architects and designers to create environments that support autonomy, reduce anxiety, and foster social interactions.

Integration of SEL into the Physical Environment

The physical learning environment should be viewed as an integral component of SEL implementation. School leaders need to ensure that SEL practices are embedded into the design and use of learning spaces. This means providing spaces where students feel emotionally safe, supported, and able to develop critical SEL competencies, such as self-management and relationship skills.

Professional Development for Teachers

To maximize the benefits of collaboration spaces and SEL strategies, school leaders must provide ongoing professional development for teachers. Teachers need training on how to use these spaces effectively to promote student autonomy, collaboration, and emotional well-being.

Leaders should ensure professional development is aligned with the school's instructional goals and the learning environment's design.

Promoting Inclusiveness

Inclusiveness should be a central consideration in the design and use of learning spaces. School leaders must ensure that these spaces accommodate the diverse needs of students, including those with different learning preferences, abilities, and social-emotional needs. By creating environments that are flexible and adaptable, leaders can foster a sense of belonging and engagement among all students.

Fostering a School Culture of Collaboration and Emotional Support

Finally, school leaders must create a culture that values collaboration and emotional well-being. This includes not only designing spaces that promote these values but also modeling empathy, collaboration, and emotional support in their leadership practices. By fostering a positive school climate, leaders can ensure that both students and teachers feel supported and engaged.

The Intersection of Leadership, Learning Spaces, and SEL

Both studies on collaboration spaces and SEL practices emphasize the critical role of educational leaders in creating environments that nurture both academic achievement and social-emotional growth. Leaders who prioritize the design of flexible, collaborative spaces and support SEL implementation foster schools equipped to meet students' holistic needs. By setting a clear vision and providing professional development, leaders can cultivate environments where students are engaged academically and supported emotionally.

The integration of collaborative learning spaces with SEL practices presents school leaders with a framework that extends beyond traditional academic support. Intentional design—centered on flexibility, inclusiveness, and emotional well-being—promotes both academic engagement and personal development. This comprehensive approach empowers students to exercise autonomy, develop interpersonal skills, and collaborate effectively. By aligning flexible spaces with SEL principles, school leaders create environments that foster both cognitive and emotional growth.

Moreover, the physical environment plays an important role in shaping students' emotional well-being. Thoughtfully designed spaces that reduce anxiety, support emotional regulation, and promote a sense of safety enhance students' ability to focus and succeed. Inclusivity remains central to this framework, as these environments must adapt to meet the diverse needs of all students, ensuring a sense of belonging for every learner.

Moving Forward

The challenge for school leaders now lies in ensuring that these thoughtfully designed spaces are effectively utilized to support both academic and social-emotional development. This requires a strategic and ongoing commitment, including professional development for teachers, continuous collaboration with designers, and fostering a school culture that prioritizes emotional growth alongside academic achievement. Leaders must also regularly evaluate how these spaces are used and remain adaptable, adjusting to the ever-changing needs of students.

While not all schools can immediately adopt newly designed spaces due to budget constraints and antiquated infrastructure, it remains the responsibility of school leaders to seek creative solutions that maximize student engagement within the resources available. Leaders can explore low-cost interventions such as rearranging existing furniture to promote collaboration, using outdoor spaces, or leveraging technology in innovative ways. Their role extends beyond managing physical spaces to fostering an environment where every corner of the school can support learning and growth (Iasevoli, 2019).

To ensure success, it is essential to embed these strategies into everyday school practices. The leadership role shifts from simply implementing new designs to ensuring they are active components of the school's culture, facilitating not only academic learning but also emotional resilience and social skills.

Directions for Future Research

Future research should examine the long-term effects of collaboration spaces and SEL-integrated environments on student outcomes. Longitudinal studies could provide insight into how these spaces impact academic performance, emotional resilience, and social skills over time. Additionally, further exploration is needed to understand how SEL strategies can be more deeply woven into the physical design of schools, particularly in creating environments that support the diverse emotional and social needs of students.

Research should also investigate how various student demographics respond to these spaces, exploring how factors such as socioeconomic background, learning abilities, and cultural differences influence the efficacy of these interventions. This would contribute to a more nuanced understanding of how to design learning environments that support all students.

Final Thoughts

The intersection of flexible learning spaces and SEL practices offers school leaders an opportunity to create truly student-centered environments. By committing to these principles, schools can foster learning experiences that are not only academically rigorous but also emotionally supportive and inclusive. Leaders who embrace this holistic approach can create schools where students are prepared to thrive, both within the classroom and beyond.

References

Bouslama, F., & Kalota, F. (2013). Creating smart classrooms to benefit from innovative technologies and learning space design. *The 2013 International Conference on Current Trends in Information Technology*. https://doi.org/10.1109/CTIT.2013.6749486.

Charteris, J., & Smardon, D. (2019). Dimensions of agency in new generation learning spaces: Developing assessment capability. *Australian Journal of Teacher Education, 44*(7). https://ro.ecu.edu.au/ajte/vol44/iss7/1/.

Collaborative for Academic, Social, and Emotional Learning (CASEL). (n.d.). *What is SEL?* CASEL. Retrieved September 11, 2024 from https://casel.org/what-is-sel/

Columbia Center for Teaching and Learning (2021). *Collaborative Learning*. Columbia University. Retrieved September 11, 2024 from https://ctl.columbia.edu/

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). SAGE Publications.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer.

Frey, N., Fisher, D., & Smith, D. (2019). *All learning is social and emotional: Helping students develop essential skills for the classroom and beyond*. ASCD.

Fullan, M. (2014). *The principal: Three keys to maximizing impact*. Jossey-Bass.

Grissom, J. A., & Loeb, S. (2011). Triangulating principal effectiveness: How perspectives of parents, teachers, and assistant principals identify the central importance of managerial skills. *American Educational Research Journal, 48*(5), 1091-1123.

Hallinger, P., & Heck, R. H. (2010). Collaborative leadership and school improvement: Understanding the impact on school capacity and student learning. *School Leadership & Management, 30*(2), 95–110.

Hargreaves, A., & Shirley, D. (2022). *Well-being in schools*. ASCD.

Hoffman, D. M. (2009). Reflecting on social emotional learning: A critical perspective on trends in the United States. *Review of Educational Research, 79*(2), 533–556.

Iasevoli, B. (2019, June 22). *Schools are rethinking classroom design to encourage collaboration, creativity.* The Hechinger Report. https://hechingerreport.org/

Leithwood, K., Louis, K. S., Anderson, S., & Wahlstrom, K. (2008). *How leadership influences student learning*. The Wallace Foundation.

Oliveras, Y., Bouillion, D. E., & Koproswki, S. (2023). Research Paper Commissioned by VLK Architects. Social emotional learning practices and learning spaces. Houston, TX: VLK Architects.

Oliveras, Y., Bouillion, D. E., & Koproswki, S. (2024). Research Paper Commissioned by VLK. Collaboration spaces and middle school students' engagement in learning. Houston, TX: VLK Architects.

Oliveras-Ortiz, Y., Bouillion, D., & Asbury, L. (2019). Research Paper Commissioned by VLK Architects. Listening to high school students: How purposefully designed spaces impact their engagement in learning. Houston, TX: VLK Architects. https://vlkarchitects.com/

Oliveras-Ortiz, Y., Bouillion, D. E., & Asbury, L. (2020). Research Paper Commissioned by VLK Architects. Teachers 'instructional decisions and student agency in new purposefully designed learning spaces. Houston, TX: VLK Architects. https://vlkarchitects.com/

Oliveras-Ortiz, Y., Bouillion, D. E., & Asbury, L. (2021). Learning spaces matter: Student engagement in new learning environments. *Journal of Education, 201*(3), 174–182. https://doi.org/10.1177/0022057420908062

Piaget, J. (1952). *The origins of intelligence in children*. International Universities Press.

Reeves, D. B., & Schlechty, P. C. (2009). *Leading change in your school: How to conquer myths, build commitment, and get results*. ASCD.

Tyng, C. M., Amin, H. U., Saad, M. N. M., & Malik, A. S. (2017). The influences of emotion on learning and memory. *Frontiers in Psychology, 8.* https://doi.org/10.3389/fpsyg.2017.01454

Yazdi, H. (2016, August 18). *How educators can foster student motivation.* Digital Promise. https://digitalpromise.org/2016/08/18/how-educators-can-foster-student-motivation/

Zins, J. E., Weissberg, R. P., Wang, M. C., & Walberg, H. J. (2004). *Building academic success on social and emotional learning: What does the research say?* Teachers College Press.

Development and Use of the Educational Leaders' Perceptions on the Health and Wellness Promotion of Staff at the Workplace Tool

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Abstract

The purpose of this study was to design a tool measuring the influence of educational leaders in the health and wellness promotion of their employees. A reliable and valid multidimensional Likert scale instrument *Leaders' Perception of Health and Wellness Promotion* to assess the health and wellness promotion of staff was developed. A survey design using quantitative measures was used to collect data to develop the tool. A total of 84 leaders in the southeastern region of the United States participated in the survey through Survey Monkey. Findings suggested educational leaders' willingness to promote the health and wellbeing of their employees but deferred more than half of the responsibility to individual employees. Several implications for practice were provided.

Keywords: Educational leaders, Wellness, health promotion, transformation leadership, employees

Leadership has been identified as a factor toward influencing well-being in the workplace (Gilbreath, 2004). Researchers have shown that leadership is associated with psychological wellness (Arnold, Turner, Barling, Kelloway, & McKee, 2007), safety measures adherence (Zohar, 2002a), stress amongst employees (Offerman & Hellmann, 1996), cardiovascular illness (Kivimaki et al., 2005; Wager, Feldman, & Hussey, 2005), injuries and similar negative experiences in the workplace (Barling, Loughlin, & Kelloway, 2002; Kelloway, Mullen, & Francis, 2006; Mullen & Kelloway, 2010), and health-related behaviors (Bamberger & Bacharach, 2006). Improving leadership within an organization has been found to enhance overall employee well-being (McKee & Kelloway, 2009). Support from management is also associated with lowered levels of perceived stress, job strain, burnout, and depression (Rooney & Gottlieb, 2007; Van Dierendonck, Haynes, Borrill, & Stride, 2004). A study among a sample of New York City traffic enforcement agents revealed that having a supportive supervisor was correlated with lower systolic blood pressure (Karlin, Brondolo, & Schwartz, 2003). Nyberg et al. (2009) found that having a good leadership style, identified as showing consideration for individual employees, providing clear goals and role expectations, offering information and feedback, being able to successfully apply changes which occur in the workplace, and fostering employee participation and control, produced a decreased risk of heart disease; even after controlling for the traditional health risk factors of smoking, exercise, and blood pressure. These researchers also discovered that this relationship was stronger when employees have worked with the same employer for a long time.

Burns (1978) developed the concept of transformational leadership. Transformational leadership involves satisfying needs, which results in mutual support between leaders and staff along with synthesizing the roles of leaders and followers so that each benefit from the relationship. Burns (1978) further suggested that in transformational leadership style, a leader's power is directly connected to the needs of the follower. Northouse (2004) explained transformational leadership to involve relationship development in which the level of motivation in both the leader and follower is enhanced. Northouse further expressed that transformational leadership puts the emphasis on "transforming" individuals within an organization as they assist and take care of each other and increase performance, while keeping in mind the overall welfare of the organization.

Bass (1990) outlined the specific components of transformational leadership to include idealized influence or charisma, such as developing trust with followers, inspirational motivation, intellectual stimulation, and individualized consideration. Kuoppala, Lamminpaa, Liira, and Vainio (2008) found moderately strong relationships between the leadership components of consideration, support, and transformational leadership and positive well-being in the workplace (i.e., less anxiety, job stress, and depression). Essentially, as workers perceive they are receiving positive support from managers, the employees' overall well-being increases (Aronsson & Lindh, 2004). Justice in how feedback was offered concerning employee performance has been found to affect the quality of the relationship between leaders and subordinates (Sparr & Sonnentag, 2008). For instance, employees who believed they were experiencing more fairness in the workplace had a 45% lower risk of cardiovascular death than employees who reported encountering lower levels of justice (Elovainio, Leino-Aria, Vahtera, & Kivimaki, 2006).

Other investigators have discovered similar results in examining the role of positive workplace relationships via measurements of improved systolic and diastolic blood pressure (Brondolo et al., 2003; Wager, Feldman, & Hussey, 2003) and strengthened immune systems (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002). Good health in the workplace results in increased performance and productivity (Malmquist, Vinberg, & Larsson, 2007).

Managers should foster a work climate in which employees can realistically cope with job responsibilities while maintaining a sense of control and providing opportunities to develop (Karasek, 1990). Lagrosen, Backstrom, and Lagrosen (2007) proposed that the foundation for the organization should reside in the establishment of core values, managerial commitment, making continual course adjustments, garnering involvement from everyone in the organization, and focus on the customer. These investigators further suggested that a positive working environment accrues when management is committed to efficiency.

Individual Responsibilities for Health and Wellness in the Workplace

The American College of Occupational and Environmental Medicine (ACOEM) (2016) proposed that the workplace is a vital setting for achieving health reform goals and improving the overall health of employees and their families. Workplace wellness programs can positively enhance risk factor outcomes among healthy employees as well as those with cardiovascular disease, for instance (Carnethon, et al. 2009). Nevertheless, in order for these results to be realized, employees must be responsible for their own health outcomes and actively participate in the programs. Basically, successful treatment depends a great deal on the patient's compliance (Atreia, Bellam, & Levy, 2005). This includes keeping appointments and maintaining other contacts with the healthcare system (Halpern, Bates, & Beales, 2003). When incentives were provided, employees showed increased participation in workplace wellness programs (Robroek, van Lenthe, van Empelen, & Burdorf, 2009). In a meta-analysis, Huang et al. (2016) found incentives to be associated with a 23% increase in participation.

The treatment of chronic conditions is largely the responsibility of the patient (Kerr et al., 2007). Employees have been shown to employ self-care practices in order to regain or retain some feelings of control over their often unpredictable encounters with chronic illness (Leach & Schoenberg, 2008; Lindsay, 2009). Lifestyle changes in exercise and food and alcohol consumption influence health outcomes, accounting for up to 40% of morbidity and premature mortality rates (Schroeder, 2007).

Self-care has been described as involving activities that individuals, families, and communities pursue with the intent of improving health, preventing disease, reducing the number of illness incidents, and restoring health (World Health Organization, 1984). For instance, along with medical therapies, it is necessary to change self-care habits through improved eating practices, physical or work activities (McMichael, 2001; Feiring, 2008). Women tend to employ self-care more frequently than men since women tend to have greater knowledge about health and alternative health practices and discuss health concerns with peers; which heightens their understanding of and responsiveness to illness (Grzywacz et al., 2012; MacLennan, Wilson, & Taylor, 2002).

The beneficial relationship between social and individual responsibilities may involve switching from a passive lifestyle to one with greater awareness (Resnik, 2007; Buyx, 2008). Thus, self-care can be either reactive (focused on the management of acute and chronic health conditions) or proactive (centered on the prevention of illness through engaging in healthy lifestyles) (Ziguras, 2009). Taking personal responsibility in modifying lifestyle to secure better health involves personal responsibility tied to knowledge, education, research, and personal training (Schmidt, 2009).

Different Measures of Health and Wellness

Different tools have been used to assess employee health and wellness at the workplace over the years. Many employers utilize a Health Risk Assessment (HRA) to assess the well-being of their employees. Bellew, St. George, and King (2012) offer a general description of what an HRA may involve. For instance, an HRA may be a simple questionnaire designed to glean self-reported information on risk factors, behaviors, or diagnoses. These questionnaires could also include clinical examinations in order to develop vital data about the employee's height, weight, body mass index (BMI), heart rate, blood pressure, or cholesterol levels. Some HRAs may involve performance tests in which the person may be evaluated for grip strength, or on the ease of rising from a chair and walking. This way, a health profile may be developed to estimate the risk of future health problems and provide feedback to the employee so that these health issues may be reduced.

One tool which has been correlated with health care cost reduction is the HERO Employee Health Management Practices Scorecard (Goetzel et al., 2014). As presented by Goetzel, et al. (2014), the HERO Scorecard is a web-based inventory that is used in order to examine health practices in a given workplace according to six domains: strategic planning, organizational and cultural support, delivered programs, program integration, strategies to increase participation, and measurement/evaluation strategies. The Scorecard typically requires 45 to 60 minutes to complete. There is also an accompanying User Guide to assure that the responses on the Scorecard accurately represent the organization's practices. Other measures used for assessing workplace health behaviors include the following:

American Productivity Audit (APA) and Work and Health Interview (WHI). According to Stewart, Ricci, Chee, and Morganstein (2003), the goal of the American Productivity Audit is to describe variations in the employee's absence patterns as a result of their health conditions and to estimate the costs these absences have on the workforce. The Work and Health Interview is a computer-based telephone interview system that attempts to quantify lost productivity work time, such as the amount of time the employee was absent from work, as well as lowered performance or presenteeism while at work due to the employee's health conditions**.**

Angina-Related Limitations at Work Questionnaire (ALWQ). The ALWQ was developed by Lerner and her colleagues in 1997. Lerner et al. (1997) proposed that the ALWQ could be a useful tool for quantifying work limitations in people with chronic stable angina pectoris and whose goal is to prevent a disability from halting their ability to continue to work.

Endicott Work Productivity Scale (EWPS). According to Endicott and Nee (1997), the EWPS is a brief self-report questionnaire that assesses the impact of various disorders on work

productivity and the efficacy of therapeutic interventions.

Health and Productivity Questionnaire (HPQ). The HPQ is a self-report assessment designed to estimate the workplace costs of health problems via reduced job performance, absence due to sickness, and work-related accidents and injuries (Kessler et al., 2003).

Health and Work Questionnaire (HWQ). Shikiar, Rentz, Halpern, and Khan (2008) noted that the HWQ may be a helpful instrument to assess group differences and the effects of health interventions on workplace productivity.

Health-Related Productivity Questionnaire Diary (HRPQ-D). Kumar et al. (2003) consider the HRPQ-D to be a useful tool for determining worker productivity levels in health- related domains across various employment settings.

Migraine Disability Assessment (MIDAS) Questionnaire. According to Stewart, Lipton, Dowson, and Sawyer (2001) the MIDAS Questionnaire was designed to measure headache-related disabilities with the goal of enhancing treatment for migraine headache sufferers. Further, MIDAS may be useful in improving physician-patient communication in headache-related disabilities and might enhance healthcare services for migraine patients.

Migraine Work and Productivity Loss Questionnaire (MWPLQ). The MWPLQ measures the negative effects of migraine headaches and migraine therapy on paid work and can be used for evaluating migraine-related work disability issues (Davies, Santanello, Gerth, Lerner, & Block, 1999).

Osterhaus Technique. The Osterhaus Technique was developed for evaluating the impact of migraine headache illness on productivity loss (Osterhaus, Gutterman, & Plachetka, 1992).

Stanford Presenteeism (SPS-32). According to Koopman et al. (2002), the SPS-32 was designed to examine the relationship between presenteeism, health problems, and productivity among workers. More specifically, it measures an employee's ability to focus on work and be productive despite health problems.

Work Limitations Questionnaire (WLQ). The WLQ is a questionnaire developed for the purpose of measuring on-the-job work limitations of chronic health problems and/or treatment (Lerner et al., 2001).

Strategies to Improve Health and Wellness in the Workplace

Current evidence suggests that effectively implemented health and wellness programs provide numerous benefits to both the employee and employer (Arena et al., 2013). When these workplace wellness programs are successfully implemented, their positive effects expand beyond the workers and their family members; it extends to those who encounter their positive lifestyle changes (Carnethon, et al., 2009). Workplace wellness programs that are successful use evidence-based programming to help employees change modifiable health risk factors, such as tobacco usage, physical inactivity, and work-life balance issues (Berry & Mirabito, 2011).

Evidence-based strategies implemented at the workplace can enhance employee wellness. Strategies such as the provision of healthy food choices in dining locations and free

access to fitness and recreational facilities on-site (Michaels and Greene, 2013). Regular exercise, for instance, has been found to reduce work-related health risks and enhance employee well-being, attitudes, and productivity (Conn, Hafdahl, Cooper, Brown, & Lusk, 2009; Miller, 2016; Proper et al., 2003). One way by which employers proactively enhance employee wellness, as well as reduce health problems associated with physical inactivity, is through the use of employer-sponsored workplace exercise programming (MacLennan, Wilson, & Taylor, A. W, 2009.; Russell, 2009). Studies have shown that employees make healthy eating their priority when changes to support good dietary habits are created at the workplace (Mhurchu, Aston, & Jebb, 2010). Increased access to fruits at the workplace help improve employees eating habits (Alinia, Hels, & Tetens, 2009; Hutchinson, Howlett, & Wilson, 2013; Thorsen, Lassen, Tetens, Hels., & Mikkelsen, 2010). The basic premise for employers is that happy and healthy employees will be more productive; which leads to better business outcomes (Miller, 2016).

Several programs do not simply impose changes on food availability or adopt physical activity practices, but, instead, combine these procedures with various forms of mandated self- tracking (Lupton 2014). For example, a web dashboard as well as mobile apps connected with activity trackers, using specific software components, provide a simple virtual coaching system to support nutritional suggestions based on the Mediterranean diet principles (Bailoni, Dragoni, Eccher, Guerini, & Maimone, 2016). Other interventions which have been shown to enhance employee well-being include educational programming. This includes classes, newsletters, postings, individualized instruction and help with lifestyle management concerns, as well as behavioral counseling to help employees address personal addictions such as smoking cessation initiatives (Kaspin, Gorman, & Miller, 2013).

Kaspin et al. (2013) identified several characteristics which tend to generate success in workplace health and wellness programs: 1. the climate of the work environment; 2. unwavering support for health and wellness processes from employees and employers; 3. employers who embrace policies supporting health and wellness and creating an environment that supports that philosophy and motivate their employees to support healthy lifestyle initiatives; 4. health and wellness programs are able to change and adapt to the needs of employees; 5. community health organizations team up with the health and wellness programs through education, treatment, and other efforts; and 6. health and wellness programs use technology to develop health risk appraisals and education. Another set of researchers have found similar results which are common characteristics of effective employee wellness programs: 1. robust support from management; 2. unquestionable acceptance of the importance of health and wellness by the culture and environment of the organization; 3. ready adaptation to the needs of employees; 4. effective usage of current technologies; and 5. community health support (Kaspin, et al., 2013).

Therefore, the purpose of this study was to investigate the role of leadership in the health and wellbeing of their employees. The researchers hope to develop a tool to assess the educational leaders' perceptions on the health and wellness promotion of staff at the workplace.

Research Objectives

1. To design a tool on health and wellness promotion of staff at the workplace.
2. To assess how educational leaders, promote health and wellness of their staff at their workplace using the developed tool.
3. To determine the differences in educational leaders' perceptions of health and wellness promotion based on their personal and demographic characteristics
4. To provide recommendations and strategies that can be used by individual employees and their leaders to promote the health and wellness at the workplace.

Instrument Development & Testing Procedures

A pilot study was first used to refine and validate the content items and the subscales that were identified in the literature on leaders' health and wellness promotion at the workplace. The researchers defined the construct of health and wellness promotion, identified an exhaustive list of the dimensions of health and wellness promotion and then generated items from previous studies and scales. Face validity and content validity were performed using 5 subject matter experts on leadership. The initial pool of items were piloted among graduate students in a leadership program where problematic items were refined or removed. Item reduction was also carried out to eliminate redundant and socially desirable items. The final questionnaire *Leaders' Perception of Health and Wellness Promotion* was administered using survey monkey after an institutional IRB was approved. Emails to local area educational agencies, school districts, and though local university's educational leadership department were sent to encourage educational leaders to participate.

Participants

A total of 84 leaders in the southeastern region of the United States participated in the survey, but only 59 provided complete, usable data for the study. The pilot study included 10 graduate students in an educational leadership program at a medium-sized university. In addition, 5 subject matter experts in leadership were asked to refine and validate the content of the subscales that were identified by two of the researchers. The 59 leaders who completed the survey consisted of women (62.7%, n=37) and men (37.3%, n=22). Their ages ranged from 25 to 74 years. Majority (67.8%) of the leaders worked in K-12, followed by Higher Education (20.3%), Business (6.8%) and other sectors (5.1%). In terms of their global region of origin, majority (91.5%) identified as coming from North America. In all, 39% have been educational leaders for 10 years or less; 61% have been educational leaders for 11 years or more.

Measures

The survey administered to the participants included a 90-item questionnaire on health and wellness promotion at the workplace. The 9 subscales included Social, Work life Balance, Emotional, Spiritual, Intellectual, Physical, Nutritional, Occupational, and Responsibility. The respondents rated their level of agreement on these items on a Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Sample items include "I offer healthy food and drink choices at staff functions and meetings" and "I allow staff to work flexible hours that

accommodate physical activity." Personal and demographic questions were also included to elicit responses on Gender, Age, Sector Leader, Global region of origin and Length of being an educational leader.

Results

The internal consistency reliability of the items in each of the dimensions of health and wellness promotion is presented in Table 1.

Table 1

Dimensions of health and wellness promotion and reliability scores

Dimension	Cronbach's alpha (α)	Number of items
Social	.91	12
Work life Balance	.87	11
Emotional	.90	8
Spiritual	.92	14
Intellectual	.87	8
Physical	.91	8
Nutritional	.91	11
Occupational	.93	11
Responsibility	.88	7

The results in Table 1 show very strong internal consistency of the items retained and used in each dimension of health and wellness promotion. It is fairly common to conduct a factor analysis for all the items to determine unidimensionality of all the items as representing the theoretical construct of health and wellness promotion. The sample size, however, poses a limitation in this study. The internal consistency reliability of all the items was also assessed to be reliable (90 items; α = .97; *M*=4.99, *SD* =.82).

Table 2 shows the overall means (*M*), standard deviations (*SD*) and correlations between the dimensions of health and wellness promotion among the leaders.

Table 2

Means, Standard deviations and Correlations between the dimensions of health and wellness promotion.

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Social	-								
2. Work life Balance	.768**	-							
3. Emotional	.855**	.646**	-						
4. Spiritual	.853**	.739**	.867**	-					

5. Intellectual	.769**	.655**	.732**	.702**	-				
6. Physical	.298*	.403**	.359**	.435**	.374**	-			
7. Nutritional	.250	.435**	.282*	.371**	.323*	.737**	-		
8. Occupational	.727**	.619**	.755**	.709**	.592**	.250	.299*	-	
9. Responsibility	.457**	.437**	.518**	.579**	.371**	.564**	.502**	.455**	-
M	5.97	5.29	5.98	5.65	5.42	3.42	3.06	5.62	4.53
SD	.79	.84	.85	.87	1.04	1.66	1.28	1.02	1.32

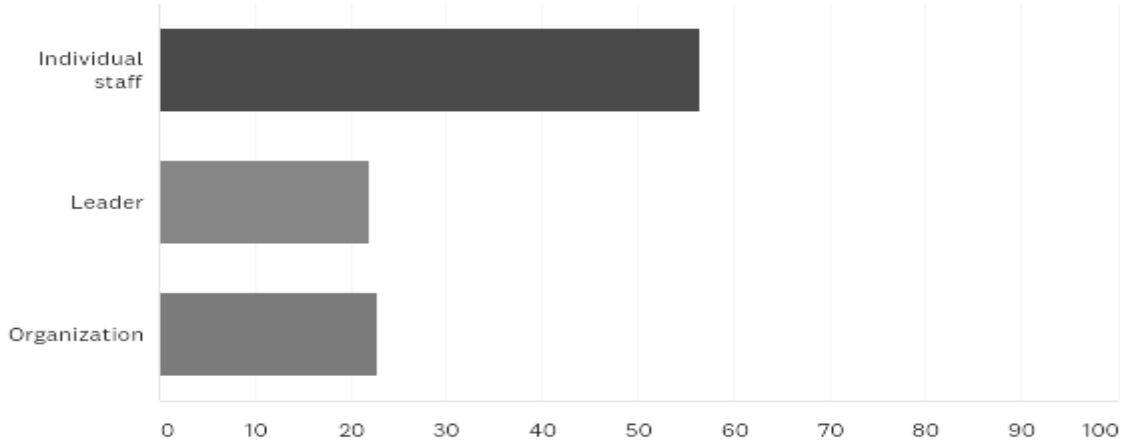
Note: *p < .05. **p < .01. ***p < .001.

The results in Table 2 show high correlations between the dimensions in the scale indicating that these dimensions share some commonalities in terms of health and wellness promotion at the workplace.

We also explored differences in terms of gender and age of the educational leaders in promoting health and wellness at the workplace within each of the dimensions and the total scale scores. There were no significant differences between male and female educational leaders' health and wellness promotion in any of the dimensions. There were however significant differences between age groups of the educational leaders. The significant differences for the age groups was within the dimensions of 'Work life Balance' and 'Spiritual'. Educational leaders ages 45-75 years and older, significantly promote work life balance at the workplace than educational leaders ages 18-44years (F (1, 57) = 4.434, p=.040, η^2 = 0.07). Within the spiritual dimension, educational leaders ages 45-75 years and older also significantly promote spiritual health at the workplace than educational leaders ages 18-44years (F (1, 57) = 5.201, p=.026, η^2 = 0.08). No other differences were significant for age.

Figure 1

Responsibilities for Health and Wellness in the Workplace



Finally, the leaders were asked who they thought was responsible for staff health and wellness at the workplace. Note: Responses must add up to 100%". The results (Figure 1) show that the leaders on average, assigned more responsibility to individual staff (average of 57%) for their health and wellness than the leader or the organization combined.

Discussion and Conclusions

Previous research supports the assertion that health and wellness programs do benefit the employee and the employer at the long run. However, most of the studies have not focused on leaders of institutions or organizations. Also, most of the instruments used in these studies tend to assess the employee. This study thus investigated the role of leadership on the health and wellness of employees with the aim of developing a tool on health and wellness promotion. A multi-dimensional tool that incorporates key aspects of health and wellness promotion from literature is thereby proposed. The resulting 90-item tool includes the following 9 dimensions (Social, Work life Balance, Emotional, Spiritual, Intellectual, Physical, Nutritional, Occupational, and Responsibility). The internal consistency reliability of all the dimensions of health and wellness promotion were high (above 0.8) and the dimensions share some commonality although a large-scale factor analysis with different samples could be conducted to establish the unidimensionality of all the items.

In answering the question whether leaders promote the health and wellness of their staff at the workplace, the results show a rather implicit agreement from leaders as promoting the health and wellness of their staff. For example, leaders assigned more responsibility to the individual employee rather than the leaders or the organization combined. Leaders seemed to be willing to promote but defer more than half of the responsibility to the individual. This result was different from the positive impact of leadership described in previous research. Taking responsibility implies the willingness to take action and implement health and wellness programs than slogans and campaigns. Huang et al. (2016) found that when leaders go beyond their transactional duties to offer incentives, there is a significant increase in participation in health and wellness programs by the employees. An explanation for the findings in this study could be that leaders are engaging in dispositional attribution and holding the staff responsible for their health and wellness in the context of work. Although this is a fundamental attribution error, an unhealthy or unwell staff as explained by leaders is a result of the staff's personality, motives or beliefs. It is also arguable that leaders in this study feel that they do not have control over areas such as the Physical and Nutritional dimensions of the individual employee. They are simply off limits.

This study also explored differences in leaders' perceptions of health and wellness promotion based on their personal and demographic characteristics. In terms of gender of the leaders, no significant differences were found. Male leaders promote the health and wellness of their staff the same as female leaders. The literature however suggests that, female leaders tend to support or promote health and wellness programs in companies. Gender in itself may not be the factor but the leadership style of the leader (Nyberg et al., 2009). The results however showed age differences especially within the 'Work-life balance' (WLB) and 'Spiritual' dimensions. Older leaders tend to significantly promote WLB and spiritual dimensions than younger leaders. This result is consistent with previous studies on age in the workplace.

The authors recognize the small sample size used in this study may have reduced statistical power. Nevertheless, the authors conducted internal reliability analysis to ensure consistency. Also, the study was conducted in one area which may have introduced location bias. The results may have been different if a nationally, representative sample of leaders had been used.

Recommendations for Practice

Health and Wellness Promotion programs at the workplace have been found to have direct impact on employee morale and productivity (Malmquist, Vinberg, & Larsson, 2007). Well implemented Workplace Health and Wellness promotion programs have resulted in cost savings in terms of medical costs, better management of chronic conditions, reduced risks for diseases. These are indirectly translated to increased productivity. Return-on-Investment (ROI) with these programs cannot be overemphasized (Musich, McCalister, Wang, & Hawkins, 2015). Based on the findings and literature, the authors recommend educational leaders to assess their workplace health and wellness practices together with their management team and employees to determine areas that that are working well and those needing improvement (Murphy, 2018). Major overhaul of existing program or practices may not be immediate, however, minor changes leading to increased participation will be a good start. Involving the employees in the assessment gives them some form of ownership. Additionally, the researchers recommend the establishment of Wellness committees that include management and employees (Society for Human Resources Management, 2020). Such a committee can be tasked to review the programs or practices in place regularly and make recommendations to management for improvement.

Finally, using incentives (SHRM, 2020) such as rewards, or point system, health insurance premium discount may help to engage employees to take more interest in their personal health because incentives are known to motivate people. Any health promotion incentives, programs, or practices put in place should be equity-based and inclusive to ensure the participation of all. Results from this study indicated that educational leaders believe employers are mainly responsible for their own health, however, given the pandemic's impact, employers and leaders should intentionally consider ways create a caring and nurturing overall healthy work environment for all (MetLife, 2021).

References

Alinia, S, Hels, O., and Tetens, I. (2009). The potential association between fruit intake and body weight: A review. *Obesity Reviews, 10*(6), 639–647.

American College of Occupational and Environmental Medicine. (2017). *Healthy Workforce Now*. Retrieved from URL: http:// www.acoem.org/healthyworkforcenow.aspx

Arena, R., Guazzi, M., Briggs, P. D., Cahalin, L. P., Myers, J., Kaminsky, L. A., & Lavie, C. J. (2013). *Promoting health and wellness in the workplace: A unique opportunity to establish primary and extended secondary cardiovascular risk reduction programs*. In Mayo Clinic Proceedings, 88(6), 605-617. https://doi.org/10.1016/j.mayocp.2013.03.002

Arnold, K. A., Turner, N., Barling, J., Kelloway, E. K., & McKee, M. C. (2007). Transformational leadership and psychological well-being: The mediating role of meaningful work. *Journal of Occupational Health Psychology*, *12*(3), 193-203.

Aronsson, G. and Lindh, T. (2004). Long time healthy working life: A population study. Swedish Institute for Working Life: Stockholm.

Atreja, A., Bellam, N., Levy, S.R. (2005). Strategies to enhance patient adherence: Making it simple. *Medscape General Medicine*, *7*:4.

Bailoni, T., Dragoni, M., Eccher, C., Guerini, M., & Maimone, R. (2016). PerKApp: A context aware motivational system for healthier lifestyles. In *Smart Cities Conference (ISC2)*, 2016 IEEE International, 1-4.

Bamberger, P.A., & Bacharach, S.B. (2006). Abusive supervision and subordinate problem drinking: Taking resistance, stress and subordinate personality into account. *Human Relations*, *59*(6), 723-752.

Barling, J., Loughlin, C., & Kelloway, E. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology, 87*, 488-496.

Bass, B.M. (1990). *Bass and Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.

Bellew, B., St. George, A., & King, L. (2012). *Workplace screening programs for chronic disease prevention: A review of the evidence*. Sydney: Sax Institute.

Berry, L. L., & Mirabito, A. M. (2011). Partnering for prevention with workplace health promotion programs. *Mayo Clinic Proceedings, 86(*4), 335-337.

Brondolo, E., Rieppi, R., Erickson, S. A., Bagiella, E., Shapiro, P. A., McKinley, P., & Sloan, R.P. (2003). Hostility, interpersonal interactions, and ambulatory blood pressure. *Psychosomatic Medicine, 65*, 1003-1011.

Burns, J.M. (1978). *Leadership*. New York: Harper and Row.

Buyx, A.M. (2008). Personal responsibility for health as a rationing criterion: Why we don't like it and why maybe we should. *Journal of Medical Ethics*, *34*, 871–874.

Carnethon, M., Whitsel, L. P., Franklin, B. A., Kris-Etherton, P., Milani, R., Pratt, C. A., & Wagner, G. R. (2009). Worksite wellness programs for cardiovascular disease prevention: A policy statement from the American heart association. *Circulation, 120*(17),1725-1741.

Conn, V. S., Hafdahl, A. R., Cooper, P. S., Brown, L. M., & Lusk, S. L. (2009). Meta-analysis of workplace physical activity interventions. *American Journal of Preventative Medicine, 37*(4), 330-339.

Davies, G. M., Santanello, N., Gerth, W., Lerner, D., Block, G.A. (1999). Validation of a migraine work and productivity loss questionnaire for use in migraine studies. *Cephalalgia, 19*, 497–502.

Elovainio, M., Leino-Arjas, P., Vahtera, J., & Kivimaki, M. (2006). Justice at work and cardiovascular mortality: A prospective cohort study. *Journal of Psychosomatic Research, 61*, 271-274.

Endicott, J., & Nee, J. (1997). Endicott Work Productivity Scale (EWPS): A new measure to assess treatment effects. *Psychopharmacology Bulletin, 33*(1), 13-16.

Feiring, E. (2008). Lifestyle, responsibility and justice. *Journal of Medical Ethics*, 34, 33–36.

Gilbreath, B. (2004). Creating healthy workplaces: The supervisor's role. In C. Cooper & I. Robertson (Eds.), *International review of industrial and organizational psychology*, *volume 19*. Chichester, UK: John Wiley.

Goetzel, R.Z., Henke, R.M., Benevent, R., Tabrizi, M.J., Kent, K.B., Smith, K.J., Roemer, E. C., Grossmeier, J., Mason, S.T., Gold, D.B., Noeldner, S.P., and Anderson, D.R. (2014). The predictive validity of the HERO Scorecard in determining future health care costs and risk trends. *Journal of Occupational and Environmental Medicine, 56*(2), 136-144. https://doi.org/10.1097/JOM.0000000000000081

Grzywacz, J. G., Stoller, E. P., Brewer-Lowry, A. N., Bell, R. A., Quandt, S. A., & Arcury, T. A. (2012). Gender and health lifestyle: An in-depth exploration of self-care activities in later life. *Health Education & Behavior, 39,* 332-240 http://doi:10.1177/1090198111405195.

Halpern, D., Bates, C., & Beales, G. (2003). Personal Responsibility and Behaviour Change.

Prime Minister's Strategy London: Prime Minister's Strategy Unit, Cabinet Office.

Huang, H., Mattke, S., Batorsky, B., Miles, J., Liu, H., & Taylor, E. (2016). Incentives, program configuration, and employee uptake of workplace wellness programs. *Journal of Occupational & Environmental Medicine, 58*, 30-34.

Hutchinson, A. D., Howlett, G., & Wilson, C. (2013). Increasing employees fruit consumption through access and peer support at work. *Food and Nutrition Sciences, 4,* 88–95.

Karasek, R. (1990). *Healthy work: Stress, productivity, and the reconstruction of working life*. Basic Books, New York, NY.

Karlin, W., Brondolo, E., & Schwartz, J. (2003). Workplace social support and ambulatory activity in New York City traffic agents. *Psychosomatic Medicine, 65*, 67-176.

Kaspin, L., Gorman, K., & Miller, R. (2013). Systematic review of employer-sponsored wellness strategies and their economic and health-related outcomes. *Population Health Management*, *16*(1), 14-21. doi:10.1089/pop.2012.0006

Kelloway, E. K., Mullen, J. E., & Francis, L. (2006). Divergent effects of passive and transformational leadership on safety outcomes. *Journal of Occupational Health Psychology*, *11*, 76-86.

Kerr, E. A., Heisler, M., Krein, S. L., Kabeto, M., Langa, K. M., Weir, D., & Piette, J. D. (2007). Beyond comorbidity counts: how do comorbidity type and severity influence diabetes patients' treatment priorities and self-management. *Journal of General Internal Medicine*, *22*, 1635-1640.

Kessler, R. C., Barber, C., Beck. A., Berglund, P., Cleary, P. D., McKenas, D., Pronk, N., Simon, G., Stang, P., Ustun, T. B., Wang, P. (2003). The World Health Organization Health and Work Performance Questionnaire (HPQ). *Journal of Occupational and Environmental* Medicine, *45*(2), 156-174.

Kiecolt-Glaser, J. K., McGuire, L., Robles, T. F., & Glaser, R. (2002). Psychoneuroimmunology: Psychological influences on immune function and health. *Journal of Consulting and Clinical Psychology*, *70*(3), 537-547.

Kivimaki, M., Ferrie, J. E., Brunner, E., Head, J., Shipley, M. J., Vahtera, K., & Marmot, M. G. (2005). Justice at work and reduced risk of coronary heart disease among employees: The Whitehall II study. *Archives of Internal Medicine*, *165*(19), 2245-2251.

Koopman, C., Pelletier, K. R., Murray, J. F., Sharda, C. E., Berger, M. L., Turpin, R. S., Hackleman, P., Gibson, P., Holmes, D. M., & Bendel, T. (2002). Stanford Presenteeism Scale: Health status and employee productivity. *Journal of Occupational and Environmental Medicine*, *44*(1), 14-20.

Kumar, R. N., Hass, S. L., Li, J. Z., Nickens, D. J., Daenzer, C. L., & Wathen, L. K. (2003). Validation of the Health-Related Productivity Questionnaire Diary (HRPQ-D) on a sample of patients with infectious mononucleosis: Results from a phase 1 multicenter clinical trial. *Journal of Occupational and Environmental Medicine*, *45*(8), 899-907

Kuoppala, J., Lamminpaa, A., Liira, J., & Vainio, H. (2008). Leadership, job well-being, and health effects: A systematic review and meta-analysis. *Journal of Occupational and Environmental Medicine*, *50*(8), 904-915. doi: 10.1097/JOM.0b013e31817e918d

Lagrosen, Y., Backstrom, I., & Lagrosen, S. (2007). Quality management and health: A double connection. *International Journal of Quality and Reliability Management*, *24*(1), 49-61.

Leach, C. R., & Schoenberg, N. E. (2008). Striving for control: Cognitive, self-care, and faith strategies employed by vulnerable black and white older adults with multiple chronic conditions. *Journal of Cross-Cultural Gerontology*, *23*(4), 377–399.

Lerner, D. J., Amick III, B. C., Malspeis, S., Rogers, W. H., Gomes, D. R. J., & Salem, D. N. (1997). The Angina-related Limitations at Work Questionnaire. *Quality of Life Research*, 7(1), 23-32.

Lerner, D., Amick III, B.C., Rogers, W.H., Malpeis, S., Bungay, K., & Cynn, D. (2001). The work limitations questionnaire. *Medical Care*, *39*(1), 72-85.

Lindsay, S. (2009). Prioritizing illness: Lessons in self-managing multiple chronic diseases. *Canadian Journal of* Sociology, *34*(4), 983–1002.

Lupton, D. (2014). Self-tracking modes: Reflexive self-monitoring and data practices. Available at SSRN: http://dx.doi.org/10.2139/ssrn.2483549.

MacLennan, A. H., Wilson, D. H., & Taylor, A. W. (2002). The escalating cost and prevalence of alternative medicine. *Preventive Medicine*, *35*(2), 166–173. https://doi.org/10.1006/pmed.2002.1057

Malmquist, C., Vinberg, S., & Larsson, J. (2007). *To control with health: From statistics to strategy*. Degerfors: Metodicum.

McKee, M., & Kelloway, E. K. (2009). Leading to wellbeing. Paper presented at the annual meeting of the European Academy of Work and Organization Psychology, Santiago de Compostella, Spain.

McLellan, R. K., MacKenzie, T. A., Tilton, P. A., Dietrich, A. J., Comi, R. J., & Feng, Y. Y. (2009). Impact of workplace sociocultural attributes on participation in health assessments. *Journal of Occupational and Environmental Medicine*, *51*(7), 797-803.

McMichael, T. (2001). *Human frontiers, environments and disease: Past patterns, uncertain futures*. Cambridge, United Kingdom: Cambridge University Press.

Melife. 2021. Redesigning the employee experience: Preparing the workplace for a transformed world. https://www.metlife.com/id=cj78k&&msclkid=c53d0d95b8bc195b6af06d6d8b74f867&gd=c53d0d95b8bc195b6af06d6d8b74f867&gclsrc=3p.ds

Mhurchu, C. N., Aston, L. M., & Jebb, S. A. (2010). Effects of worksite health promotion interventions on employee diets: A systematic review. *BMC Public Health*, *10*(62), 1–15. https://doi.org/10.1186/1471-2458-10-62

Miller, J. (2016). The well-being and productivity link: A significant opportunity for research- into-practice. *Journal of Organizational Effectiveness: People and Performance*, *3*(3), 289-311. https://doi.org/10.1108/JOEPP-07-2016-0042

Mullen, J. E., & Kelloway, E. K. (2010). Safety leadership: A longitudinal study of the effects of transformational leadership on safety outcomes. *Journal of Occupational and Organizational Psychology*, *82*, 253-272. http://dx.doi.org/10.1348/096317908X325313

Murphy, K. (2018). Leadership plays key role in effective workforce efforts. Retrieved from https://healthpayerintelligence.com/news/leadership-plays-key-role-in-effective-workforce-wellness-efforts.

Misich, S., McCalister, T., Wang, S., & Hawkins, K. (2015). An Evaluation of the Well at Dell Health Management Program: Health risk and financial return on investment. *American Journal of Health Promotion, 29*(3), 147-157.

Northouse, P. G. (2004). *Leadership: Theory and practice* (3rd ed.). Thousand Oaks, CA: Sage.

Nyberg, A., Alfredsson, L., Theorell, T., Westerlund, H., Vahtera, J., & Kivimaki, M. (2009). Managerial leadership and ischemic heart disease among employees: The Swedish WOLF study. *Occupational and Environmental Medicine*, *66*(1), 51-55.

Offerman, L. R., & Hellmann, P. S. (1996). Leadership behavior and subordinate stress: A 360 degrees view. *Journal of Occupational Health Psychology*, *1*(4), 382-390.

Osterhaus, J. T., Gutterman, D. L., & Plachetka, J. R. (1992). Healthcare resource and low labour costs of migraine headaches in the US. *Pharmacoeconomics*, *2*(2): 67-76.

Proper, K. I., Koning, M., van der Beek, A. J., Hildebrandt, V. H., Bosscher, R. J., & van Mechelen, W. (2003). The effectiveness of worksite physical activity programs on physical activity, physical fitness, and health. *Clinical Journal of Sport Medicine*, *13*(2), 106-117.

Resnik, D. B. (2007). Responsibility for health: Personal, social, and environmental, *Journal of Medical Ethics*, *33*(8), 444–445.

Robroek, S. J., van Lenthe, L. F., van Empelen, P., Burdorf, A, (2009). Determinants of participation in worksite health promotion programmes: A systematic review. *International Journal of Behavioral Nutrition and Physical Activity*, *6*, 1-12.

Rooney, J., & Gottlieb, B. (2007). Development and initial validation of a measure of supportive and unsupportive managerial behaviors. *Journal of Vocational Behavior*, *71*(2), 186-203.

Russell, N. (2009). Workplace Wellness: A Literature Review for NZWell@Work. Wellington,New Zealand: Ministry of Health. Retrieved from http://www.nzwellatwork.co.nz/pdf/wrkplc-wellness-lit-rev-feb09.pdf

Schmidt, H. (2009). Just health responsibility. *Journal of Medical Ethics*, *35*(1), 21–26.

Schroeder, S. A. (2007). We can do better: Improving the health of the American people. *New England Journal of Medicine*, *357*, 1221–1228.

Shikiar, R., Rentz, A., Halpern, M. T., & Khan, Z. (2008). The health and work questionnaire (HWQ): An instrument for assessing workplace productivity in relation to worker health. *Value in Health*, *4*(2), 181–181.

Society for Human Resource Management. 2020. How to establish and design wellness program. Retrieved from https://www.shrm.org/resourcesandtools/tools-and-samples/how-to-guides/pages/howtoestablishanddesignawellnessprogram.aspx

Sparr, J. L., & Sonnentag, S. (2008). Fairness perceptions of supervisor feedback, LMX, and employee well-being at work. *European Journal of Work and Organizational Psychology*, *17*(2), 198-225.

Stewart, W. F., Lipton, R. B., Dowson, A. J., & Sawyer, J. (2001). Development and testing of the Migraine Disability Assessment (MIDAS) Questionnaire to assess headache-related disability. *Neurology*, *56*(6), S20–S28.

Stewart, W. F., Ricci, J. A., Chee, E., & Morgenstein, D. (2003). Lost productive work time costs from health conditions in the United States: Results from the American Productivity Audit. *Journal of Occupational and Environmental Medicine*, *45*(12), 1234–1246.

Thorsen, A. V., Lassen, A. D., Tetens, I., Hels, O., & Mikkelsen, B. E. (2010). Long-term sustainability of a worksite canteen intervention of serving more fruit and vegetables. *Public Health Nutrition*, *13*(10): 1647–1652.

Van Dierendonck, D., Haynes, C., Borrill, C., & Stride, C. (2004). Leadership behavior and subordinate well-being. *Journal of Occupational Health Psychology*, *9*(2), 165-175.

Wager, N., Feldman, G., & Hussey, T. (2003). The effect on ambulatory blood pressure of working under favorably and unfavorably perceived supervisors. *Occupational and Environmental Medicine*, *60*(7), 468-474.

Wellness Council of America (2018). Employee Needs and Interest Survey. Available at: https:// www.welcoa.org/wp/wp-content/ uploads/2014/06/ni_survey.pdf

World Health Organization (1984). Health education in self-care: Possibilities and limitations. Geneva: World Health Organization. Retrieved from http://www.who.int/iris/handle/10665/70092.

Ziguras, C. (2009). *Self-care: Embodiment, personal autonomy, and the shaping of health*. New York: Routledge.

Zohar, D. (2002a). Modifying supervisory practices to improve submit safety: A leadership-based intervention model. *Journal of Applied Psychology*, *87*(1), 156-163.

Appendix 1

List of items used in the scale with their dimensions

Interpersonal/Social

1. I provide opportunities for my staff to discuss their personal or work related problems and concerns with me.
2. I praise my staff for their achievements.
3. I create opportunities for my subordinates to maintain meaningful and fulfilling relationships with co-workers.
4. I spend time with my co- workers.
5. I show concern to my staff in our interactions.
6. I seek to positively influence the people I lead.
7. I provide support for my staff to network.
8. I am aware of events/actions that may lead to conflicts in my organization.
9. I use effective strategies for intervening in conflict resolutions.
10. I settle conflicts with others through discussion and compromise.
11. I seek out cultural guides to help build strong relationship with my staff from different cultures.
12. I focus and cultivate my staff based on their strengths.

Stress Management/ Work life Balance

13. I discourage my staff from working too many hours.
14. I encourage my staff to take breaks throughout the day.
15. I promote collaborative problem-solving techniques.
16. My staff are aware of my compassion towards them.
17. I support my staff taking vacation and sick time when needed.
18. I create a positive environment in my organization.
19. I have a system I use to control stress in our organization.
20. I allow a flexible work schedule.
21. I intentionally assign tasks that are well balanced among my staff.
22. I promote relaxation and leisure activities in my organization.
23. I do my best to prevent overwork among my staff.

Emotional

24. I examine my organizational policies to ensure everyone is treated with respect.
25. In general, I provide feedback, and other support to help my staff feel confident in their abilities to perform daily activities.
26. I frequently meet to listen to my staff.
27. I support my staff to be the best.
28. I inform my staff on decisions that impact them.
29. I create a welcoming environment where everyone feels valued.
30. I create team bonding activities for my staff.
31. I create opportunities for team building activities.

Spiritual

32. I encourage my staff to feel special.
33. I encourage my staff to look beyond now.
34. I celebrate my employee's personal and professional achievements.
35. I help my staff to have a vision beyond what they are currently doing.
36. I encourage my staff to think positively.
37. I help my staff to see a purpose in everything they do.
38. I feel that life at this workplace is fulfilling.
39. I provide opportunities for my staff to volunteer in the local community.
40. I provide resources needed to help my staff uncover their creative potential.
41. It is easy to create a safe place for my staff to discuss and practice their creative ideas within the organization.
42. I promote work outside the organization to support the community.
43. I develop policies and practices that promote diversity and inclusion.
44. I provide opportunities for my staff to engage in spiritual growth activities.
45. I encourage my staff to set future goals.

Intellectual

46. I encourage my staff to seek out activities that challenge them to think and reason.
47. I make sure my staff engage in activities that require them to concentrate.
48. Generally, I provide a good amount of intellectual stimulation in my organization.
49. The amount of information that I provide to my staff in a typical day is just about right.
50. I have generally found intellectual challenges to be vital to our organization overall well-being.
51. There is mental simulation for my staff.
52. I support intellectual growth.
53. I encourage mental simulation through study groups.

Physical

54. I encourage staff to walk, bike, or jog part of or all the journey into work.
55. I allow staff to work flexible hours that can accommodate physical activity.
56. I promote the joining of health programs for staff.
57. I encourage participation in local and national events such as sponsored walks and fun runs.
58. I arrange a team gathering that involves some form of physical activity that most staff would be able to participate in.
59. I encourage the use of stairs by displaying healthy lifestyle posters.
60. I organize a challenge with prizes or incentives that involves physical activity.
61. I provide my staff with information on the benefits of physical activity.

Nutritional

62. I offer healthy food and drink choices at staff functions and meetings.
63. I have established workplace policies that promote and support staff to eat healthily.
64. I promote food labelling on all products in the workplace cafeteria.

65. A garden space is provided for employees to grow fruit and vegetables.
66. I prominently display competitive or subsidized pricing of healthy foods.
67. I develop regular communications on nutrition, for example, a healthy recipe of the week, nutrition tips.
68. I organize for a dietitian to take staff on a food label reading tour at the local supermarket.
69. I make sure my staff are aware of healthy eating campaigns.
70. I provide the right equipment and crockery for people to be able to store and prepare their own food.
71. I provide selection of healthier options, including fruit, cereal bars or lower-calorie alternatives.
72. I have officially stated our company's dedication to promoting healthy eating in the staff handbook.

Occupational

73. I provide jobs that offer security to my staff.
74. I offer good prospects with this current employer.
75. I ensure that my staff feel appreciated in this workplace.
76. I think the wages of my staff are commensurate with the work they do.
77. My staff feel safe at work in contacts with clients/customers.
78. I provide working atmosphere that is consistent with my staff's values.
79. I am able to meet with my staff on a regular basis to discuss their work.
80. I provide work that suits my staff's unique gifts and talents.
81. My staff are usually satisfied about their work.
82. My staff have opportunities to expand their knowledge and experience.
83. I provide sufficient opportunities for my staff to gain further training.

Responsibility

84. I feel responsible for my workplace to demonstrate its commitment to supporting healthy lifestyles.
85. I am responsible for my staff in my workplace to be taught skills needed to achieve a healthy lifestyle.
86. It is my responsibility that my staff are rewarded and recognized for efforts to live a healthy lifestyle.
87. I take responsibility for my staff to have a positive outlook (for example, people enjoy their work, celebrate accomplishments, adopt a "we can do it" attitude and bring out the best in each other).
88. I am responsible in ensuring that my immediate coworkers support one another's efforts to adopt healthier lifestyle practices.
89. I take responsibility that it is normal in my work unit to come to work rested.
90. I am responsible to enlist in ideas or opportunities to expand experiences and knowledge of my staff.

How Do I Lead a PLC?: Developing a PLC Mixed Reality Simulation for Leadership Practice

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Abstract

Simulations are a pedagogical learning tool that supports the preparation of future school leaders for a broad scope of leadership tasks, including instructional leadership. Educational leadership programs are tasked with preparing future leaders to apply effective instructional leadership practices in various types of interactions with teachers, including facilitating and leading teachers within a professional learning community (PLC). Effective facilitation of a PLC requires instructional leadership practices centered on teacher engagement and collaboration. Simulations, as an authentic learning experience, have the potential to support future school leaders' development of skills to lead PLCs. The purpose of this paper is to describe the creation of a newly developed PLC mixed reality experience, including scenario development, piloting, and initial student perceptions of the PLC mixed reality experience in an educational leadership master's program.

Keywords: simulations, instructional leadership, professional learning communities, educational leadership programs

Educational leadership programs are tasked to develop high-quality programs that create future school leaders who are able to advance school outcomes. High-quality programs focus their curriculum and pedagogical practices on the principal's role as an instructional leader to develop future school leaders who have the knowledge, skills, and abilities to be effective (Darling-Hammond et al., 2022; Sutcher et al., 2017; Young, 2015). Impactful instructional leaders are those who collaborate with teachers to develop their expertise (Hattie, 2023) through various types of teacher interactions, including individual and collective interactions, such as a professional learning community. To accomplish this, programs support future school leaders by creating effective powerful learning experiences that allow them to experience authentic problems of practice (Cunningham et al., 2019; Young, 2015) in collaborating with teachers to promote positive student outcomes. A specific feature of high-quality educational leadership preparation programs is the inclusion of role-playing and simulation learning experiences (Darling-Hammond et al., 2022), which present real-world problems of practice.

Problem and Purpose

Although simulations are identified as a high-quality feature, most learning experiences within educational leadership programs are comprised of text readings, in-class work, and internships (Dexter et al., 2022). Therefore, a problem within educational leadership program curricula is a paucity of authentic leadership simulation learning experiences provided to future educational leaders. The literature recommends that educational leadership program faculty should prioritize efforts to revise program pedagogical practices to include simulations, an authentic learning experience, to prepare future instructional leaders (Grissom et al., 2021; Johnson et al., 2021).

With the goal of increasing authentic learning experiences for future school leaders, the purpose of this paper is to detail the process of developing a professional learning community (PLC) mixed reality experience (MRE) simulation within an educational leadership program, piloting of the simulation, and initial student perceptions of the experience. The authors were guided by the following two questions: (a) *what are participants' feedback perceptions of written PLC scenarios created for an MRE simulation*? and (b) *what are participants' feedback perceptions of a PLC MRE simulation experience*?

We begin with salient literature to support the purpose of this paper. We then present the development of the PLC MRE simulation and scenarios, results from two pilots conducted to gather perceptions and feedback on the PLC simulation to improve the learning experience prior to adopting the PLC simulation as part of the authentic learning experiences of the program. We conclude the paper with future directions for PLC MRE simulations and research.

Literature Review

In this brief review of the literature, we start by providing an overview of situated learning theory. Then, we present literature on simulations as a pedagogical tool in educational leadership programs, including a specific discussion on MREs. Additionally, PLCs as a collaboration structure for instructional improvement are discussed. We close the review of the literature with instructional leadership for PLCs.

Situated Learning Theory

Situated learning theory proposes that learning occurs as a part of practice (Arnseth, 2008; Lave & Wenger, 1991). In this conceptualization of learning, Lave and Wenger (1991) argue that an abstract idea can be learned when it is brought to a specific learning situation or practice. In other words, knowledge and understanding of an abstract idea resides within an authentic situation with a social and cultural context (Lave & Wenger, 1991). Engagement with the situation takes place through participation in a given practice and community, while attending to the multiplicity of roles that may exist therein (Lave & Wenger, 1991). As an example, in a study of situated learning in a teacher preparation program, researchers integrated the use of technology for science teaching within courses (Bell et al., 2013). Researchers documented preservice teachers' use of technology, which included modeling of technology use, collaborating on technology use with preservice colleagues, and then later compared it to their technology use during their clinical internship experience. Results indicated that preservice teachers fused technology use into their science teaching (Bell et al., 2013).

Furthermore, situated learning theory has been used to anchor the development of simulations where learners encounter problems of practice. For instance, in a virtual reality simulation designed for nursing students, instructors created an authentic learning environment where learners faced problems of practice that required them to build knowledge, engage problem-solving, and increase engagement in learning (Chang et al., 2024). Researchers compared the learning results of the virtual reality simulation group with those of the traditional instruction group, finding that learners in the situated learning virtual environment demonstrated higher learning achievement than those in the traditional group (Chang et al., 2024).

Simulations in Educational Leadership Preparation

Simulations have been used within educational leadership programs to support the development of future school leaders. Incorporating features that align with powerful learning experiences (Young, 2015; Cunningham et al., 2019), simulations have allowed future school leaders to experience authentic problems of practice where they must make determinations about the core leadership issues, develop confidence within a safe space to use acquired theoretical knowledge, and reflect on their actions using feedback generated through the simulation. Simulations developed for educational leadership programs include: providing feedback to a teacher following a classroom observation, engaging with a parent regarding a student issue, facilitating a professional learning community, and situational leadership decision-making on various components of school operations (Ceballos et al., 2020; Ceballos & Bixler, 2024; Dejong & Grundmeyer, 2018; Gilbert & Voelkel, 2018; Mann et al., 2011; Tucker & Dexter., 2011; Voelkel & Chrispeels, 2017a).

The types of simulations used by educational leadership programs differ with some using technology-based simulations (e.g., mixed reality, immersive computer simulations, digital cases, digital simulations, etc.) and others using non-technology simulations, such as in-person, structured role-play simulations (Ceballos et al., 2020; Ceballos & Bixler, 2024; Dejong & Grundmeyer, 2018; Dexter et al., 2020; Dexter et al., 2022; Mann et al., 2011; Staub & Bravender, 2014). Simulation research findings on student perceptions of the simulations

emphasized leadership development in the areas of decision-making, problem-solving, active listening, critical thinking, generative thinking, understanding varying viewpoints, self-efficacy, and confidence (Ceballos et al., 2020; Ceballos & Bixler, 2024; Dejong & Grundmeyer, 2018; Dexter et al., 2022; Piro & Callaghan, 2021).

Mixed Reality Experiences

Mixed reality experiences (MRE) are a type of simulation experience where the use of improvisational actors is combined with technology to provide authentic learning experiences (Dieker et al., 2008; Dieker et al., 2012, Hughes, 2014). Within the MRE environment, students interact with an onscreen avatar controlled by an improvisational actor who responds to students in real-time. In educational leadership preparation, MREs have been used for students to practice providing feedback to a teacher following a classroom observation and to practice difficult conversations with parents (Ceballos et al., 2020; Ceballos & Bixler, 2024). Because the avatar responds instantly to students as the scenario unfolds, it allows students to practice on-the-spot thinking, leading difficult conversations, and facilitating teachers' thinking in an authentic setting (Ceballos & Bixler, 2024). As a type of simulation experience, the addition of MREs that place students in various types of leadership situations may enhance future educational leaders' learning within educational leadership preparation programs.

Professional Learning Communities and Instructional Improvement

Professional learning communities create collaborative spaces where teachers examine instructional practices to improve instruction and advance student achievement (Vescio et al., 2008; Stoll et al., 2006). Effective PLCs contribute to teacher development in a variety of ways, including opening up practice, creating shared vision and goals for student learning, enhanced reflection, increased teacher collective efficacy, and teacher professional learning (Admiraal et al., 2021; Dufour et al., 2021; King et al., 2023; Tam, 2015; Voelkel & Chrispeels, 2017a). As PLCs engage in collaborative goal setting that clearly monitors progress toward goal attainment, teacher change ensues, leading to improved student outcomes (Dufour et al., 2021; Tam, 2015; Voelkel & Chrispeels, 2017a). Growth in these areas has the potential to result in increased pedagogical experience, authentic classroom implementation of research-based practices, and overall educational improvement and change (Qiao et al., 2018). Within a PLC, teachers can increase both disciplinary and pedagogical content knowledge, which lead to improvements in classroom instruction (Dogan et al., 2016). Moreover, PLCs focusing on student achievement results can lead to improved student outcomes (Dufour et al., 2021; Muñoz & Branham, 2016; Voelkel & Chrispeels, 2017a).

Instructional Leadership for PLCs

As school leaders engage with PLCs, collaborative leadership practices support the work of PLCs in relation to student learning (Burns et al., 2018). DuFour (2006) emphasized the principal's most significant impact on developing the faculty involved in providing the proper context for adult learning. Leaders "create the conditions that help the adults in a building continually improve upon their collective capacity to ensure all students acquire the knowledge, skills, and dispositions essential to their success." (Dufour et al., 2021, p.178). To support the creation of these conditions, school leaders' actions can be classified into three categories: setting high

expectations, developing the knowledge and skills of teachers, and providing needed resources (Buttram & Farley-Ripple, 2016). Other ways principals focus their leadership actions to support PLCs include: structural conditions that promote learning collaboratively, cultural conditions that keep the work focused on instruction and student learning, and relational conditions which focus on "building harmonious relationships and team spirit" (Haiyan & Allan, 2021, p. 594).

Transformational leadership practices such as establishing a shared vision and shared decision-making embed the tenets of PLCs into high-performing teams and the culture of the school (Voelkel & Chrispeels, 2017b; Turner et al., 2018; Poekert et al., 2022). Teachers who are a part of high performing PLCs believe in a shared vision (Voelkel & Chrispeels, 2017b). An essential precursor to shared decision making is the need for school leaders to foster relationships based upon trust (Plank et al., 2024). Elements such as teacher collaboration, psychological safety, and internal accountability contribute to teachers' trust in one another and the culture they create as a PLC (Gaspar, 2021;Weiner & Higgins, 2016).

Developing the Professional Learning Community Mixed Reality Experience

To develop the PLC MRE, we began by using the teacher observation conference MRE used in the master's educational leadership program as a model (Ceballos et al., 2020; Ceballos & Bixler, 2024). Through the teacher post-observation conference MRE, students engage in authentic practice with a teacher avatar who is controlled by a human interactor in real time. Following the MRE interaction, students are provided with feedback and coaching from the

Figure 1

Professional Learning Community Mixed Reality Simulation Environment



Image courtesy of Eric Imperiale

Note. The figure presents the professional learning community mixed reality environment as a participant would see the environment. From left to right around the conference table: Mr. Wallace, Ms. Rodriguez, and Ms. Hines.

instructor, the MRE coach, and peers present in the experience. Research studies on the teacher post-observation conference MRE simulation demonstrated that students perceived the MRE as contributing to developing their overall confidence in a post-observation conference and instructional coaching conversation skills (Ceballos et al., 2020; Ceballos & Bixler, 2024).

Next, we collaborated with the University of Central Florida's Center for Research in Education Simulation Technology (CREST) to determine the technology needs for the PLC MRE. During the meeting, we determined the PLC environment would be a conference room with three adult avatars, representing teachers within a PLC. Simulation participants would interact individually with a group of avatars for the experience, which differed from other PLC simulation experiences where a group of participants interacted with one avatar (see Gilbert et al., 2018; Johnson & Voelkel, 2021). The three adult avatars include Ms. Hines, an African American female teacher; Ms. Rodriguez, a Hispanic female teacher; and Mr. Wallace, a White male teacher. We agreed upon three adult avatars because it represented the average number of teachers in a small- to medium-sized school and three avatars allow students to practice interactions with multiple teachers at once. Figure 1 presents an image of the PLC MRE simulation environment.

Creating the Professional Learning Community Mixed Reality Scenarios

Following the collaborative meeting with CREST, we developed the PLC scenarios using the Teach SIM Scenario process template (Benishek et al., 2015) and research on principals and PLCs. The Teach SIM has seven major components to consider when developing a simulation, including: (a) scenario overview; (b) learners; (c) learning objectives, (d) scenario context, (e) knowledge, skills, and abilities, (f) scenario development (i.e., content), and (g) ancillary information (Benishek et al., 2015). We used the six characteristics of a PLC outlined by Glickman and colleagues (2024) and further informed by DuFour et al. (2021) to design the learning objectives and knowledge, skills, and abilities required from students. The six PLC characteristics included: (1) shared beliefs, values, and norms; (2) distributed, supportive leadership; (3) collective learning; (4) deprivatization of teaching; (5) focus on student learning; and (6) collaboration (Glickman et al., 2024, pp. 443-444). Moreover, we used research on the principal's role in establishing the purpose of a PLC (Turner et al., 2018), the PLC as a professional learning cycle (Stoll et al., 2017), and guiding the direction and quality of PLC discussions (Hairon et al., 2019). The scenario context was developed using our knowledge of the local school districts' social and cultural context in terms of student academic needs and PLC structures (Lave & Wenger, 1991). For each scenario, we developed *instructional notes* and *relational notes* that undergird the learning objectives and knowledge, skills, and abilities. The instructional notes provide the learning objectives of the teacher collaboration participants will facilitate. Relational notes provide background information on PLC members to provide context on their individual perspectives. In the section that follows, we provide a summary of each scenario, the PLC characteristic foci for each, and a sample scenario.

The Scenarios

For the MRE simulation experience, we developed four separate PLC scenarios each focused on one or two PLC characteristics as identified by Dufour et al. (2021) and Glickman et al. (2024).

Table 1

PLC MRE Scenarios, Characteristics, and Learning Objectives

PLC MRE Scenario Context	PLC Characteristic(s)	Student Simulation Learning Objectives
Scenario 1 Using formative assessment to assess student progress and differentiate instruction	Focus on student learning	Identify student work samples to be used for formative assessment; analyze current formative assessment tools in use that could be enhanced; establish feedback loops through formative assessment tools to measure progress and differentiate instruction.
Scenario 2 Deprivatize classroom practice to improve implementation of small group instruction	Deprivatization of teaching	Determine PLC's current understanding of small group instruction components; determine small group instruction components present across all classrooms and those that may be missing; facilitate a conversation where PLC agrees to engage in peer observation and/or co-teaching for small group instruction.
Scenario 3 Distribute leadership and engage in collective learning with PLC leaders to implement a new curriculum	Distributed supported leadership & Collective learning	Support teachers in reaching a consensus to implement the new science curriculum; collaborate on professional learning and support structures needed with the PLC leaders; establish the collaboration structure between the PLC leaders and the principal and PLC leaders and grade level teams.
Scenario 4 Uncover and discuss shared beliefs and collaborate to support a student subgroup (i.e., English learners)	Shared beliefs, values, and norms & Collaboration	Facilitate brainstorming on the EL instructional strategies appropriate for a world history classroom. Select an EL instructional strategy as a starting point to support ELs and discuss how to incorporate it into classroom instruction. Determine the support structure needed for the selected EL strategy–materials, coaching, planning time, or other support.

Note. Scenario context, PLC characteristic focus, and simulation learning objectives

The scenarios developed included two in an elementary school context and two in a secondary school context. Furthermore, each scenario focuses on an instructional leadership task such as using formative assessments, implementing instructional strategies, and planning for a new

curriculum. Scenario 1 was designed to have two participants interact with the PLC avatars, while scenarios 2 through 4 were designed for a single participant to interact with the PLC avatars. Each scenario also stated the leadership role of assistant principal or principal, or in the case of scenario 1, an assistant principal and instructional coach. Table 1 presents the PLC MRE scenarios, school level, PLC characteristics, and student simulation objectives.

Methods

The purpose of this analysis was to collect participants' descriptive feedback on the written PLC scenarios and perceptions of the experience. To conduct the present analysis, we employed a survey design (Creswell & Creswell, 2018) to gather participants' feedback on the PLC MRE experience pilots conducted to refine the simulation experience as a leadership learning activity. Through the survey design, we sought to answer two questions: (a) *what are participants' feedback perceptions of written PLC scenarios created for an MRE simulation*? and (b) *what are participants' feedback perceptions of a PLC MRE simulation experience*? To answer these questions, we engaged in two pilot PLC MRE sessions via Zoom.

Pilot Samples: School Administrators and Master's Students

For the first pilot, *school administrator pilot*, we invited educational leadership experts which included two school leaders, a practicing principal and assistant principal, and an educational leadership faculty member, also a former principal, to pilot each of the scenarios in the PLC MRE. Both school leaders were graduates of the Ed.D. Educational Leadership program and represented the two largest school districts in the geographic region of the university. Additionally, the educational leadership faculty member was one of the authors of this paper.

The faculty member did not participate in the creation of the scenario or the initial meeting with CREST. This was done purposely to leverage the MRE expertise of that author who had deep familiarity with the MRE simulations during the pilot.

The second pilot, the *student pilot*, was completed with a group of 19 master's level students. The students who participated in the pilot were enrolled in the first of a series of two instructional leadership courses offered in the master-level educational leadership program. The purpose of the first instructional leadership course is to facilitate students' analysis of effective supervisory behavior and skill sets leaders need to supervise teachers effectively.

Survey Feedback Instrument

Survey research was utilized in this study as this methodology was best to answer the questions regarding participants' feedback on the MRE scenarios and their perceptions of their MRE experiences (Berends, 2006; Creswell & Creswell, 2018). To gather feedback from both pilot sessions to inform the development of the simulation experience, we created a feedback survey, *Professional Learning Communities Mixed Reality Scenario Feedback Questionnaire*. We used Dillman et al.'s (2009) tailored design method to inform the creation of the survey. The purpose of the questionnaire was to gather educational leadership experts' and students' feedback to revise the PLC MRE to ensure an effective learning experience. The feedback questionnaire had three sections and consisted of 19 items. The first section was comprised of 10 Likert-scaled items on a four-point scale (4 = *strongly agree*, 3 = *agree*, 2 = *disagree*, and 1=

strongly disagree). The purpose section one was to collect respondents' perceptual data on the written PLC scenarios and the ability to experience the six PLC characteristics. To develop these items, we drew from the Teach SIM Scenario process template (Benishek et al., 2015) and research on PLC characteristics (DuFour et al., 2021; Glickman et al., 2024; Hairon et al., 2019; Stoll et al., 2017; Turner et al., 2018) as identified in Tables 2 and 3. Respondents' level of agreement reflected their perceptions of the quality of written PLC scenarios and the extent to which the PLC MRE allowed them to experience PLC characteristics. Descriptive analysis consisting of means and standard deviations were calculated for the Likert-scaled items.

The second section of the feedback questionnaire consisted of five open-ended responses to gather additional feedback perceptions regarding the written scenarios and the simulation (Lathlean & Denicolo, 2022). To analyze the open-ended survey questions, responses were coded for themes using the constant comparative method (Glaser, 1965).

Lastly, section three was composed of four items to collect information related to students' professional characteristics and prior experience with PLC. In the sections that follow, we present the feedback from both pilots. The questionnaire was given at the conclusion of each pilot session. An example PLC MRE scenario is presented below.

Scenario: Deprivatization of Teaching, Role: Assistant Principal, Elementary School

> *For the current school year, your principal and the administrative team decided to focus on small group instruction. During pre-planning, you and your principal collaborated with the local university to provide professional learning on small group instruction to your staff prior to the start of the school year. As you expected, there were teachers who were very enthusiastic about implementing small group instruction, while other teachers seemed open to the idea but were hesitant to try it in their classrooms.*
>
> *As you visited classrooms during the first nine weeks of school, you noticed that there were teachers who were fully implementing small group instruction as modeled during the pre-planning professional learning session. However, there were other teachers who were incorporating components of small group instruction but not the entire model. You noticed this pattern was most prevalent in Grade 2 classrooms. Of the three teachers you observed, Ms. Rodriguez had the most expertise in implementing small group instruction, while Ms. Hines, the PLC leader, had components in place but needed a bit more for the full model. You attended Grade 2 PLC meetings in the past few weeks and know firsthand that small group instruction was discussed frequently, using data to inform group composition. Although the instructional conversations regarding small group instructions are robust within the PLC, Ms. Hines and Mr. Wallace would benefit from opportunities to observe Ms. Rodriguez conduct small group instruction and to co-teach a small group instruction lesson. Both Ms. Hines and Mr. Wallace are focusing on explicit teaching of skills and hands-on activities but are missing other elements.*
>
> *While this PLC group has been highly effective, they have yet to watch each other teach and/or co-teach a lesson. Your principal has allocated funding for you to provide the Grade 2 team with release time to observe one another and to co-teach. You decide to join the Grade 2 team at their next PLC meeting to discuss classroom observations and*

co-teaching. As you prepare for the meeting, you think about how you will present the opportunity to the Grade 2 team.

Instructional Notes

- *Grade 2 PLC will need to be able to discuss the components of small group instruction, including: explicit teaching of skills, opportunities for practice, hands-on-activities, one-on-one feedback, and differentiation.*
- *Grade 2 teachers will need to think about what is currently being implemented in all classrooms and what still needs to be worked on. In this case, all small group instruction is focused on explicit teaching of skills and hands-on activities. However, one-on-one feedback and further differentiation is an area to improve upon. Ms. Rodriguez does this already, but the other teachers do not.*
- *Once they determine what is needed, Grade 2 teachers will need to agree on a peer observation schedule and a co-teaching schedule. Further, Grade 2 teachers will need opportunities to discuss lessons learned and how to move forward.*

Relational Notes

- *All teachers in the PLC are committed to implementing small group instruction and understand that it is a way to improve student achievement.*
- *Ms. Rodriguez is shy and hesitant to open up her classroom practice.*
- *Ms. Hines has experience in co-teaching, which she did a few years earlier. She is open to the idea but would like to make sure that the lesson is explicitly designed to build their capacities.*
- *Mr. Wallace does not really care either way. He perceives peer observations and co-teaching to be one more thing to add to his busy schedule. He would much rather just talk about what they are doing than take instructional time away from his students to observe his peers.*

Pilots and Feedback Results

In this section, we begin by presenting the feedback results from the school administrator pilot. Then, we present the feedback results from the student pilot. Student feedback results include descriptive statistics on the scenario and simulation experience perceptions. Furthermore, student themes from the open-ended items are presented in the results section.

School Administrator Pilot: The Educational Leadership Expert Pilot and Feedback

The purpose of the school administrator pilot was to gather feedback from two practicing school leaders and the educational leadership faculty member, a former principal, to ensure the scenarios and the avatars' simulation responses represented PLCs in schools. The school administrator pilot was held in the semester preceding the student pilot. The school administrator pilot session lasted two hours. During the session, each scenario was completed three times to refine them and to clarify avatar responses to align with the learning objectives and knowledge, skills, and abilities outlined in the instructional and relational notes. Following

the completion of the school administrator pilot, participants were asked to provide feedback using the feedback questionnaire survey.

Feedback Results: School Administrator Pilot Participant Feedback Perceptions

Two of the school administrator participants responded to the feedback questionnaire. Due to the low response rate, only the open-ended responses are included here. Feedback provided from the school administrator pilot indicated that scenarios were relevant to instructional situations in schools. Further, school administrators indicated that the avatar responses were appropriately challenging and would be beneficial for novice school leaders. In terms of recommendations for improvement, school administrators indicated having one student interact with multiple avatars was an effective way to structure the simulation experience. Other recommendations from school administrator participants included adjusting the challenge level of pushback from the avatars based on students' years of professional experience, adding more personality to each avatar, ensuring each avatar participated in the discussion, and not providing the instructional notes so students would practice setting goals based on the information provided in the scenario narrative. Following the school administrator pilot, we made final revisions to the scenarios and simulation and prepared for the student pilot.

Student Pilot: Master's Students Pilot and Feedback

A total of 19 masters-level students participated in the PLC MRE student pilot as part of the Instructional Supervision I course. One week prior to the student pilot, students were assigned a PLC scenario during class, which included the scenario and relational notes. Based on the feedback from the school administrator pilot, students were not provided the instructional notes so they could engage in planning based on the information provided in the scenario narrative. The instructor reviewed the goal of each scenario and described what students could expect during the PLC MRE. Students were then placed in small groups with other students who had been assigned the same scenario to collaborate on scenario analysis and goal setting.

The day of the PLC MRE simulation, students joined the simulation in groups of four on Zoom. Two of the authors of this paper were present in Zoom with the students. Each student was given 10 minutes to interact with the PLC MRE avatars. Immediately following each interaction, students were provided with feedback on their performance from the authors and their peers. After the student pilot sessions, students were asked to complete the feedback questionnaire survey to provide overall feedback on the experience. Seventeen students responded to the feedback questionnaire. Of those who responded, 82% were in instructional positions and 18% were in other roles in a school (e.g., dean, guidance counselor, etc.). As part of the survey, pilot participants were asked about their prior experience with PLCs. The majority (76%) of pilot participants indicated participating in a PLC once a week at their schools, while over half (53%) indicated having prior experience leading a PLC.

Feedback Results: Student Pilot Participant Perceptions

Student participants were asked to provide feedback by indicating their level of agreement from *strongly agree* (4) to *strongly disagree* (1) regarding their perceptions of the PLC MRE scenarios. Overall, student feedback indicated overall positive perceptions of the written

Table 2

Student Perceptions of PLC MRE Scenarios

Questionnaire Item	*M*	*SD*
The scenario provided background information on each of the PLC members.	3.76	0.44
The scenario provided direction on the goal of the PLC interaction.	3.59	0.80
The scenario had information on the instructional strategy and/or practice that was the focus for the PLC.	3.41	1.00

Note. *N* = 17. Items on the questionnaire were on a Likert scale where: 4 = *strongly agree*, 3 = *agree*, 2 = *disagree*, and 1= *strongly disagree*.

Table 3

Student Perceptions of PLC MRE Simulation Experience

Questionnaire Item	*M*	*SD*
The TeachLivE PLC experience helped me to practice facilitating a shared objective of the PLC.	3.82	0.53
The TeachLivE PLC experience helped me to practice facilitating a PLC for the intended purpose of the scenario.	3.71	0.47
The TeachLivE PLC experience helped me to experience a range of possible teacher responses during a PLC meeting.	3.65	0.61
The TeachLivE PLC experience helped me to practice building relationships with members of a PLC.	3.53	0.62
The TeachLivE PLC experience helped me to practice shared ownership of decisions with PLC members.	3.53	0.72
The TeachLivE PLC experience helped me to practice facilitating the quality of the conversations within the PLC.	3.53	0.72
The TeachLivE PLC experience helped me to practice setting and/or facilitating next steps for the PLC.	3.35	0.61

Note. *N* = 17. Items on the questionnaire were on a Likert scale where: 4 = *strongly agree*, 3 = *agree*, 2 = *disagree*, and 1= *strongly disagree*.

scenarios and PLC MRE simulation experience. Students held a higher level of agreement that the scenarios provided background information on the PLC members (*M* = 3.76; *SD* = 0.44) and

a slightly lower level of agreement that the scenario had information on the instructional strategy and/or practice that was the focus for the PLC (*M* = 3.41; *SD* = 1.00). Table 2 presents means and standard deviations for pilot participant perceptions of the scenarios.

Likewise, student participants were asked to provide feedback by indicating their level of agreement from *strongly agree* (4) to *strongly disagree* (1) regarding their perceptions of the PLC MRE simulation experience. Student feedback on the PLC MRE simulation experience also indicated high levels of agreement with PLC components of the simulation. Student participants held a high level of perception that the simulation had helped them to practice facilitating a shared PLC objective (*M* = 3.82; *SD* = 0.53) and facilitating the intended purpose (i.e., knowledge, skills, and abilities) of the scenario (*M* = 3.71; *SD* = 0.47). Student participants held slightly lower perceptions of the simulation helping them to practice facilitating quality conversations with the PLC (*M* = 3.53; *SD* = 0.72) and next steps for the PLC (*M* = 3.35; *SD* = 0.61). Table 3 presents means and standard deviations for student participant perceptions of the PLC MRE simulation experience.

Open-Ended Feedback Themes. In addition to gathering feedback through the Likert-scaled items, we also included five open-ended items to gather qualitative feedback from participants regarding the written scenarios, the MRE simulation, and any additional feedback they wanted to share. For both the scenarios and the mixed -reality simulations, we asked student participants to provide feedback about what they liked best and how the scenario or simulation could be improved. The final item asked student participants to provide any additional feedback that would improve the effectiveness of the PLC MRE simulation for future school leaders in the educational leadership program.

Scenario Themes. There were two overarching themes that arose from the open-ended responses regarding the scenarios: the *relational notes* (58.82%) and *relatability of the scenarios* (35.29%). Over half of students expressed that the *relational notes* were appreciated by students because they provided information about the relationship dynamic within the group. This, in turn, allowed participants to select relational engagement strategies to implement based on their understanding of each individual. For instance, one participant noted:

> *The written scenario was clear. I knew the goal of the PLC. The relational notes were a nice addition as we prepared for the PLC and helped prepare for some of the resistance we may encounter.*

In addition to the relational notes, students also noted that the written scenarios were *relatable*. In short, participants indicated that the scenarios reflected the true-to-life discussions teachers have within PLCs. One participant wrote:

> *I believe the scenario reflects a real case that I can face in my school. This gives [me] an opportunity to practice my skills and techniques [on] how [to] inform my staff and get them engaged to accomplish what is best for students.*

Students also provided suggestions for improvement which included more details on PLC members, including past interactions with individual teachers, and more information on the instructional strategies outlined in the scenario. Although some students requested more

information on the teaching strategies, others expressed they *"liked not having everything spelled out and having to do a little research into the [instructional] strategies made me more invested in the scene."*

Simulation Themes. There were three overarching themes regarding what students liked best about the simulation included *challenges from the avatars stimulating thinking* (23.53%), *feedback and a safe space* (35.29%), and *practice to lead a PLC* (41.18%). Students noted that the simulation challenged them to think beyond their understanding and school role. Further, students expressed that the challenges from the avatars required them to use their existing *toolbox* of skills. For example, one participant wrote:

> *I liked that the characters worked to push the limitations of your understanding and role. It really prepared me for the sort of behaviors that could be exhibited [by] my members of a PLC.*

Students further noted the simulation provided them with *feedback and a safe space*. They indicated that the simulation allowed them to practice in a safe space where feedback was provided to make *small improvements* to prepare for future real-world PLC interactions. One student noted:

> *It was good to have a safe space to practice running a meeting. The feedback at the end was helpful as it was positive but gave us guidance on how we can make small improvements toward being able to reach our goal of the meeting.*

Moreover, practice to lead a PLC was also noted by students. Some students indicated that this was their first time leading a PLC. Others noted that the practice was authentic and provided them with an opportunity to *"test [their] supervisory skills."* Lastly, students also provided feedback on how to improve the simulation. Participants expressed having more time to interact with the avatars and providing a structure on how to allot the time within the PLC. Specifically, students requested a *"breakdown of time (example: 1st 4 min greet and get background, 2 min to address the goal, 2 min to discuss, 2 min for looking forward) to help focus the meeting."*

Other Feedback to Improve the PLC Simulation. Students were asked to provide additional comments to improve the PLC MRE simulation. Students expressed that the simulation was good practice for the future with support provided through faculty feedback. Others noted that the simulation was a *"true learning experience."* As one participant expressed, *"It was an engaging way to put students in the hot seat [,] while still directing and supporting them."*

Discussion and Future Research Directions

The purpose of this paper was to describe the creation of a PLC MRE and to present the feedback gathered during pilot sessions to revise and improve the experience. The process outlined here may be beneficial to other educational leadership program faculty as they design and implement simulations predicated on situated learning (Arnseth, 2008; Chang et al., 2024: Lave & Wenger, 1999) as part of students' learning activities to strengthen educational leadership preparation. Simulations provide authentic learning experiences for future school

leaders and should be integrated regularly into the pedagogical practices of educational leadership preparation programs (Darling-Hammond et al., 2022; Dexter et al., 2022; Grissom et al., 2021; Johnson et al., 2021; Young, 2015). As programs seek to include simulations as part of the learning activities, piloting the simulations with educational leadership experts and students, and soliciting their feedback ensures that simulations address the learning needs of future students. Based on the feedback gathered during the two pilots, the PLC MRE learning activity was refined and will be included as part of the learning activities in the program. Feedback gathered during the school administrator and student pilots demonstrated positive perceptions of the written scenarios and the simulation experience in advancing knowledge, skills, and abilities to lead a PLC. Student participants also indicated that the relational notes were beneficial in helping them to leverage relational information to build connections with the avatars during the simulation.

Additionally, participants provided feedback to improve the simulation experience. First, school administrators suggested differentiated support based on a participant's previous experience and/or leadership with PLCs. Though the simulation was originally designed for participants to set their own goals and plan for goal attainment based on the written information, in some cases providing scaffolding on how to reach those goals could enhance the learning experience for PLC novices. Scaffolding could include provision of the instructional notes to PLC novices to help them prepare for the simulation, while allowing more experienced students to set their own goals based on the written scenario. Secondly, student participants recommended increasing personal connections with PLC members by providing avatars with a first name. This would allow participants to address an avatar as *"Stacey"* rather than *"Ms. Rodriguez"* during a PLC meeting, replicating the real-life relationship a PLC leader has with teachers in a school setting. Lastly, participants who completed Scenario 1, which was written to have two students co-facilitate a PLC, stated that having two students interacting in the simulation limited the amount of interaction time each student had. These changes will be incorporated into the PLC MRE with subsequent students.

Based on the feedback gathered during the school administrator and student pilots, simulations like the PLC MRE may support future school leaders' development of instructional leadership skills. Therefore, it may prove beneficial for educational leadership programs to consider the addition of simulation learning activities to their curriculum to prepare future school leaders. While the PLC simulation developed and described here leveraged the use of mixed reality technology, educational leadership faculty may use role-playing learning activities, which have also been demonstrated to be effective, to conduct simulations (Darling-Hammond et al., 2022). As with the process developed here, educational leadership faculty could follow the Teach SIM Scenario (Benishek et al., 2015) to develop the role-playing simulation experiences. Furthermore, educational leadership faculty could collaborate with local school leaders to develop scenarios relevant to local school contexts. For the role-playing simulation experience, faculty could implement a role-play structure where students practice leading a PLC. Members of the PLC could be role-played by peers or by local school leaders who have been prepared to participate in the role-playing simulation (see Ceballos et al., 2022 for an example of how to structure the role-playing simulation).

The addition of simulations within educational leadership preparation should be prioritized to prepare effective instructional leaders who are able to lead teachers individually or collectively (Grissom et al., 2021; Johnson et al., 2021). As educational leadership programs incorporate simulations, whether through the MRE technology described here, other simulations, or in-person role-plays, more needs to be investigated about the contributions of simulations to student learning. Future research directions for the PLC MRE (and other simulations) could include gathering data on student perceptions of preparedness to lead a PLC before and after the PLC MRE and student perceptions of performance in leading a PLC collected after completing the first required field-based clinical experience (i.e., internship).

References

Admiraal, W., Schenke, W., De Jong, L., Emmelot, Y., & Sligte, H. (2021). Schools as professional learning communities: what can schools do to support professional development of their teachers?. *Professional development in education*, *47*(4), 684-698. https://doi.org/10.1080/19415257.2019.1665573

Arnseth, H. C. (2008). Activity theory and situated learning theory: contrasting views of educational practice. *Pedagogy, Culture & Society*, *16*(3), 289-302. https://doi.org/10.1080/14681360802346663

Bell, R. L., Maeng, J. L., & Binns, I. C. (2013). Learning in context: Technology integration in a teacher preparation program informed by situated learning theory. *Journal of Research in Science Teaching*, *50*(3), 348-379.

Benishek, L. E., Lazzara, E. H., Gaught, W. L., Arcaro, L. L., Okuda, Y., & Salas, E. (2015). The Template of Events for Applied and Critical Healthcare Simulation (TEACH Sim): A tool for systematic simulation scenario design. *Simulation in Healthcare*, *10*(1), 21-30.

Berends, M., Elmore, P. B., Skukauskaiti, A., Green, J. L., Camilli, G., & Grace, E. (2006). Survey methods in educational research. In *Handbook of complementary methods in education research* (3rd ed., pp. 623–640). Lawrence Erlbaum Associates. https://doi.org/10.4324/9780203874769-39

Burns, M. K., Naughton, M. R., Preast, J. L., Wang, Z., Gordon, R. L., Robb, V., & Smith, M. L. (2018). Factors of professional learning community implementation and effect on student achievement. *Journal of Educational and Psychological Consultation*, *28*(4), 394-412. https://doi.org/10.1080/10474412.2017.1385396

Buttram, J. L., & Farley-Ripple, E. N. (2016). The role of principals in professional learning communities. *Leadership and Policy in Schools*, *15*(2), 192-220. https://doi.org/10.1080/15700763.2015.1039136

Ceballos, M., Buckridge H., & Taylor, R. T. (2020). Educational leadership students and mixed reality experiences: Building student confidence to communicate with parents and teachers. *International Journal of Educational Leadership Preparation, 15*(1), 58-71. https://files.eric.ed.gov/fulltext/EJ1254648.pdf

Ceballos, M., Bixler, K., & Gaspar, M. (2022). Mentor preparation for instructional coaching: The 360-degree feedback exercise structure. *Australian Educational Leader*, *44*(4), 40-43.

Ceballos, M., & Bixler, K. (2024). Advancing Instructional Leadership: Instructional Coaching Skills Development through Mixed Reality Experiences. *Journal of educational supervision*, *7*(1), 45-65. https://files.eric.ed.gov/fulltext/EJ1423233.pdf

Chang, C. Y., Panjaburee, P., & Chang, S. C. (2024). Effects of integrating maternity VR-based situated learning into professional training on students' learning performances. *Interactive Learning Environments*, *32*(5), 2121-2135.

Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, quantitative, mixed methods approaches* (5th ed.). Sage.

Cunningham, K. M., VanGronigen, B. A., Tucker, P. D., & Young, M. D. (2019). Using powerful learning experiences to prepare school leaders. *Journal of Research on Leadership Education*, *14*(1), 74-97. https://doi.org/10.1177%2F1942775118819672

Darling-Hammond, L., Wechsler, M. E., Levin, S., Leung-Gagné, M., & Tozer, S. (2022). *Developing effective principals: What kind of learning matters?* Learning Policy Institute. https://doi.org/10.54300/641.201

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2009). *Internet, mail, and mixed-mode surveys: The tailored design method* (3rd ed.). John Wiley & Sons, Inc. https://doi.org/10.1080/10494820.2022.2141263

Dieker, L., Hynes, M., Hughes, C., & Smith, E. (2008). Implications of mixed reality and simulation technologies on special education and teacher preparation. *Focus on Exceptional Children, 40*(6), 1-20.

Dieker, L., Grillo, K., & Ramlakhan, N. (2012). The use of virtual and simulated teaching and learning environments: Inviting gifted students into science, technology, engineering, and mathematics careers (STEM) through summer partnerships. *Gifted Education International, 28*(1), 96-106. https://doi.org/10.1177/0261429411427647

DeJong, D., & Grundmeyer, T. (2018). Educational Leadership Simulations: Learning Lessons from behind the Curtain of Educational Leadership. *International Journal of Educational Leadership Preparation*, *13*(1), 189-200.

Dexter, S., Clement, D., Moraguez, D., & Watson, G. S. (2020). (Inter) Active learning tools and pedagogical strategies in educational leadership preparation. *Journal of Research on Leadership Education*, *15*(3), 173-191. https://doi.org/10.1177/194277512093629999

Dexter, S., Moraguez, D., & Clement, D. (2022). Pedagogical gaps in the bridge from classroom to field for pre-service principal competence development. *Journal of Educational Administration*, *60*(5), 473-492. https://doi.org/10.1108/JEA-07-2021-0141

Dogan, S., Pringle, R., & Mesa, J. (2016). The impacts of professional learning communities on science teachers' knowledge, practice and student learning: A review. *Professional development in education*, *42*(4), 569-588. https://doi.org/10.1080/19415257.2015.1065899

Dufour, R. (2006). Collaboration is the key to unlocking potential. The Learning Principal,2(3), 5-7. Retrieved from www.nsdc.ORG

DuFour, R., DuFour, R. B., Eaker, R. E., Mattos, M. A., & Muhammad, A. (2021). *Revisiting professional learning communities at work: Proven insights for sustained, substantive school improvement*. Solution Tree Press.

Gaspar, M. (2021). Influencing Organizational Culture: A Distributed Leadership Approach to Professional Learning. *Journal of Leadership, Accountability & Ethics*, *18*(5). https://doi.org/10.33423/jlae.v18i5.4742

Gilbert, K. A., Voelkel, R. H., & Johnson, C. W. (2018). Increasing self-efficacy through immersive simulations: Leading professional learning communities. Journal of Leadership Education, 17(4), 72-92. https://doi.org/10.12806/V17/I3/R9

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social Problems (Berkeley, Calif.)*, *12*(4), 436–445. https://doi.org/10.1525/sp.1965.12.4.03a00070

Glickman, C. D., Gordon, S. P., Ross-Gordon, J. M., & Solis, R. D. (2024). *SuperVision and instructional leadership: A developmental approach* (11th ed.). Pearson.

Grissom, J. A., Egalite, A. J., & Lindsay, C. A. (2021). *How principals affect students and schools: A systematic synthesis of two decades of research*. The Wallace Foundation. http://www.wallacefoundation.org/principalsynthesis

Hairon, S., Chua, C. S., & Abbas, D. (2019). Professional learning communities. *School leadership and educational change in Singapore*, 107-122.

Haiyan, Q., & Allan, W. (2021). Creating conditions for professional learning communities (PLCs) in schools in China: the role of school principals. *Professional development in education*, *47*(4), 586-598. https://doi.org/10.1080/19415257.2020.1770839

Hattie, J. (2023). *Visible learning: The sequel: A synthesis of over 2,100 meta-analyses relating to achievement*. Routledge.

Hughes, C. (2014*). Human surrogates: Remote presence for collaboration and education in smart cities.* Proceedings of the 1st EMASC, Conference, Orlando, Florida, USA, 1-2. https://doi.org/10.1145/2661704.2661712

Johnson, A. D., Clegorne, N., Croft, S. J., & Ford, A. Y. (2021). The professional learning needs of school principals. *Journal of Research on Leadership Education*, *16*(4), 305-338. https://doi.org/10.1177/1942775120933933

Johnson, C. W., & Voelkel, R. H. (2021). Developing increased leader capacity to support effective professional learning community teams. *International Journal of Leadership in Education*, *24*(3), 313-332. https://doi.org/10.1080/13603124.2019.1600039

King, F., Poekert, P., & Pierre, T. (2023). A pragmatic meta-model to navigate complexity in teachers' professional learning. *Professional Development in Education*, *49*(6), 958-977. https://doi.org/10.1080/19415257.2023.2248478

Lathlean, J., & Denicolo, P., (2022). Research skills: Collecting, analyzing, and interpreting qualitative data. In SAGE Skills: Student Success. SAGE Publications, Inc., https://doi.org/10.4135/9781071885628

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.

Mann, D., Reardon, R. M., Becker, J. D., Shakeshaft, C., & Bacon, N. (2011). Immersive, interactive web-enabled computer simulation as a trigger for learning: The next generation of problem-based learning in educational leadership. *Journal of Research on Leadership Education, 6*(5), 272-287. https://doi.org/10.1177/194277511100600511

Muñoz, M. A., & Branham, K. E. (2016). Professional learning communities focusing on results and data-use to improve student learning: The right implementation matters. *Planning and Changing*, *47*(1/2), 37.Ro

Piro, J. S., & O'Callaghan, C. (2021). Traveling through the liminal: Mixed reality simulations in educational leadership preparation. *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2019.1629488

Plank, K., Sanzo, K. L., & Scribner, J. P. (2024). Differences in leading and learning professional learning communities. *Journal of Workplace Learning*, 36(5), 335-347. DOI 10.1108/JWL-02-2024-0022

Poekert, P. E., Swaffield, S., Demir, E. K., & Wright, S. A. (2022). Leadership for professional learning towards educational equity: A systematic literature review. *Leadership for Professional Learning*, *46*(4), 541-562. https://doi.org/10.1080/19415257.2020.1787209

Qiao, X., Yu, S., & Zhang, L. (2018). A review of research on professional learning communities in mainland China (2006–2015) Key findings and emerging themes. *Educational management administration & leadership*, *46*(5), 713-728. https://doi.org/10.1177/1741143217707523

Staub, N. A., & Bravender, M. (2014). The construction of simulations as an instructional activity for graduate students in an educational leadership program. *Leadership and Research in Education: The Journal of the Ohio Council of the Professors of Educational Administration (OCPEA),* 1, 67-78.

Stoll, L., Bolam, R., McMahon, A., Wallace, M., & Thomas, S. (2006). Professional learning communities: A review of the literature. *Journal of educational change*, *7*(4), 221-258.

Stoll, L., Brown, C., Spence-Thomas, K., & Taylor, C. (2017). Teacher leadership within and across professional learning communities. In *Teachers leading educational reform* (pp. 51-71). Routledge

Sutcher, L., Podolsky, A., & Espinoza, D. (2017). Supporting Principals' Learning: Key Features of Effective Programs. *Learning Policy Institute*.

Tam, A. C. F. (2015). The role of a professional learning community in teacher change: A perspective from beliefs and practices. *Teachers and Teaching*, *21*(1), 22-43. https://doi.org/10.1080/13540602.2014.928122

Tucker, P. D., & Dexter, S. (2011). ETIPS leadership cases: An innovative tool for developing administrative decision making. *Journal of Research on Leadership Education*, *6*(5), 250-271

Turner, J. C., Christensen, A., Kackar-Cam, H. Z., Fulmer, S. M., & Trucano, M. (2018). The development of professional learning communities and their teacher leaders: An activity systems analysis. *Journal of the Learning Sciences*, *27*(1), 49-88. https://doi.org/10.1080/1058406.2017.1381962

Vescio, V., Ross, D., & Adams, A. (2008). A review of research on the impact of professional learning communities on teaching practice and student learning. *Teaching and teacher education*, *24*(1), 80-91.

Voelkel Jr, R. H., & Chrispeels, J. H. (2017a). Understanding the link between professional learning communities and teacher collective efficacy. *School effectiveness and school improvement*, *28*(4), 505-526. https://doi.org/10.1080/09243453.2017.1299015

Voelkel Jr, R. H., & Chrispeels, J. H. (2017b). Within-school differences in professional learning community effectiveness: Implications for leadership. *Journal of School Leadership*, *27*(3), 424-451.

Weiner, J. M., & Higgins, M. C. (2016). Where the two shall meet: Exploring the relationship between teacher professional culture and student learning culture. Journal of Educational Change,18(1), 21-48. doi:10.1007/s10833-016-9292-6

Young, M. D. (2015). The leadership challenge: Supporting the learning of all students. *Leadership and Policy in Schools*, *14*(4), 389-410. https://doi.org/10.1080/15700763.2015.1073330

Transforming Sense into Cents II: Evaluation of eduCLIMBER's Impact in a County's Schools

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Abstract

The School District of Osceola County (SDOC) utilized eduCLIMBER, a platform which purports to be "an interactive system that integrates whole child data into a single platform with built-in tools for intervention tracking, collaborative workflows, effective reporting, and more" to allow teachers to have the same amount of data flexibility for their decision making and to reduce the amount of time it took to organize and catalogue intervention paperwork. The program was utilized by 3,079 teachers, coaches, deans, and administrators, approximately 75% of instructional staff. Given that eduCLIMBER is more of a tool for understanding and organizing data rather than an intervention, very little research exists into the effectiveness of the platform. In evaluating this product, it was essential to determine what other research has been completed in the field. Until now, actual evaluations of this platform has been virtually non-existent. Thus, an evaluation of eduCLIMBER was conducted to determine a net promoter score (*NPS* = -16), a measure of user perceptions, and the return on investment (*ROI* = 154%) of the platform's implementation. The vast discrepancy highlights an interesting aspect of the platform: even users who dislike the platform still generally acknowledge that its usage saves them time versus more traditional methods. The negative feedback from detractors centered on the lack of training received with the platform. It is likely that the NPS is a reflection of the rollout of the platform within the county rather than reflecting the quality of the platform itself (although it does say something about ease of use that the training is so essential). The ROI that was measured means that additional investments in training are likely valuable and continued usage is recommended.

Keywords: return on investment, eduCLIMBER, educational leadership, program evaluation, digital support, instruction, intervention

In the first *Transforming Sense in Cents*, Maddock and Eadens (2024) argued that the Return on Investment model (Phillips, Phillips, Paone, & Gaudet, 2019) was an effective for evaluating the success of interventions by examining the amount of future intervention avoided with the model Maddock (2022) had implemented around the full-time equivalent (FTE) dollars. But the ROI model is both robust and flexible, and while the Maddock (2022) model was a specific utilization to examine value of intervention tools, the methodology is also applicable to measure an array of platforms, including the platforms that house the data to conduct evaluations in the first place. In today's everchanging environment, there are many choices for digital support tools to aid PK-12 instruction and intervention, and it is essential to understand which tools provide a return for the investment as responsible stewards the tax dollars utilized to operate schools.

The examined county utilized one such tool called eduCLIMBER, an interactive system that "integrates whole child data into a single platform for intervention tracking, collaborative workflows, and effective reporting" (Renaissance Learning, 2025). eduCLIMBER was adopted by the district after determining that it took coaches and teachers an excessive amount of time to implement interventions, and that there was not an effective means of determining which interventions were and were not successful, which created arduous and long MTSS (multi-tiered systems of support) review meetings that were ineffective at reviewing the available data. The goal was to enable teachers with data visualizations they need to better provide interventions and provide a unified location to manage, track, alter, and evaluate the effectiveness of interventions, which is traditionally a very paper-heavy and time-intensive process. The district implemented eduCLIMBER in 2022. The program was rolled out to specific users during its first year as a partial implementation. This evaluation was conducted after the second full year of implementation to allow enough time to accurately apply the Return on Investment (ROI) framework to the district's workflows and processes to best understand the effects.

Purpose

The purpose of this evaluation was to examine both the perceived and real value of the eduCLIMBER platform regarding teacher time and cost-effectiveness. The aim of this evaluation is to offer useful insights regarding the impact of eduCLIMBER on district operations and their association with academic achievement while considering all possible costs affiliated with the program implementation. This evaluation used a variety of rigorous analyses to unpack effectiveness of the platform as a valuable educational intervention when considering current budgetary limitations. This programmatic evaluation examined the platform's effectiveness and costs to provide inclusive insight into the measured value and impact. As part of the *Transforming Sense into Cents* series, it is also the purpose of this article to educate and inform about the applicability of the Return on Investment Framework within an educational, nonprofit context.

Research Questions

The following questions provided the foundation for the evaluation:

1. What are the user perceptions about the eduCLIMBER platform within the examined district?
2. What is the complete cost of eduCLIMBER and the subsequent cost-per-teacher based on current usage?
3. Is there a return on the investment in implementing eduCLIMBER?

Background

In late 2021, the School District of Osceola County began work to build out a replacement for the Stocktake 3.0 Data Instrument (ST3DI) in Power BI with a platform that allow teachers to have the same amount of data flexibility for their decision making that school leaders received. Due to the difficulty and cost of maintaining a bespoke data visualization platform, the district ultimately decided to adopt the eduCLIMBER platform from Renaissance Learning (née Illuminate Education), which purports to be "an interactive system that integrates whole child data into a single platform with built-in tools for intervention tracking, collaborative workflows, effective reporting, and more" (Renaissance Learning, 2025). The platform implementation focused on recording intervention data and providing teachers with data visualizations needed to plan and provide said interventions, thereby simplifying the work of teachers and impacting their quality of life.

The county utilized a "train-the-trainer" model, in which a leader from each school site was identified (n = 58) and received a total of 24 hours of intensive training across a variety of sessions to cover each aspect of learning the program. Additional stakeholders, such as school principals and assistant principals, received direct training (between three and twelve hours), and academic coaches received area-specific training (between four and sixteen hours). Training focused on basic platform usage, intervention logging and tracking, using platform features such as "Students 3D," "Tags," and "Collections" to organize and act on data, and using eduCLIMBER to manage and track meetings. Additional trainings were later provided to use additional functions, such as the "Achievement Dashboard" and "SmartFORMS" modules. After training, the "trainers" were expected to provide follow-through training to all users at their school site, which as some sites numbers in the hundreds of users requiring training. Problems were identified in the quality of the follow-through training (especially at sites there the lead trainer left the school partway through the year) at multiple points during the process, but it proved difficult to provide continuous training to all relevant staff.

Since the full rollout of eduCLIMBER in Osceola County, the program has been implemented at all non-charter public schools. In the 2023-2024 school year, the program was utilized by 3,079 teachers, coaches, deans, and administrators, approximately 75% of instructional staff. The platform is utilized daily by approximately 1000 users, or around one-quarter of the applicable staff. The platform has also been built into an array of operational and legal requirements, such as tracking for MTSS and reporting of progress monitoring to families, required by Florida Rule 6A-6.053, F.A.C, which requires that parents of certain students be "notified immediately in writing… and consulted in the development of a plan" for their child's interventions (p. 3, 2024).

Training for the eduCLIMBER platform followed a "train-the-trainer" model. The MTSS coach at each site was trained on how to use the platform in August of 2022 and given until May of 2023 to train teachers at their site. Additionally, training was provided to all administrators during the 22-23 school year, and further trainings were provided throughout the Summer and Fall of 2023. As an antecedent to this training structure, the evaluation also provides a net promoter score, a measure of the perception of the platform, and qualitative analysis of the teachers' opinions toward the platform, and thus a review of the literature is essential.

Literature Review

In evaluating a product, it is always essential to determine what other research has been completed in the field to provide context on effectiveness and determine if outcomes align with the expected to give the reader a conception of whether potential issues lay with the *product* or with the *implementation* of the product. Given that eduCLIMBER is more of a tool for understanding data rather than an intervention itself, very little research exists into the effectiveness of the platform. In an anecdotal sense, District Administration named the platform one of their EdTech winners of the year in 2020 (Weiss, 2021) and the editors from Tech & Learning (Restifo, Ofgang, & Bendici, 2023) wrote about eduCLIMBER as one of the annual awards winner from the Best of ISTELive 2023, which commemorates best businesses and their platforms and products that stand out supporting and transform education. Judges chose products they thought were innovative and embraced districts, schools, and classroom, criteria included: "ease of use, value, uniqueness in the market, and proof that the product helped make teachers' lives easier and supported student achievement" (Tech and Learning, 2023). They described eduCLIMBER as a tool that provides interactive district-level to whole child data management and strengthens multi-tiered system of support implementations with tools for student need identification, measuring intervention effectiveness, and more, and "judges appreciated its single dashboard, adding, *MTSS includes so many facets of a student, that a tool like this is long overdue*." But while it does provide context that eduCLIMBER has won awards, awards in and of themselves are not measures of effectiveness.

While eduCLIMBER has been utilized in the course of multiple evaluations (Van de Ven, 2018; Taylor & Burgess, 2019; Shelton, 2023), actual evaluations of platform are virtually non-existent. There is light evidence to support that some districts see benefits, such as one Wilder Research study (Gozali-Lee, Petersen, Lee, & Hall, 2021) wherein a respondent said "eduCLIMBER has really sped things up," (p. 9), but the presence of a systematic or holistic analysis of the platform's implementation, let alone the value, cannot be found. The evidence is, at best, inconclusive, which underscores the need for further reviews and research on the effectiveness of this platform from an array of methodological structures. Additional studies, like the current study, are required to explore the specific impact of eduCLIMBER.

In order to understand whether the investment into the program provides a return to the school district, an evaluation was conducted to determine what, if any, return exists utilizing the process laid out by the ROI Institute (2019) for analyzing the effects of a program in a non-profit environment. Given that eduCLIMBER is not a program that directly affects student learning, it is not appropriate to evaluate the program with an effect size or ROI based on

student achievement (as the theory of action for eduCLIMBER does not directly impact the student; it impacts the teacher). Instead, the return must be derived from the ROI Institute's "wisdom of the crowd" methodology, which will be implemented to directly tie the outcomes to the perceptions of the actual users. Surowiecki (2004) argued that, under the right circumstance, large groups are often better able to understand problems than even elite experts since people's errors often balance each other out. The ROI Institute has operationalized this theory in a method that doubly accounts for potential error, drastically reducing the potential benefits compared to the cost, which helps stakeholders have greater confidence in the measure if the ROI turns out positive (Phillips & Phillips, 2007). The operationalization of this phenomenon will be discussed in-depth in the methodology.

The application of ROI methods to the evaluation of educational software is also nascent, as discussed in the previous article of this series (Maddock & Eadens, 2024). Farooqi et al. (2024) showed that a variety of criteria are often implemented to evaluate various educational software and technologies, and that they are not always comparable, a sentiment that has shown up in many places across the years for evaluating electronic educational tools (Karolčík et. al, 2015; Lee & Cherner, 2015). It is also the case that, even when a standard of determining quality from an evaluation arises, such as the "standard teacher effect" arose from Hattie's (2009) work, context-specific interpretations can create a need for recontextualization of outcomes, such as Matt Kraft's (2019) interpretation of effect sizes for education interventions set new standards for specific types of evaluations. Based on this, it is important to understand the growing role of ROI in the evaluation of educational programs as a matter of examining the quality of *a specific implementation* of a program *for the specific cost* within the environment examined, but also to visualize ROI as a metonym for grander comparisons *between* contexts of implementation.

Thus, it must be examined whether the return on investment model itself is applicable to the field of education. While it has been utilized somewhat extensively in recent years, particularly in the state of Florida (Funchess, 2022; Maddock, 2022; Maddock, 2023; Maddock & Eadens, 2024), the field of applying the ROI methodology to education is still relatively nascent. Note that this measure of ROI is not to be confused with *academic return on investment*, a field of research that examines the learning gains per dollar spent. Since ROI is a robust methodology, it has been applied in a variety of ways across an array of fields. Brown and Kurzweil operationalized ROI to examine the increase in schools' funding based changes in student enrollments as a result of program implementations (Rossman, Alamuddin, & Kurzweil, 2019). Maddock (2023) utilized potential future need for intervention course costs and their avoidance as a method of determining ROI, a method which was also implemented by Maddock and Eadens (2024) in the first article in this series. But perhaps the best support for why ROI can be an effective measure in education is that it has become a ubiquitous model in many other non-profit fields such as the healthcare (Buzachero et al., 2013) and human resource fields (Phillips & Phillips, 2014). Stakeholders understand and appreciate the use of ROI as a heuristic for understanding value, particularly in comparison between programs, much in the same way that educational leaders have hewn towards effect size as a metonym for value in interventions since the release of *Visible Learning* (Hattie, 2009). To that end, the ROI methodology's application in this study will be detailed to enable easy future replication of methodology.

Methodology

All data and costs utilized in this analysis were for the 2023-2024 school year. The primary quantitative methodologies utilized to examine the effects of this program were the ROI Institute's traditional methodology (Phillips & Phillips, 2019) and the Net Promoter Score methodology (Reichheld, 2003). Additionally, qualitative emergent theme analysis methods were utilized to examine open-ended response data (Williams, 2008).

For the evaluation of eduCLIMBER, data about teacher usage were collected directly from the eduCLIMBER platform based on login data over the course of six months. Each user who had logged in at least one time created a purposive sample and each user in the sample was contacted to complete a user perception survey (n = 3,079). Out of those contacted for the sample, a total of 299 usable responses were collected from the those that submitted the survey response (n = 304). While this was a relatively low response rate (9.8%) having approximately three hundred responses was enough to conduct an analysis with medium power. Responses were stratified based on self-reported roles of respondents (e.g. teacher, administrator, etc.) for further partial analysis.

For the ROI methodology applied here, three questions were specifically added to the perception survey to collect the data needed to examine benefits in terms of time saved. These questions were:

1. How many hours do you spend per week using eduCLIMBER (gathering data, building or tracking interventions, making SmartFORMS)?
2. How many hours per week do you believe it took to do the same work before you had access to eduCLIMBER?
3. How confident, as a percent out of 100, are you in your estimate of time spent?

The purpose of these questions, aligned with the work of the ROI Institute, is to arrive at an understanding of both the amount of time spent and the amount of time saved on the production of required materials related to the operation of student interventions. Given the phenomenon of the "wisdom of the crowd," which accounts for potential extreme responses, these questions can help arrive at a reliable estimate of the amount of time saved, which can in turn be utilized to derive the return on investment (Surowiecki, 2004; Navajas et al., 2018). Since one of the primary mantas of the ROI Institute's framework is to "minimize the benefit and maximize the cost to improve confidence" in the outcome, the third question was added as a way of modulating the responses (Phillips, Phillips, Paone, & Gaudet, 2019). In this manner, someone who claimed that they saved 40 hours a week but were only 10% confident in their answer, a benefit of four hours would be taken.

The data related to platform costs and professional development were collected via completed contract from the Osceola VendorLink platform. Employee salary data were collected from the TERMS system. Statistical tests were performed to compare differences among students. All statistical analyses were performed using the 2016 Microsoft Excel suite and IBM SPSS 27.0.

Findings

eduCLIMBER Usage and Net Promoter Score

eduCLIMBER was first introduced to teachers and administrators in Osceola County in the Fall of 2022. Since then, the platform has been utilized by 3,079 users, or approximately 75% of the instructional and administrative staff. Actual usage exceeds this number, however users who have since separated with the school district were eliminated from the sample and therefore are not represented in this usage value. At the end of the first year of implementation, eduCLIMBER had approximately 800 users who logged in at least once per week. By the end of the second school year of implementation, this value had risen to 1000 users. Of the remaining users, approximately half logged in monthly, and the remaining thousand logged in sporadically, between one and three times a year. This means that usage stratified into approximately four equal groups: regular users (25%), monthly users (25%), sporadic users (25%), and non-users (25%).

A net promoter score is a measure of how likely users are to recommend a platform to their friends and colleagues and is an industry standard measure for sentiment towards a platform (Reichheld, 2003), a useful heuristic for whether or not a platform's usage is likely to grow or shrink in the future based on the amounts of promoters and detractors that exist within the target population. The qualitative feedback survey sent to all 3,079 users yielded 304 responses, some of which were discarded due to incompleteness. From that pool, eduCLIMBER was measured with a net promoter score of -16 *NPS* (n = 299), with 45% of participants falling in the detractor range and 29% of participants falling in the promoter's range.

With the current implementation, this could indicate there is a slightly negative response to eduCLIMBER and work needs to be done to enhance the reputation of the platform within the school district or detraction towards the platform could grow. However, not all subgroups of users felt similarly. Among respondents that self-identified as administrators, the net promoter score was slightly positive, *NPS* = 4 (43% promote, 29% detract). Users self-identified as "coaches" had a collective promoter score of *NPS* = -6 (32% promote, 38% detract), which was slightly negative. In both of these subgroups, there were relatively balanced quantities of promoters and detractors. In the examined county, this has historically meant there were an array of implementations between the school sites and user perceptions were strongly tied to how the platform was utilized in the respondent's particular school. Deans, as a response class, had the highest perception of the platform, NPS = 14 (57% promote, 43% detract) and teachers had the lowest perception, NPS = -27 (22% promote, 50% detract). Remaining users, identified as interventionists and paraprofessionals, had an NPS of 23 (54% promote, 31% detract). Among all these subgroups, it is clear that classroom teachers should be targeted for changing user perceptions towards the platform, which will be examined further via emergent theme analysis.

eduCLIMBER Stakeholder Feedback

Likert-type response items were provided to respondents to investigate the perceptions around eduCLIMBER. For the purpose of evaluative fidelity, the above questions are, where applicable, the same as those utilized in other Osceola evaluations, including Carnegie Learning, TNTP and

the Mentoring Program, Beable, HD Word, the SAMs Process and TimeTrack, and more. Table 1 summarizes the percent of participants in agreement with the statements (percent "Agree" and "Strongly Agree") along with the weighted average of responses, where "Strongly Disagree" equals a value of one and "Strongly Agree" equals a value of five.

Table 1

Summary of Percent of Participants in Agreement

Agreement Statements	Percent Agreements	Weighted Average
The data reports on eduCLIMBER are useful.	72%	3.82
eC helps improve the quality of instruction for students.	42%	3.24
eC allows me to spend more time on instructional work.	36%	3.09
I enjoy using eduCLIMBER.	43%	3.18
It takes me less time to schedule interventions on eduCLIMBER than by other means, such as paper intervention records.	39%	3.20
I get the support and training I need to use eduCLIMBER.	42%	3.07
eduCLIMBER is easy to use.	45%	3.10
My team is using eduCLIMBER with fidelity.	39%	3.08
I would rather use eduCLIMBER than other programs I have used in the past, such as Focus or paper records.	44%	3.18
eduCLIMBER is a valuable tool.	58%	3.56
Everything I can do on eduCLIMBER I can do somewhere else.	33%	3.08
eduCLIMBER allows me to track individual interventions for students'	59%	3.64

Note. eduCLIMBER (*n* = 304); name changed to "eC" on some items for readability only

The weighted average across most responses hewed closely to the mean and percent agreement, was slightly below 50%. This implies there are polarized perceptions. The most agreed-upon statement was that *the data reports provided by eduCLIMBER were useful*, with which three-quarters of users agreed. The lowest agreement was with the item, *Everything I can do on eduCLIMBER I can do somewhere else*, which is a reverse coded item. In this item, two-thirds of respondents believe that what they do on eduCLIMBER could not be accomplished anywhere else. The item *I enjoy using eduCLIMBER* had an agreement of 43%, which further explains the net promoter scores.

Other items that need to be addressed include *I get the support and training I need to use eduCLIMBER*, which was only agreed upon by 42% of participants, and *My team is using eduCLIMBER with fidelity*, with which 61% of participants disagreed. These values indicate that there is a need for more training with the platform, and that there is a knowledge gap for participants. This may be associated with the lower perceptual scores. It is also worth noting that more users agreed with the statement *eduCLIMBER is a valuable tool* than disagreed.

The final item, *eduCLIMBER allows me to track individual interventions for students*, was unique among the items. It was meant to measure user understanding. Tracking interventions for students is the foundational purpose of eduCLIMBER and the primary reason for implementation in Osceola County Schools. It can be assumed that the 41% of teachers who disagreed with the statement are missing some basic understanding of the function of eduCLIMBER given this fundamental misunderstanding. If the portion of the audience that misunderstand the purpose of eduCLIMBER (*n* = 124) is removed from the response set to create a pool of respondents that have an understanding of the platform, the responses appear much more positive. Table 2 illustrates this clearly.

Table 2

Summary of Percent of Participants in Agreement

Agreement Statements	Percent Agreements	Weighted Average
The data reports on eduCLIMBER are useful.	87% (+15%)	4.17
eC helps improve the quality of instruction for students.	57% (+15%)	3.60
eC allows me to spend more time on instructional work.	49% (+13%)	3.45
I enjoy using eduCLIMBER.	58% (+15%)	3.61
It takes me less time to schedule interventions on eduCLIMBER than by other means, such as paper intervention records.	59% (+20%)	3.70
I get the support and training I need to use eduCLIMBER.	57% (+15%)	3.43
eduCLIMBER is easy to use.	60% (+15%)	3.51
My team is using eduCLIMBER with fidelity.	55% (+16%)	3.44
I would rather use eduCLIMBER than other programs I have used in the past, such as Focus or paper records.	62% (+18%)	3.72
eduCLIMBER is a valuable tool.	77% (+19%)	4.02
Everything I can do on eduCLIMBER I can do somewhere else.	35% (+2%)	3.07
eduCLIMBER allows me to track individual interventions for students.	100%	4.31

Note. eduCLIMBER (*n* = 180); name change to “eC” on some items for readability only

When delimited to only respondents who knew that eduCLIMBER could be used to track interventions (the primary learning goal in the introductory eduCLIMBER training), the responses for both *The data reports on eduCLIMBER are useful* and *eduCLIMBER is a valuable tool* rose to majority agreement, with weighted averages over 4.0 (agree). The only item that received little movement was *Everything I can do on eduCLIMBER I can do somewhere else*, which increased by two percent agreement. Large jumps were observed across most items; however, the largest jumps were in *I would rather use eduCLIMBER than other programs I have used in the past*, which climbed to 62% agreement, and *eduCLIMBER is a valuable tool*, which climbed to 77%. The statement *It takes me less time to schedule intervention on eduCLIMBER than by other means*, which changed by 20% once factoring for users who understood that eduCLIMBER could be utilized for intervention tracking. All of these responses point towards a

specific issue: There are a large number of users on the platform who do not have the requisite training to utilize the platform, which is eminently apparent in the qualitative responses.

Following the Likert-type response items were two open-ended responses. An emergent-theme methodology (Dey, 1993; Williams, 2008) was employed to provide detailed insight into the micro and meso levels of the subjective experiences of users. The responses to the open-ended items (*n* = 155) were reviewed initially for emergent themes, re-reviewed and tagged with the tokens identified, then reviewed by a secondary researcher for confirmation in order to validate the themes and minimize the potential threat of subjective bias from the researcher. The following table shows the most common emergent themes, along with the associated portions of the response. While no alterations of the responses were made, some of the responses below are excerpted from larger responses for readability purposes. Full, deidentified responses are available upon request.

Of the themes that emerged, which can be seen on Table 3, the most common emergent themes were that more training is needed to effectively use the platform (*n* = 50), that the platform is not user-friendly (*n* = 30), that eduCLIMBER is valuable/helpful (*n* = 25), and that eduCLIMBER takes extra work (*n* = 16). Approximately one-third of open-ended responses centered on the perceived need for more training (and an additional ten responses centered on requesting changes to the platform to add features that already exist, indicating a need for further training). This aligns with the slightly negative net promoter score, indicating that providing additional training may change user perceptions about the platform.

Table 3

Emergent Themes and Relevant Response Segments

Emergent Themes and Relevant Response Segments (n =* 155*)
Theme: Training is Needed for the Platform (*n* = 50)
I was never properly trained, therefore i have no idea what this program was capable of.
This is a great resource, but I wish I had more time to dive deeper so that I could train others! Training is imperative to gain more usage as it was hard for me with an older (& less tech savvy) staff.
I like it but do find it a little confusing to navigate. I feel like I would enjoy using it more if more comprehensive training was offered, perhaps during preplanning.
Educlimber was somewhat difficult to use when I first started using it. I did not get much training on how to use it, I had to learn most of it through trial and error. Once I became more comfortable with it, I liked it and found it to be easier and a better use of time.
I would say that I used eduClimber less than one hour a week. But I would love to attend training for eduClimber.
I used eduClimber last year and struggled with it quite a bit. Having the time to truly learn how to utilize it to its full capabilities was limited, so I didn't get too far with limited guidance. The game-changer this year was proper training.

Theme: eduClimber is not user friendly (*n* = 30)
Reports are useful but the platform is NOT user friendly. I would like face to face training available during the summer or during school year for coaches.
Interface needs to be revised to become more intuitive and simple.
Focus is a lot easier to pull reports. Educlimber can be too cumbersome and still not a comfortable tool to use. Do not have a lot of time to watch videos on how to use.
EduClimber is not user friendly, tabs should be displayed easy to find. Teachers need formal trainings to use it.
Honestly the application is good. The problem is that it is not friendly to manage.
Theme: eduClimber is valuable (*n* = 25)
I love eduCLIMBER because with it I can do things I was never able to do before at all.
So thankful to be at a school that uses this program and supports each other with its use
I was introduced to educlimber far into the semester. I definitely loved it and was amazed at how useful it is. I absolutly need more training on it and would like to have my team use it next semester--from the beginning of the semester.
Prioe to this I would have to create my own spreadsheet or have someone do it for me as I am not that techy. I do like how I stores and creates the info I need.
EduClimber is a wonderful tool, that is easier for me to use as it is always accessible via the computer. Papers get lost easily, and this electronic version does not get lost.
The variety of trackers for object or person is very helpful. It is a great tool to ensure time management and that all tasks complainces [sic] are done.
Theme: eduClimber takes work (*n* = 16)
I found it time consuming and repetitive of other forms of data collecting.
As a classroom teacher, I only used it to take attendance and document scores from iii. Taking attendance took the most time because I had to click on each student, mark their attendance note, and then click on 30 or 40 minutes - which took a bit of time out of my iii instruction to complete each period.
I use Educlimber regularly to complete records reviews. Educlimber saves me time with records reviews. All other things done on Educlimber add time to my work day, not save time.
It takes a long time to enter in interventions. Teachers seem to struggle with using it with fidelity.

The next theme, that the platform is not user-friendly, appears to be inextricably tied to the lack of training. Approximately 20% of the responses about the platform lacking user friendliness also cited that they had received no training and were attempting to learn how to utilize the platform themselves. Figure 1 contains relevant excerpts from the respondents, which have not been altered in any way from their original writing (including leaving typographic errors), although some responses have been truncated to only contain the text

relevant to the theme presented. As mentioned earlier, approximately one-third of respondents improperly answered the basal platform understanding question. A vast majority of the respondents who did not have basal platform knowledge fell into the first two themes of needing more training and believing the platform was not user-friendly. When adjusting for this group, the most common theme became that eduCLIMBER was valuable, which, as is a recurring theme here, underscore that a successful implementation of eduCLIMBER requires proper professional learning to occur for users, especially at the beginning of the platform roll-out. The examined district utilized a "train-the-trainer" model to provide training to the thousands of users, and not all trainers provided equal quality learning to school sites.

eduCLIMBER Return on Investment

The final question in the evaluation was related to cost per user and the potential return on investment from using eduCLIMBER. In this manner, Phillips & Phillips (2016, 2019) have developed extensive methodologies that are utilized in evaluating the effectiveness and human capital time expenditures in thousands of organizations around the world, a model which examines *change* in either time, quality, productivity, engagement, or satisfaction. declines in student outcomes at all schools across four years. For these reasons, the Phillips and Phillips (2019) model (which they call the "default model") of obtaining estimates and confidence values from stakeholders was implemented to calculate ROI.

Within this framework, teacher and administrators were asked to estimate how much time they spent per week to complete their intervention-related paperwork tasks, how much time they believed the task took using the methods they had before access to eduCLIMBER, and what their confidence was in the two measures, as explained in the methodology. As a function of this, the ROI was a calculation of the time saved, in terms of dollars, of a teacher using the eduCLIMBER platform and returned to the teacher for other planning and instructional purposes. For this reason, the goal ROI for a successful implementation was set at 0% ROI, which would mean that for every minute spent on eduCLIMBER, teachers save a minute of work elsewhere. Ideally, the savings will be greater. It is also worth noting that, in this manner, the benefits experienced, while expressed monetarily, do not directly equate to dollar saved to spend elsewhere, but are instead expressed in other places, such as teachers having to work less on weekends or after hours, having reduced burnout and stress loads, and being able to change the time they spend doing paperwork to time spent working directly with students.

The first step in the ROI calculation is cost loading. For the 2023-2024 school year, eduCLIMBER cost $357,034 for programmatic access, and $62,500 for the training. However, there were additional costs for aspects of the program that were essential for the operation of the program, namely access to the internet and backend support. The internet costs $336 per month per school site. For ten months of a school year, at 56 sites, the total cost of the internet was $188,160.

In order to understand the costs and benefits that exists from platform usage, each user was asked to respond to three questions in alignment with the ROI Institute model:

1) How many hours do you spend per week using eduCLIMBER (gathering data, building or tracking interventions, making SmartFORMS)?
2) How many hours per week do you believe it took to do the same work before you had access to eduCLIMBER?
3) How confident, as a percent out of 100, are you in your estimate of time spent?

While this should not be the *singular* method by which the ROI of a program is calculated, it is a process that has been well researched and proven by the ROI Institute, and considered the "default" method when more accurate measures are not otherwise feasible. The "wisdom of crowds" practice, while not strictly scientific, has borne out in academic research applications consistently (DeWees & Minson, 2018; Lorenz, Rauhut, Schweitzer, & Helbing, 2011; Surowiecki, 2004), provided the measure is collected from an individual without the opportunity for inter-respondent social influence. This method has been utilized in thousands of evaluations across numerous fields.

The purpose of these questions was to determine the amount of hours of time that were spent doing a task without access to eduCLIMBER, then again to once the users had access to eduCLIMBER to complete the same task. The difference would be a measure of the perceived time saved for each user. In answer to the first question, teachers and administrators responded that they spent an average of 6.7 hours per week recording, cataloging, and utilizing eduCLIMBER to get all of the data that they needed and keep up with the tracking requirements for interventions. There was variance in the amount of time spent depending on the role of the user (for example, administrators perceived that they spent 3.2 hours per week on the platform, whereas paraprofessionals perceived an average of 19 hours per week). For each class of users, the amount of time saved was multiplied by the number of weeks in the year, then multiplied by the average salary for their role, then extrapolated out to the 1416 eduCLIMBER users who logged in at least once per month throughout the year (benefits for users who logged in less frequently were completely dropped in order to increase confidence in the overall calculation). This resulted in a paid time cost of $240,184.16. Adding to the earlier cost resulted in an "all-in cost" of $847,878.16 for the operation of eduCLIMBER in the 2023-2024 school year.

The second and third questions were utilized to calculate the benefit from the program. The difference between the amount of time users previously believed that it took to do their work and the amount of time they thought it took to do their work now resulted in a value of "time saved", a measure of the amount of time that teachers had to utilize for other essential functions, which would lead to less overall work and potential non-tangible benefits such as lower stress and reduced work on evenings and weekends. On average, users reported that they believed without eduCLIMBER the same amount of work would take an average of 8.6 hours to complete, an average time savings of approximately two hours per week. Following the same formula as with costs (savings multiplied by job-class salary average pay, multiplied by weeks in a school year, extrapolated to 1416 users) provides a total benefit of $3,171,840 in teacher time saved.

Teachers and administrators were not universally confident in their responses, however. On average, respondents only had 68% confidence that the amount of time spent and saved was accurate. The benefit was prorated by each respondent's confidence (the remaining extrapolated benefit was prorated by the average confidence). This left a benefit remainder of $2,156,851.20. Using the ROI formula of (*benefits* – *costs*) / *costs* provides:

$$\frac{\$2{,}156{,}851.20 \; - \; \$847{,}878.16}{\$847{,}878.16} = \; 1.54 * 100 = \; 154\% \; ROI$$

It has been mentioned in both this article and the previous in the series that stakeholder confidence can be increased by minimizing the benefit and maximizing the cost. This is the reason costs such as internet and teacher time were included, despite the fact that removing eduCLIMBER *would not remove the associated costs*. But in this vein, there were also many benefits that could have been operationalized, which would have increased the ROI further, but were not included as they were not *universal* benefits that applied to all sites. Examples of this included some administrators that reported that employees titled "MTSS Coaches", who previously spent the entirety of their time creating and organizing paperwork to facilitate interventions, now had enough free time that they were able to instead spend their time intervening directly with students. Communication to parents was made much easier overall, and the amount of paper needed to print letters for home throughout the year was vastly reduced. The ROI of 154% represents the *minimum* benefit experienced from the district.

Lastly, it has been reiterated here in this paper multiple times that the goal is to *minimize the benefit* in order to increase confidence in the ROI. However, since in this methodology the ROI calculation is a measurement of the *quality* of the implementation of a program, it is also worth examining the maximum *potential* benefit that could exist within a given implementation. To that end, extrapolating the perceived time values to all users who *should* be utilizing eduCLIMBER to the extent that those users who logged in monthly did. Stated another way, what would the ROI be for eduCLIMBER if every teacher and administrator utilized the program?

Analysis of personnel in the district determined that there were 6,072 unique employees in the district in positions that would utilize eduCLIMBER in the course of their expected duties and other instructional support positions 423; substitute teachers were excluded). If each of these users saw the same times savings of two hours a week, equated to their benefit by average pay for their job classification, this would result in a benefit of $15,925,248.86. Based on the above cost determination (costs do not need to be adjusted since the two hour savings already presumes the cost as time spent versus saved), the calculation then finds that eduCLIMBER has the *potential* for a maximum ROI of 1778%.

$$\frac{\$15{,}925{,}248.86 \; - \; \$847{,}878.16}{\$847{,}878.16} = \; 17.78 * 100 = \; 1778\% \; ROI$$

This does not account for reductions in paper costs due to the less paper printing (for using the Guardian Notifications function instead of sending letters home) or an accounting for the change in work that occurred for the MTSS coaches (as their work fully changed to working with teachers and students rather than completing paperwork, there was not a tangible way to determine the offset. Finding an ROI of 1778% underscores how essential it is to *minimize the benefit* to make the ROI believable to stakeholders. An ROI of 154%, which measured the *true implementation* within the examined district, is a better representation of the kinds of returns other school districts can expect, rather than simply attempting to inflate the ROI to exaggerate the value to stakeholders.

Implications

As stated at the outset, the goal of this evaluation was a 0% return on investment, or that there was at least as much return as there was investment, in which case the intangible benefits would be a deciding factor. A return of 154% effectively means that for every dollar spent in operating eduCLIMBER (both in terms of the cost of the program itself and the time teachers spend operating it), two dollars and fifty-four cents in teacher and administrator work time are saved. It is interesting that this strong perception of time savings exists across users in spite of their slightly negative perceptions towards the platform and indicates that there could be an even higher return on investment if more training were provided to the platform users.

While the varied perception results revealed a lack of training, overall results highlight important policy and practice implications for educational leaders. Governance teams, district and building level leaders are all tasked with finding, supporting, and creating efficiencies to maximize public funds provided through tax dollars. Policy makers should pay attention to the beneficial findings, despite some negative perceptions, and practitioners are advised to increase the amount and improve the quality of eduCLIMBER platform trainings. These results reflect potential for an even higher yield of perceptions and time and money savings which districts should value. At the very least, practitioners and policymakers who carefully consider these implications are able to make more educated decisions about the use of the eduCLIMBER as a platform to plan and provide interventions, streamlining work and quality. If implementing eduCLIMBER, it is also recommended that adopters spend time planning out their implementation and training pathways and that, if possible, a train-the-trainer model is avoided in favor of directly training users.

It should be noted that, between this article and the previous article in the series, a case has been made for how Return on Investment methodologies can be utilized not only for understanding which programs in schools have the best outcomes, but specifically which have the best outcomes *for the cost of their implementation*. In this manner, ROI evaluations are effective at standardizing various variables in evaluation such that various programs can be compared to each other. It is a limitation of effect size evaluations that one program with a slightly higher effect size, but a drastically higher cost might be chosen over a program that has lower student growth yield, but considerably more growth per dollar, which is critical for a cost-conscious district.

Future research into the area of ROI evaluations should focus on standardizing processes around costs and benefits to allow for honest comparisons between products and

programs with ROI evaluations. Additionally, it is important for this method to be utilized with other program evaluations to create common findings for ROI to enable easy comparisons for districts around what does and does not work in schools. Finally, given the apparent need for additional professional learning around eduCLIMBER that arose from providing a train-the-trainer model, Renaissance should consider providing some for implementation coordination for new districts to help participants understand the process of onboarding and to organize the professional learning, which may create better future implementations and therefore higher ROI as a result.

Limitations

Results offer ROI insights into eduCLIMBER focused on user perceptions of the platform, cost per teacher based on current usage, and ROI using eduCLIMBER on teacher time spent that relied on the few existing studies and limited data. Additionally, it is noted that there are inherent limitations regarding design and generalizability of specific context from the School District of Osceola County setting and population only. Limitations such as these underline the importance of more future context specific research.

Conclusion and Recommendation

When setting an evaluative goal for both net promoter score (NPS) or return on investment (ROI) in education, although the ideal outcomes should be higher, the expectation is zero. A net promoter score of zero indicates that a program, while not loved, is accepted, and a return on investment of zero, while not likely to close gaps, indicates that the school district at least gets value equivalent to cost. Since many products in the educational field yield intangible benefits, such as increased confidence or lower stress, having an ROI of 0 can be beneficial in ways not immediately apparent in the integer.

In the case of eduCLIMBER, the net promoter score was -16 and the ROI was 154%. The vast discrepancy highlights an interesting aspect of the platform: even users who dislike the platform still generally acknowledge that its usage saves them time versus more traditional methods. It also must be reiterated that the majority of the negative feedback from users centered on the lack of training received with the platform. It is entirely possible that the NPS is a reflection of the rollout of the platform within the county rather than reflecting the quality of the platform itself (although it does say something about ease of use that the training is so essential).

The slightly negative NPS indicates that the platform will have to overcome detractors in the next year of implementation. The ROI that was measured means that additional investments in training and support are likely extremely valuable given that platform users see large benefits and two-thirds of teachers and administrators in the do not log into eduCLIMBER with any form of regularity. For these reasons, the continued usage of eduCLIMBER is recommended, along with an increase in the amount of direct training provided to schools and teachers.

Finally, the goal of the *Transforming Sense into Cents* series is to disseminate and further the usage of Return on Investment as a method of conducting evaluations in schools. Too often decisions in education are made based on emotions or reactions rather than data,

and the ROI methodology allows for both quantitative and qualitative examination of the effects of programs and interventions. While effect sizes derived from standardized student scores should remain the gold standard for programmatic evaluation in education, ROI is a useful method for evaluation as it can translate the terminology of effect sizes into easily understandable metrics for non-education-trained stakeholders (such as parents or School Board members) and it can be utilized more flexibly than in traditional effect-size-centric studies, as showcased in this article.

References

Buzachero, V. V., Phillips, J., Phillips, P. P., & Phillips, Z. L. (2013). *Measuring ROI in healthcare: Tools and techniques to measure the impact and ROI in healthcare improvement projects and programs.* McGraw-Hill.

DeWees, B. & Minson, J. A. (2018). The right way to use the wisdom of crowds. *Harvard Business Review, 96*(6).

Dey, I. (1993). *Qualitative data analysis: A user friendly guide for social science*. London: Routledge. http://dx.doi.org/10.4324/9780203412497

District Comprehensive Evidence-Based Reading Plan, 6A-6.053, Florida Administrative Code (F.A.C.). (2024)6

Farooqi, M.T.K., Siddique, Z., Awan, S.M. (2024). The effectiveness of educational software and applications for primary students' learning outcomes: A systematic review. *Journal of Excellence in Social Sciences, 3*(4), ISSN: 2755-3876

Funchess, A. (2023). *Achieve3000 22-23 end of year evaluation*. East Coast Technical Assistance Center (ECTAC). https://www.ectacfl.net/completed-roi-projects.html

Gozali-Lee, E., Petersen, A., Lee, D., & Hall, T. (2021). *Funding for multi-tiered systems of supports implementation: Summary of interview findings with Minnesota schools.* Wilder Research and the Minnesota Department of Education. https://eric.ed.gov/?id=ED616747

Hattie, J. (2009). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement.* Routledge.

Karolčík, S., Čipková, E., Hrušecký, R., Veselský, M. (2015). The comprehensive evaluation of electronic learning tools and educational software (CEELTES). *Informatics in Education, 14*(2), 243-264. doi: 10.15388/infedu.2015.14

Lee, C-Y. & Cherner, T. S. (2015). A comprehensive evaluation rubric for assessing instructional apps. *Journal of Information Technology Education: Research*, *14*, 21-53. Retrieved from http://www.jite.org/documents/Vol14/JITEV14ResearchP021-053Yuan0700.pdf

Lorenz, J., Rauhut, H., Schweitzer, F., & Helbing, D. (2011). How social influence can undermine the wisdom of crowd effect. *Proceedings of the National Academy of Sciences, U.S.A, 108*(22), pp. 9020-9025. https://doi.org/10.1073/pnas.1008636108

Maddock, D. (2022). *Evaluation of DreamBox Learning*. East Coast Technical Assistance Center (ECTAC). https://www.ectacfl.net/completed-roi-projects.html

Maddock, D. (2023a). *Evaluation of Beable*. East Coast Technical Assistance Center (ECTAC). https://www.ectacfl.net/evaluation-tools.html

Maddock, D. (2023b). *Evaluation of Packback*. East Coast Technical Assistance Center (ECTAC). https://www.ectacfl.net/evaluation-tools.html

Maddock, D. R., & Eadens, D. W. (2024). Transforming sense into cents: Evaluation of Edgenuity's impact in a county's schools. *International Journal of Educational Leadership Preparation, 19*(1), 80–96. https://files.eric.ed.gov/fulltext/EJ1428746.pdf

Navajas, J., Niella, T., Garbulsky, G., Bahrami, B., & Sigman, M. (2018). Aggregated knowledge from a small number of debates outperforms the wisdom of large crowds. *Nature Human Behaviour*, *2*(2), 126-132.

Phillips, J. J., & Phillips, P. P. (2007). *The value of learning: How organizations capture value and ROI and translate them into support, improvement, and funds.* Pfeiffer.

Phillips, J. J., & Phillips, P. P. (2016). *Handbook of training evaluation and measurement methods (4th Ed.)*. Routledge.

Phillips, P. P., Phillips, J. J., Paone, G., & Gaudet, C. H. (2019). *Value for money: How to show the value for money for all types of projects and programs in governments, nongovernmental organizations, nonprofits, and businesses*. Wiley.

Phillips, P. P., & Phillips, J. J. (2014). *Making human capital analytics work*: *Measuring the ROI of human capital processes and outcomes*. McGraw-Hill.

Reichheld, F. F. (2003). The one number you need to grow. *Harvard Business Review*, *81*(12), 46–54.

Renaissance Learning (2025). *eduCLIMBER*. https://www.renaissance.com/products/educlimber/

Restifo, D., Ofgang, E., & Bendici, R. (2023). *Best of ISTELive 2023. Tech & Learning*, Aug. 21, 2023, https://www.techlearning.com/news/best-of-istelive-2023

Rossman, D., Alamuddin, R., & Kurzweil, M. (2019) *Estimating the return on investment (ROI) for instructional improvement efforts*. American Council on Education. https://acue.org/wp-content/uploads/2019/03/Estimating-ROI-Instructional-Improvement-Ithaka.pdf

Shelton, S. (2023). *The effects of a universal social, emotional, and behavioral program on the SAEBRS student self-ratings*. [Doctoral dissertation, Missouri Baptist University]. ProQuest Dissertations & These Global. ISBN: 979-8-3808-5898-4. https://www.proquest.com/openview/f75d669758e28a7e18190f4119bbbde6/1?pq-origsite=gscholar&cbl=18750&diss=y

Surowiecki, J. (2004). *The wisdom of crowds: Why the many are smarter than the few and how collective wisdom shapes business, economies, societies, and nations*. Doubleday & Co.

Taylor, J. V., & Burgess, M. (2019). Using data in MTSS to demonstrate how school counselors make a difference. In Goodman-Scott, E., Betters-Bubon, J., & Donohue, P. (Eds.), *The school counselor's guide to multi-tiered systems of support* (1st ed., pp. 246–266). Taylor & Francis Group.

Stocktake 3.0 Data Instrument (ST3DI). (2025). Power BI (Version 3.0) [Data Instrument]. Microsoft. https://www.microsoft.com/en-us/power-platform/products/power-bi/enterprise

Van de Ven, A. J. (2018). *The effect of directive digital school-parent communication on student achievement and behavior*. [Doctoral dissertation, University of Wisconsin Oshkosh]. MINDS @ UW Repository. https://minds.wisconsin.edu/handle/1793/84784

Weiss, E. (2021). *Introducing the Top Ed Tech Products of 2020*. District Administration, January 12, 2021. https://districtadministration.com/event/introducing-the-top-ed-tech-products-of-2020/

Williams, J. P. (2008) Emergent themes. In L. M. Given (Ed.), *SAGE Encyclopedia of Qualitative Research Methods* (1st ed., pp. 249–250). Thousand Oaks, CA: SAGE Publications.

Barriers to Implementing Blended Learning in K-12 Education: A Quantitative Analysis

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Abstract

This quantitative correlational study examined barriers to implementing blended learning in K-12 classrooms, focusing on how ongoing professional development, hands-on training, and post-training support influence educators' ability to use digital tools effectively. The researcher surveyed 46 educators who shared insights into the effectiveness of support activities for maintaining digital competency. The findings revealed that continuous professional development and mentoring are crucial for successfully integrating digital tools. Educators emphasized the need for practical, scenario-based learning and one-on-one coaching to enhance self-efficacy and technological pedagogy. A strong correlation was found between comprehensive training and teacher confidence in integrating blended learning. The study recommended implementing structured, sustained support systems to boost educators' digital fluency, improving student engagement and teaching outcomes. Administrative support is crucial in providing educators with the resources, training, and guidance to implement blended learning effectively. The study highlights the need for educators to shift from being the primary source of information to facilitators of student-centered learning. Furthermore, incorporating heutagogy, or self-directed learning, for educators and students could better prepare them for the 21st-century skills required for career growth. Future research could explore digital content creators' and mentors' roles in supporting educators and the effectiveness of rubrics for assessing technology integration readiness.

Keywords: heutagogy, self-directed learning, blended learning, professional development, policy changes

Integrating blended learning in K-12 education has become increasingly essential, especially after the COVID-19 pandemic, which accelerated the shift toward digital tools in the classroom. While blended learning offers enhanced student engagement and personalized learning opportunities, many educators struggle to adopt and maintain these technologies effectively (Cardullo et al., 2021; Cojocariu et al., 2014). Dele-Ajayi et al. (2021) highlight a significant gap in the professional development and support systems necessary for educators to integrate digital tools seamlessly into their instructional practices.

Blended learning, increasingly central in K-12 education, demands technological tools and a shift toward heutagogy, emphasizing self-directed, autonomous learning. This transition challenges educators to rethink teaching strategies, highlighting the need for professional development and support systems to build confidence in this new paradigm. This study explored barriers to effective blended learning adoption in K-12 settings, focusing on the impact of professional development, hands-on training, scenario-based learning, and one-on-one coaching. The study surveyed 46 educators from Central Florida to gain insights into their experiences with digital tools and to understand the factors that influence their competency in using them effectively.

The decision to focus on topics such as blended learning (Towip et al., 2022; Xiao & Li, 2021), TAM (Davis et al., 1989), and self-efficacy (Davis et al., 1989) has evolved over the last hundred years. Several theoretical frameworks, notably the Technology Acceptance Model (TAM) (Davis et al., 1989), Substitution, Augmentation, Modification, and Redefinition (SAMR) models (Puentedura, 2013), have helped explain how educators perceive and adopt technology in their classrooms. The review also highlighted that self-efficacy, especially relating to technology, is critical in determining the success of professional development and digital adoption. Bandura's (1977) seminal work on self-efficacy establishes that individuals' confidence in their abilities significantly influences their willingness to embrace new challenges, including integrating technology in educational settings. This research is particularly relevant for educators, as those with higher self-efficacy are more likely to perceive digital tools as beneficial and adopt them effectively, a concept supported by the Technology Acceptance Model (Davis et al., 1989).

Several studies have indicated the importance of self-efficacy and its direct connection to teachers' confidence in utilizing digital tools. Most notably, this will start with Bandura's (1977) self-efficacy theory, a foundational psychological framework for understanding how educators build confidence in using digital tools. Professional development programs can effectively increase self-efficacy by targeting and reinforcing teachers' belief in their capability to manage new technologies, bridging the gap between theoretical knowledge and practical application. Towip et al. (2022) emphasize that self-efficacy directly influences educators' perceptions of digital tools, dictating their readiness to adopt and integrate them into their practice. Frameworks like the SAMR model help teachers build confidence by showing clear steps to add technology to their teaching (Puentedura, 2013). The Technology Acceptance Model (TAM) and its updates, TAM 2 in 2000, UTAUT in 2003, and TAM 3 in 2012, highlight that if tools are easy to use, teachers are more likely to adopt them (Akin et al., 2022; Davis et

al., 1989). Bandura's self-efficacy theory also shows that believing in their abilities helps teachers feel more confident using new technology (Bandura, 1977).

Contemporary research (European Commission, 2019; Office of Educational Technology, 2022) also emphasizes the growing need for educators to develop digital competencies to prepare students for 21st-century skills. Failure to address this digital divide may further diminish teachers' and students' success in technology-rich learning environments. Professional development programs must, therefore, focus on introducing new tools and supporting sustained digital competency through ongoing mentorship and coaching. Recently, Zindi (2024) shared that they must also overcome pitfalls in the Eastern Cape Department of Education in Africa. This discussion is not relegated to developed countries but is worldwide.

The primary objective of this study was to identify which professional development activities and support mechanisms best predict educators' success in integrating blended learning into their classrooms. By doing so, the research provides insights into how educational institutions can better support teachers and improve student outcomes through enhanced technological pedagogy. This research is significant because it provides insights into how ongoing professional development and tailored support can help educators overcome barriers to technology adoption. Educators and leaders can use these findings to inform educational policies and professional development programs to equip teachers with the necessary skills to integrate digital tools effectively, thereby improving teacher self-efficacy, competency, and student learning outcomes.

Statement of the Problem & Research Questions/Hypotheses

Incorporating digital tools in education is essential to enhance students' learning experience. Integrating digital tools such as online learning platforms and interactive simulations creates student engagement. Furthermore, there is an increase in collaboration, allowing students to assimilate information based on their learning styles, which creates better teaching and learning environments, according to research by Alainati et al. (2023) and AlHajri et al. (2017). The problem is that despite the benefits of digital tools, educators often struggle to adopt and proficiently use digital technology, resulting in missed learning opportunities for students (Dele-Ajayi et al., 2021).

According to Dele-Ajayi et al. (2021), integrating technology has transformed classrooms and provided educational advantages students did not have ten years ago. Using devices like computers, tablets, and other types of technology in the classroom can help transform traditionally dull subjects into fun and interactive activities (Towip et al., 2022). Integrating technology also prepares students for future workplace skills, addressing the growing demand for digital literacy in modern careers (Dayal, 2023). Examining the relationship between ongoing professional development and educators' willingness to integrate technology is critical. Tzafilkou et al. (2023) show that tailored training significantly enhances teachers' confidence and competency in digital tools. Such efforts could increase the use of technology in the classroom, ultimately providing educational benefits for students (Cardullo et al., 2021).

The study presents three research questions that revolve around exploring the relationship between and among the variables in the study. The questions sought to identify the relationships or factors between different forms of professional development and the outcomes tied to the goal of the research question. Since these questions did not focus on causality and only identified associations, they focused on variables and the direct relationship, if any, to the use of digital tools. The following research questions guided this study:

Research Question 1

R1: Which professional development, training, scenario-based learning, support materials, and coaching can predict educators' adoption, competency, and use of digital tools compared to those not participating in these activities?

> H01: Ongoing professional development, hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching activities for educators will predict an educator's ability to achieve and maintain the adoption, competency and ongoing utilization of digital tools compared to those who do not participate in these activities.
>
> Ha1: Ongoing professional development, hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching activities for educators will not predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools compared to those who do not participate in these activities.

Research Question 2

R2: What unique role do professional development, hands-on training, scenario-based learning, support materials, and coaching play in predicting educators' adoption, competency, and ongoing use of digital tools?

> H02: Ongoing professional development, hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching activities for educators will not individually predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools.
>
> Ha2: Ongoing professional development, hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching activities for educators will individually predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools.

Research Question 3

R3: Which factors best predict an educator's ability to adopt, maintain, and effectively use digital tools: ongoing professional development, hands-on training, scenario-based learning, post-training support, or one-on-one coaching?

H03: None of the variables, in combination or alone, will predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools.

Ha3: At least one of the variables or a combination of variables will predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools.

Measuring an educator's ability to adopt technological tools in the classroom involved assessing multiple dimensions of their attitude, skillset, and resources (Castanha et al., 2023; Venkatesh & Bala, 2008). This study used surveys based on Tzafilkou et al. (2023) and Viberg et al. (2020) to examine teachers' digital skills and attitudes and how they use digital tools in the classroom. Determining what professional development influenced or assisted in this adoption required a conversation about assessing the multiple dimensions of their attitude, skillset, and resources. Engaging in a comprehensive conversation about the assessment of multiple dimensions encompassing attitude, skillset, and available resources was imperative in unraveling the intricacies of this technological adoption journey.

Theoretical frameworks like the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), and Substitution, Augmentation, Modification, and Redefinition (SAMR) provide a foundation for understanding how educators perceive, accept, and use technology in their classrooms. These models suggest that perceived ease of use and self-efficacy play a crucial role in determining whether teachers will adopt and maintain digital tools. Moreover, the literature highlights the importance of professional development in supporting educators' digital adoption. Frameworks like the Substitution, Augmentation, Modification, and Redefinition (SAMR) model and the Technological Pedagogical Content Knowledge (TPACK) framework help connect theory to practice. This connection builds teachers' confidence in blended learning (Prahani et al., 2022).

Materials and Methods

The study used a quantitative correlational research design to explore the relationship between ongoing professional development, hands-on training, scenario-based learning, post-training support, and educators' ability to adopt and effectively use digital tools in K-12 classrooms. The researcher selected a sample of 46 educators from different grade levels, selected through purposeful sampling to represent elementary, middle, and high school teachers in Central Florida. The survey stays anonymous to protect participants' identities. This approach enhanced the feasibility of participant recruitment and contributed to a more manageable execution of the research, considering the diverse nature of the educators involved. Keeping the sample size to 46 educators ensured manageability while maintaining sufficient representation for statistical analysis and minimizing the risk of bias from overrepresentation.

The reasoning behind acquiring 46 educators for the sample lives on the matrix required to create a 95% confidence level. To ensure reliability, a margin of error of 5% was applied to a target population of 50 educators, resulting in a sample size of 46 educators. This approach aligns with the U.S. K-12 school system's grade-level structure, which organizes

students by age-appropriate grade chunks. Targeting 15 educators per grade-level grouping ensured a balanced representation of the resources and strategies used across each educational level.

This study looks at K–12 education and technology use in teaching, addressing a gap in research that primarily focuses on higher education. It explores how training and support help teachers use digital tools effectively in the classroom. By focusing on professional development, scenario-based learning, and coaching, the study highlights what educators need to feel confident with technology. These insights can guide schools in building better support systems for blended learning.

The study sought to guide professional development strategies to identify the most effective methods for supporting educators in digital tool integration. The research explored the benefits of building a support system beyond traditional training by examining the potential need for a digital content creator or mentor on-site at a school campus. This study contributes to the growing body of knowledge on improving educators' digital self-efficacy, particularly in light of the COVID-19 pandemic, highlighting the urgent need for effective technology adoption in classrooms, especially regarding blended learning.

The study used a Likert Scale survey to determine which form of professional development best-supported educators in enhancing their lesson design and self-efficacy with digital tools. The survey collected data on the types of professional development and support educators received and their experiences adopting blended learning tools. Questions related to ongoing professional development, hands-on training, one-on-one coaching, and the perceived impact of these activities on their ability to maintain digital competency were used in the survey. Data on educator demographics, such as years of experience and grade level taught, were also collected.

The study aimed to identify which factors—professional development, hands-on training, scenario-based learning, or one-on-one coaching—best predict an educator's ability to adopt and effectively use digital tools. Descriptive statistics were used to summarize survey responses and characterize participants' experiences with various professional development activities, including means, frequencies, and weighted averages. These descriptive measures provided an overview of trends in educator engagement with training, coaching, and support resources. Inferential statistics were then applied to test the study's hypotheses and explore relationships among variables. Specifically, correlational analysis was conducted to determine the strength and direction of associations between professional development types, such as hands-on training, scenario-based learning, and one-on-one coaching, and educators' perceived competency and adoption of digital tools. This approach provided insight into which support mechanisms may predict effective technology integration in K–12 classrooms. Table 1 contains the variables used and the type of measurements for the study:

Table 1

Variables and Outcomes

Variable	Type of Measurement	Purpose	Components
Type of Support - *Professional Development*	Categorical - Nominal	Categorizes the type of resources used for learning and adoption	Demonstration, skills exercise, scenario-based exercise
Type of Support - *Hands-On Training*	Categorical - Nominal	Categorizes the type of resources used for learning and adoption	User guide/job aid, one-on-one coaching, post-training materials
Type of Support - *Adoption Rate*	Categorical - Nominal	Categorizes the type of resources used for learning and adoption	Combination of the activity variables of hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching
Type of Support - *Instructional/Technology Coach*	Categorical - Nominal	Categorizes the type of resources used for learning and adoption	The successful adoption, competency, and ongoing utilization of digital tools.
Change Readiness	Categorical - Ordinal	Assesses the respondent's openness to change	The survey uses a scale to assess the representatives' mindset toward being adverse or not to leading change.
Technology Adoption	Categorical - Ordinal	Assesses the respondent's openness to adopting technology	Resistance to early adopters may influence individuals' technology adoption levels, shaping their inclination to embrace or resist innovative technological solutions.

The reliability of the Likert Scale in this study was grounded in the Technology Acceptance Model (TAM), which guided the development of the survey questions. Drawing on the work of Venkatesh and Bala (2008) and Castanha et al. (2023), the study utilized a quantitative approach to test their hypothesis. The post-demographic portion of the five-question survey focused on perceived ease of use and usefulness. The TAM hypothesis required statistical methods to analyze correlations, significance levels, and the strength of the relationships. Following this methodological approach, Castanha et al. (2023) adapted Venkatesh and Bala's (2008) study to create two structured questionnaires—one for demographic data and the other to assess users' intent to adopt the technological application they were evaluating.

Some of the strengths associated with the model were its simplicity of design, its predictive power towards the variables, and its broad applicability (Venkatesh & Bala, 2008). However, some of TAM's weaknesses relate to its focus on individual factors, its limitations in scope, and the potential for measurement biases. Towip et al. (2022) utilized a quantitative survey design typical of similar studies, aligning with approaches used by Proudfoot and Kebritchi (2017), who examined STEM perspectives among educators, and Razali et al. (2022), who focused on curriculum enhancement through Learning Management Systems. Mann et al. (2021) also adopted a similar approach to explore the digital divide's impact on online learning. To avoid bias, additional research literature was reviewed, including studies by Robertson and Sivia (2022) on leadership in online learning, Johnson et al. (2022) on policy frameworks in online education, and Taylor (2021) on professional learning experiences. These studies offered foundational insights, with contributions from Prahani et al. (2022) providing a bibliometric analysis of learning management systems over 30 years, guided by Bandura's (1977) theories.

The choice of a quantitative correlational research design in this study allowed for a focused examination of the relationship between professional development, hands-on training, scenario-based learning, and educators' ability to adopt digital tools effectively. Using statistical analysis provided rigor, identifying trends, patterns, and relationships to inform actionable steps. This design reduced researcher bias and allowed for generalizable, reliable results, building on existing literature while enabling the development of further theories and hypotheses.

The limitations of the method and design of the study should be acknowledged. This study faced several limitations that impacted its scope and generalizability. One fundamental limitation was the reliance on teachers from specific public school districts in Central Florida, which may not reflect the experiences of educators in other regions or school types. The issue was not getting enough sample size; expanding the sample to include private and virtual schools was necessary to gain more comprehensive insights. Additionally, incomplete surveys posed a challenge, although steps were taken to minimize this by ensuring confidentiality and encouraging participation through short time commitments. Another concern was educators' reluctance to acknowledge their difficulties with technology, fearing negative consequences from their school districts or administrations for stating any lack of resources to develop their digital pedagogy.

Further limitations included logistical challenges in soliciting survey participation, such as missed messages due to busy schedules or distractions, addressed by strategically sending survey links through a social media campaign. Educators' time constraints also affected their ability to engage fully with the study. Finally, the small sample size limited the study's ability to detect significant relationships or patterns, potentially leading to sampling bias and reducing its overall validity. Despite these constraints, the study focused on ensuring objectivity, confidentiality, and participant engagement to enhance reliability.

Literature Review

The COVID-19 pandemic accelerated the shift to online learning, revealing significant gaps in teachers' self-efficacy and ability to effectively utilize digital tools. This literature review is informed by crucial research on professional development, self-efficacy, and technology adoption, utilizing frameworks like Bandura's self-efficacy theory and the Technology Acceptance Model (TAM) to explore the challenges and opportunities in integrating digital tools in K-12 education. Research highlights that many educators struggled with technology adoption due to inadequate training, which harmed teacher confidence and student engagement. According to studies, this rapid transition to digital learning environments highlighted the pressing need for more robust support systems to assist educators in navigating the challenges of remote education (Barry & Easterly, 2021).

A quantitative study examining educators' perspectives on using e-learning and STEM (science, technology, engineering, and mathematics) concepts to educate students highlighted the impact of a scenario-based e-learning STEM mobile lab on student achievement and faculty instructional development (Proudfoot & Kebritchi, 2017). Findings from Proudfoot and Kebritchi (2017) demonstrated that hybrid STEM activities positively influenced student learning outcomes (Ikonnikova et al., 2022; Proudfoot & Kebritchi, 2017). This research expanded the understanding among instructional and administrative support personnel of the benefits STEM e-learning could bring to student success (Proudfoot & Kebritchi, 2017). However, challenges remain, as school leadership must adapt performance evaluation rubrics to incorporate these concepts effectively (Robertson & Sivia, 2022; Smith et al., 2022). Additionally, this instructional approach may not be intuitive for all educators and could require ongoing guidance and support for successful implementation.

Building on Bandura's (1977) theory of self-efficacy, several studies indicated that teachers who possess high confidence in their teaching abilities are more likely to adopt new technologies and successfully implement online teaching strategies. However, research also suggested that insufficient training erodes teachers' self-efficacy, making adapting to new digital tools difficult. Studies on blended learning models further highlight the technical and pedagogical challenges teachers face when trying to incorporate technology into the classroom. These challenges often result in educators reverting to traditional teaching methods, as they lack the time, resources, and support needed to effectively integrate digital tools into their instructional practices (AlHajri et al., 2017). Furthermore, using Cabello et al.'s (2024) study surrounding the post-pandemic era, Technical and Vocational Higher Education institutions must assess the impact of online learning to design more engaging, self-directed learning environments that enhance student motivation and academic performance.

Using digital tools in education supports self-directed learning by giving students the resources and flexibility to take charge of their learning (Lock et al., 2021). In the context of blended learning, the effective implementation of digital platforms promotes greater learner autonomy, aligning with heutagogical principles that prioritize self-directed learning (Cardullo et al., 2021). Studies show that blended learning environments enable students to access materials at their own pace, select activities that reflect their interests, and engage in self-reflection—essential elements of autonomous learning (Martínez & Muñoz, 2021). Additionally, digital tools enhance educators' capacity to deliver personalized learning experiences, adapting instruction to meet individual students' needs and preferences (Heatherton & Trespalacios, 2021). This shift from a teacher-centered model to a learner-centered approach encourages students to construct their knowledge actively. Consequently, when implemented thoughtfully, blended learning is a robust enabler of heutagogical practices, fostering essential 21st-century skills such as problem-solving, creativity, and adaptability (Prahani et al., 2022).

The literature supporting this study's key themes highlights the critical role of various forms of professional development, such as hands-on training, mentorship, and ongoing support, in enhancing educators' digital competencies. Effective professional development should include post-training resources and individualized coaching to ensure teachers can maintain and apply their skills. However, gaps remain in determining the most practical combination of support strategies.

Existing literature underscores the critical role that professional development plays in preparing teachers to integrate technology into their classrooms. Barry and Easterly (2021) and others emphasized that professional development is essential for improving educators' ability to incorporate digital tools effectively. By doing so, teachers can enhance the overall learning experience for students. However, the research also pointed out that professional development must be continuous and well-structured, offering practical skills and strategies to empower teachers to embrace technology in their teaching practices. Without such foundational training, educators may struggle to implement blended learning models, falling back on traditional methods due to the complexities of technology integration.

Professional development equips educators with the skills and understanding necessary to integrate technology into classrooms and apply heutagogical principles effectively. Without sufficient preparation, many educators feel unprepared to use digital tools that foster self-directed learning, resulting in hesitancy and inconsistent application of technology (Cardullo et al., 2021). Comprehensive professional development programs are essential. Such programs ensure that teachers are proficient in digital tools and understand how to apply them to support heutagogical practices that empower students (Lock et al., 2021). Tailored training that meets teachers at their level of technology experience can build confidence and gradually introduce strategies to foster student autonomy and engagement with digital resources.

In addition to technical training, effective professional development should foster a collaborative and reflective culture among educators. Opportunities for teachers to work together, share best practices, experiment with new tools, and reflect on their experiences

with digital integration can strengthen their technology adoption efforts (Cardullo et al., 2021). Collaborative environments, such as professional learning communities (PLCs), create spaces for ongoing support as teachers navigate challenges in technology integration. Reflection is equally essential, allowing educators to assess and adjust their teaching strategies to enhance student autonomy and promote self-directed learning (Heatherton & Trespalacios, 2021). Furthermore, strong leadership support and alignment with school policies are essential for successful digital integration. When school leaders prioritize technology and provide resources for professional development—such as funding, allocated time, and policy support for digital experimentation—educators are more likely to embrace digital tools and heutagogical approaches, ultimately fostering a more self-directed learning environment for students (Bates, 2019; Lock et al., 2021).

Finally, the Technology Acceptance Model (TAM) is a valuable framework for understanding how teachers' perceptions of ease of use and usefulness influence technology adoption, according to Toraman and GEÇİT (2023) and Venkatesh and Bala (2008). The literature and research extend the Technology Acceptance Model (TAM) by exploring the impact of professional development and mentorship on teachers' readiness to adopt digital tools. Ultimately, the literature and research call for comprehensive institutional policies and support systems, including the potential addition of digital content creators or mentors, to better support educators in effectively integrating technology into their teaching practices.

The Technology Acceptance Model (TAM) provides a crucial framework for examining how teachers' perceptions of technology's ease of use and perceived usefulness impact their willingness and readiness to adopt new digital tools in educational settings, as stated by Toraman and GEÇİT (2023) and Venkatesh and Bala (2008). If teachers find technology easy to use and helpful, they are more likely to use it. The literature extends TAM by considering additional factors, such as professional development and mentorship, that are essential in shaping teachers' readiness to adopt technology effectively. Teachers who get focused training and ongoing support feel more confident and capable of using digital tools, which helps them use technology more often in the classroom (Cardullo et al., 2021; Heatherton & Trespalacios, 2021).

This study supports calls within other research to consider comprehensive institutional policies and robust support systems beyond traditional training to support lasting technology integration. This approach includes incorporating digital content creators or mentors within educational institutions to provide ongoing guidance and address specific technology-related challenges. Such roles can assist educators in designing engaging, interactive lessons and troubleshooting technical issues, allowing teachers to focus more on pedagogy rather than technology management. These support systems help reduce barriers to technology adoption by creating a collaborative environment where teachers feel supported in experimenting with digital tools. Integrating the Technology Acceptance Model (TAM) insights with professional development and institutional support offers a holistic strategy to foster effective and consistent technology use in classrooms, empowering educators to enhance student learning through digital innovation.

Results

This study revealed several significant insights regarding the barriers to implementing blended learning in K-12 classrooms. One of the primary findings was the importance of comprehensive and continuous professional development. Descriptive statistics, including weighted averages, were used to summarize educator responses and identify the most valued professional development activities. Inferential statistics were applied in the correlational analysis to explore the strength and direction of relationships between professional development formats and teachers' digital competency and confidence. Educators who participated in ongoing professional development, hands-on training, and scenario-based learning demonstrated greater competency in adopting and utilizing digital tools. The data showed a strong positive correlation between professional development activities and educators' self-efficacy in using technology in the classroom.

One-on-one coaching and post-training support emerged as critical factors in maintaining digital competency. Educators who received personalized support reported higher confidence in using blended learning tools effectively, highlighting the need for sustained mentorship and follow-up training. Those without continuous support were likelier to revert to traditional teaching methods, even after initial training. Interestingly, the study also identified that practical, scenario-based learning during professional development significantly impacted educators' ability to apply digital tools in real classroom situations. Educators who engaged in this type of learning reported higher technology adoption rates, as it closely mirrored the challenges they faced in their day-to-day teaching. All data comes from the study created by this researcher (Newfield, 2024).

Research Question One

Which elements of professional development, training, scenario-based learning, support materials, and coaching predict educators' adoption, competency, and use of digital tools compared to those not involved in these activities? The descriptive analysis revealed clear trends in professional development effectiveness based on participant ratings. One-on-one coaching received the highest weighted average (M = 4.17), followed by peer collaboration/networking (M = 4.11) and in-person workshops (M = 4.04). These findings suggest that educators perceive personalized and interactive formats as more impactful. Data from questions 19 and 20 on SurveyMonkey (2023) show the data for analysis.

Table 2 displays the combined data, with each column's n value representing instances of educators' perceptions of each topic and the activity's influence. The percentages were calculated by averaging the n values across the five measures for each statement.

The analyses of the weighted averages of the perceived effectiveness of various professional development activities revealed that one-on-one coaching was the most effective activity weight with an average of 4.17, peer collaboration/networking was next with an average of 4.11, In-Person Workshops had a weighted average of 4.04, and finally, another high average was professional learning communities and self-directed learning with 3.63 and 3.57 weights respectively. Figure 1 shows a trend in distribution based on the combined data

Table 2

Outcomes of Professional Development Activities

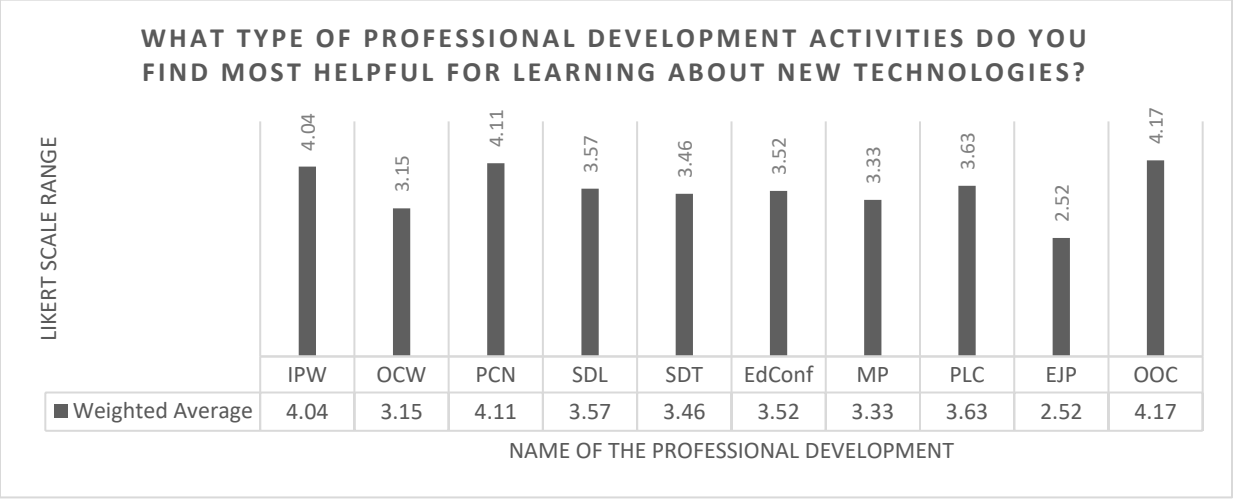
	SD		D		NA or ND		A		SA		Total	Weighted Average
	n	%	*n*	%	*n*	%	*n*	%	*n*	%		
IPW	3	6.5	4	8.7	3	6.5	14	30.4	22	47.8	46	4.0
OCW	3	6.5	10	21.7	13	28.3	17	37.0	3	6.5	46	3.2
PCN	1	2.2	0	0	7	15.2	23	50	15	32.6	46	4.1
SDL	0	0	7	15.2	11	23.9	23	50	5	10.9	46	3.6
SDT	4	8.7	8	17.4	3	6.5	25	54.4	6	13.0	46	3.5
EdConf	1	2.2	9	19.6	9	19.6	19	41.3	8	17.4	46	3.5
MP	3	6.5	6	13.0	15	32.6	17	37.0	5	10.9	46	3.3
PLC	3	6.5	5	10.9	6	13.0	24	52.2	8	17.4	46	3.6
EJP	9	19.6	15	32.6	13	28.3	7	15.2	2	4.4	46	2.5
OOC	0	0	0	0	6	13.0	26	56.5	14	30.4	46	4.2

Note. Row designations are as follows: IPW = In-person Workshops, OCW = Online Courses or Webinars, PCN = Peer Collaboration/Networking, SDL = Self-directed Learning (e.g., Online Resources, Tutorials), SDT = School or district-provided training, EdConf = Educational Conferences, MP = Mentorship Programs, PLC = Professional Learning Communities, EJP = Educational Journals or Publications, and OOC = One-on-One Coaching.

Note. Column designations are as follows: SD=Strongly Disagree, D=Disagree, NA or ND = Neither Agree or Neither Disagree, A=Agree, SA=Strongly Agree, Total=Number of Participants

Figure 1

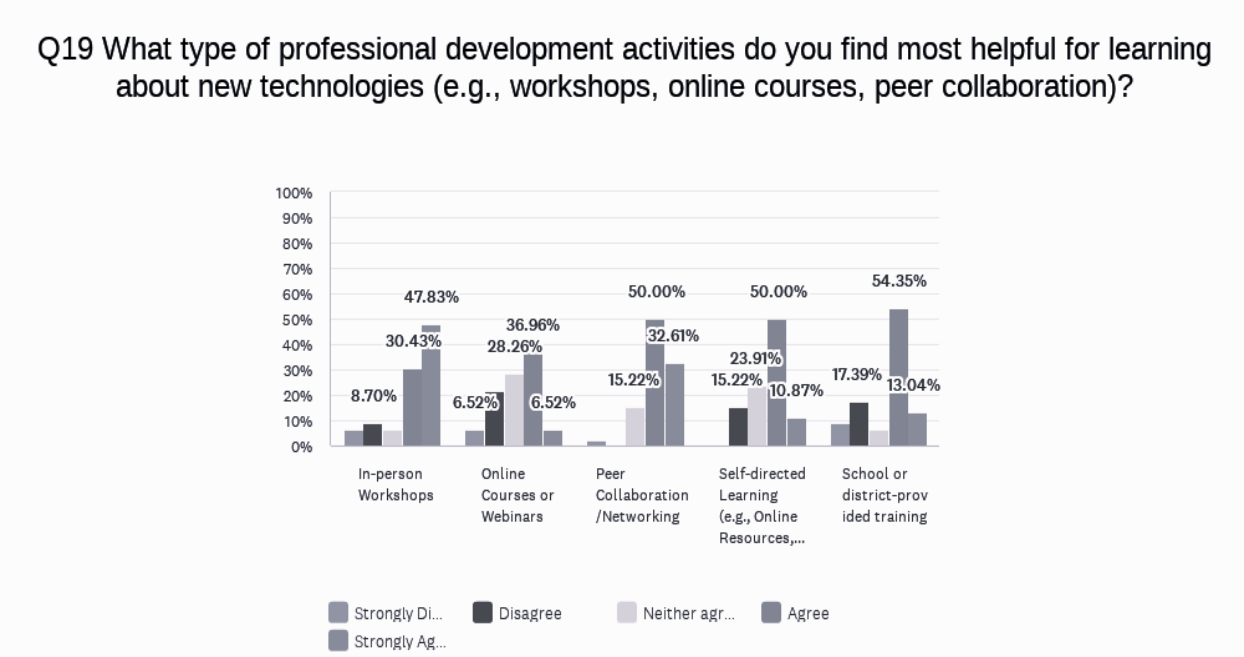
Trends in distribution.



Note. Graphical interpretation of which professional development was helpful to learn from.

Figure 2

Distribution based on responses for Question 19



Note. Graphical representation of only question 19 of the study.

Figure 3

Distribution based on responses for Question 20



Note. Graphical representation of only question 20 of the study.

of Questions 19 and 20 of the study, while Figures 2 and 3 show the raw data associated with Questions 19 and 20 based on the distribution of the answers. On the other end of the spectrum, online courses, webinars, and educational journals or publications had the lower end of the weighted scale, with 3.15 and 2.52, respectively.

In addition to descriptive analysis, inferential statistics were used to assess the predictive value of each support type on technology adoption. Correlational tests suggested positive associations between one-on-one coaching, peer collaboration, and higher reported competency. The data provided mixed support for the null hypothesis, stated as H_{o1}: Ongoing professional development, hands-on training, practical scenario-based learning, post-training support materials, and one-on-one coaching activities for educators will predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools. The hypothesis could have benefited from greater clarity and simplification. Despite the mixed results, enough data support the hypothesis, suggesting that these professional development activities positively impact educators' adoption and use of digital tools.

The analysis revealed that personalized, interactive, and community-based professional development activities were essential for effectively adopting and sustaining digital tool use in education. Table 2 indicates that one-on-one coaching, in-person workshops, and networking had varying impacts, with peer collaboration showing the highest value for ongoing competency. These findings suggest that specific professional development approaches significantly predict educators' effective use of digital tools, reinforcing the importance of targeted strategies to support digital tool integration.

Research Question Two

What unique role do professional development, hands-on training, scenario-based learning, support materials, and coaching play in predicting educators' adoption, competency, and ongoing use of digital tools? The data from questions 19 and 20 in Table 2 related to Research Question 1 were compared and correlated with question 21, as shown in Table 3.

Table 3

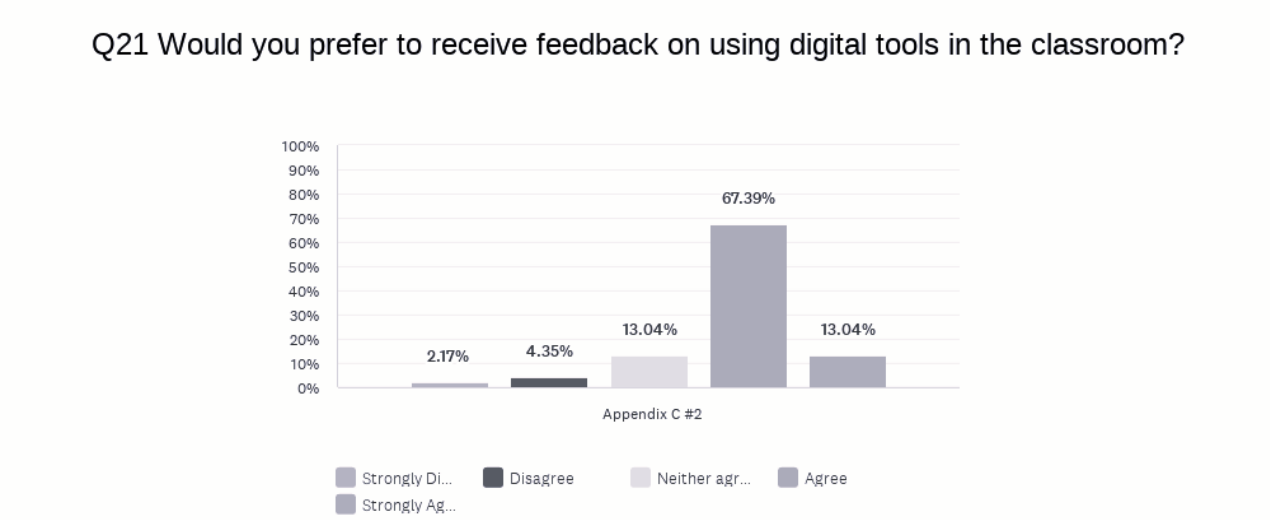
Feedback Preference

SD		D		NA or ND		A		SA		Total	Weighted Average
n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
1	2.17	2	4.35	6	13.04	31	67.39	6	13.04	46	3.85

Note. Column designations are as follows: SD=Strongly Disagree, D=Disagree, NA or ND = Neither Agree or Neither Disagree, A=Agree, SA=Strongly Agree, Total=Number of Participants

Figure 4

Distribution based on responses for Question 21



Note. Graphical representation of a preference for feedback.

The analysis shows that the n value in each column reflects educators' preference for feedback on using digital tools in the classroom, with percentages calculated as averages of these values across five measures per statement. The weighted average of 3.85 indicates a strong desire for feedback, highlighting its role in effective professional development. Correlating data from Tables 2 and 3 emphasizes feedback's impact on professional growth, as seen in Figure 4, where over 80.43% of respondents expressed interest in receiving feedback on their learning. This preference supports the alternative hypothesis (Ha2): ongoing professional development, hands-on training, scenario-based learning, post-training support materials, and coaching activities predict educators' ability to adopt, build competency, and sustain digital tool use. While self-reported data may present bias, positive perceptions of hands-on, practical learning activities reinforced by feedback indicate their effectiveness. Table 2 further underscores these findings, suggesting that specific types of feedback could be valuable for enhancing professional development.

Research Question Three

Which factors best predict an educator's ability to adopt, maintain, and effectively use digital tools: ongoing professional development, hands-on training, scenario-based learning, post-training support, or one-on-one coaching? Initially, the data analysis showed that the alternative hypothesis held when put next to the data in Table 10, which was:

H_{a3}: At least one of the variables or a combination of variables will predict an educator's ability to achieve and maintain the adoption, competency, and ongoing utilization of digital tools.

The combined data from Tables 2 through 6 support the null hypothesis, indicating that none of the variables predict an educator's ability to adopt, maintain, and effectively use

digital tools. This conclusion arises because the data primarily reflects subjective experiences and attitudes, providing insights into current sentiments without establishing clear causal links.

Table 4

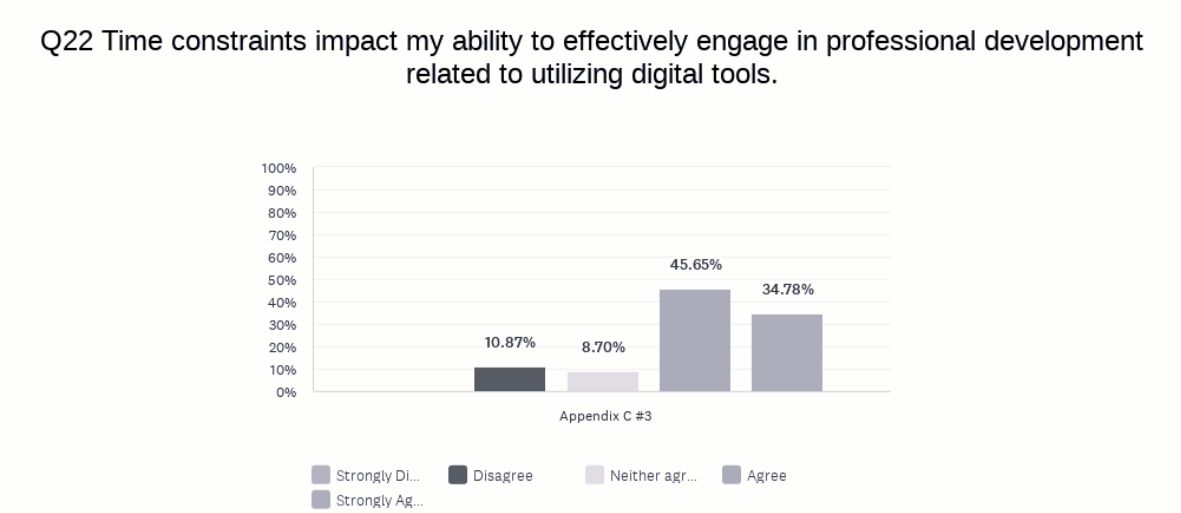
Impact of Time Constraints

SD		D		NA or ND		A		SA		Total	Weighted Average
n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
0	0	5	10.87	4	8.70	21	45.65	16	34.78	46	4.04

Note. Column designations are as follows: SD=Strongly Disagree, D=Disagree, NA or ND = Neither Agree or Neither Disagree, A=Agree, SA=Strongly Agree, Total=Number of Participants

Figure 5

Distribution based on responses for Question 22



Note: Graphical representation of the impact of time constraints.

The data from Table 4, shown in Figure 5, highlights the impact of time constraints on professional development for digital tools. Out of 47 potential respondents, 46 participated, with 45.65% agreeing and 34.78% strongly agreeing that time constraints were a significant factor (80.43% total). A small portion disagreed (10.87%) or were neutral (8.70%), with no one strongly disagreeing. The weighted average of 4.04 reinforces the view that time limitations are a key barrier.

Table 5 (Figure 6) captures participants' perceptions of support in using digital tools. Of the 46 respondents, 45.65% agreed they felt supported, while only 4.35% strongly agreed. A notable portion felt unsupported, with 26.09% disagreeing and 8.70% strongly disagreeing.

The neutral stance was 15.22%, leading to a weighted average of 3.11, indicating moderate support and a need for more assistance.

Table 5

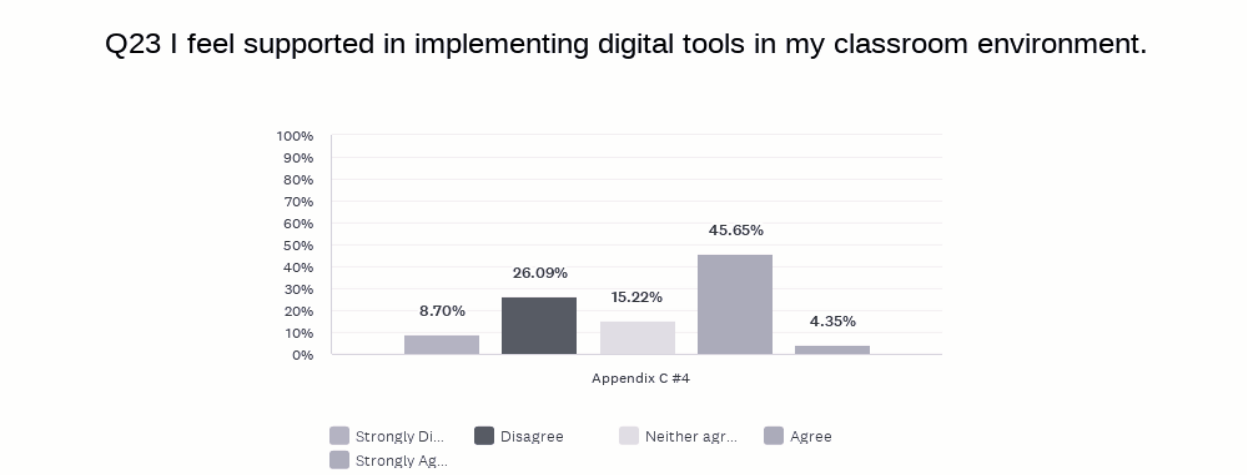
Feeling of Support.

SD		D		NA or ND		A		SA		Total	Weighted Average
n	%	n	%	n	%	n	%	n	%		
4	8.70	12	26.09	7	15.22	21	45.65	2	4.35	46	3.11

Note. Column designations are as follows: SD=Strongly Disagree, D=Disagree, NA or ND = Neither Agree or Neither Disagree, A=Agree, SA=Strongly Agree, Total=Number of Participants

Figure 6

Distribution based on responses for Question 23



Note. Graphical representation of question 23 about support in the implementation of tools.

Table 6

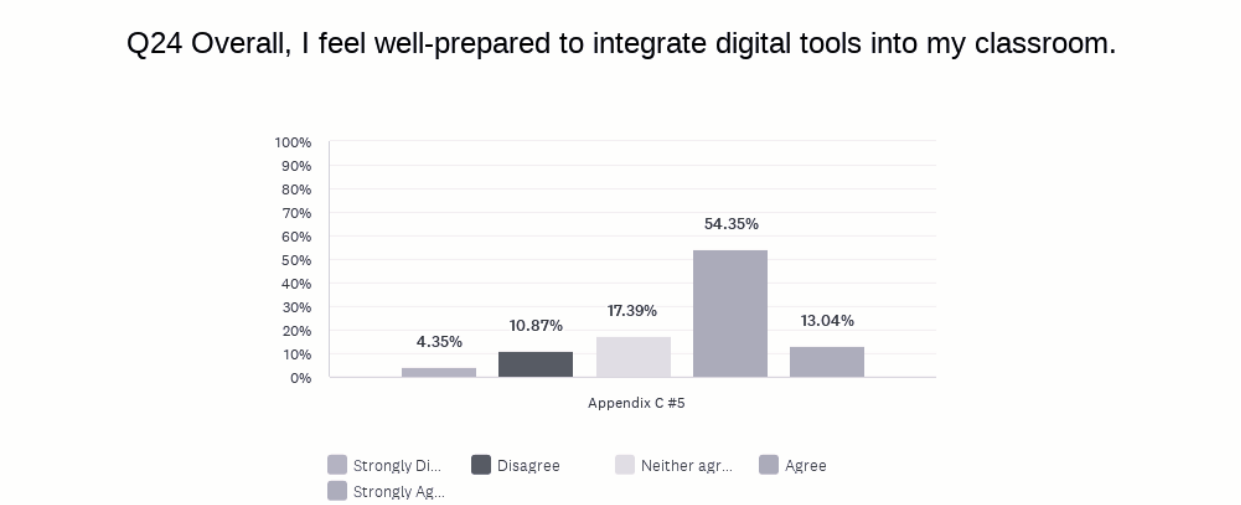
Tool Integration

SD		D		NA or ND		A		SA		Total	Weighted Average
n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*		
2	4.35	5	10.87	8	17.39	25	54.35	6	13.04	46	3.61

Note. Column designations are as follows: SD=Strongly Disagree, D=Disagree, NA or ND = Neither Agree or Neither Disagree, A=Agree, SA=Strongly Agree, Total=Number of Participants

Figure 7

Distribution based on responses for Question 24



Note. Graphical representation of question 24 about feeling prepared to integrate tools in the classroom.

Table 6, as shown in Figure 7, reflects participants' preparedness to integrate digital tools. Among the 46 respondents, 54.35% agreed they felt prepared, and 13.04% strongly agreed, though 17.39% were neutral. A smaller group, 10.87%, disagreed, and 4.35% strongly disagreed, yielding a weighted average of 3.61. This data suggests a generally positive sense of preparedness, though some participants still felt unready. These findings, drawn from descriptive trends and statistical correlations, reinforce the importance of targeted, ongoing support in enabling educators to integrate blended learning practices successfully.

A mix of thorough training, hands-on learning, and ongoing support is key to helping teachers overcome challenges using blended learning. The study suggests that self-directed learning methods, like scenario-based training and personalized coaching, help teachers adopt digital tools more effectively. This autonomy in learning fosters greater self-efficacy and mirrors the expectations placed on students in blended learning environments.

Areas of suggested improvement focus on the potential to significantly impact policy and practice in K-12 education. School leaders and policymakers can better allocate resources toward those initiatives that enhance teacher competency by identifying the specific professional development activities that best support educators in adopting blended learning tools. This study highlights the importance of continuous professional development, scenario-based learning, and one-on-one coaching as critical elements in supporting educators' technological adoption.

Furthermore, for policymakers, these insights could inform the development of statewide or district-wide professional development programs that focus on introducing new digital tools and their sustained use through ongoing support mechanisms. Additionally, policies may need to shift to include more targeted support for teachers who are less familiar

with technology, ensuring that all educators, regardless of their starting point, can confidently integrate blended learning strategies.

The final suggestion based on the results focuses on school leaders. For school leaders, these insights could inform the development of statewide or district-wide professional development programs that focus on introducing new digital tools and their sustained use through ongoing support mechanisms. Additionally, policies may need to shift to include more targeted support for teachers who are less familiar with technology, ensuring that all educators, regardless of their starting point, can confidently integrate blended learning strategies.

Discussion

The findings of this study underscore the critical role that continuous professional development and personalized support play in enhancing educators' ability to adopt and effectively use blended learning tools in the K-12 classroom. The positive correlation between ongoing training and educators' self-efficacy reinforces existing literature emphasizing the importance of sustained learning opportunities, particularly in rapidly evolving educational technologies (Newfield, 2024).

The study's use of descriptive and inferential statistics strengthens the reliability of these findings. Descriptive statistics helped identify which professional development activities educators found most helpful, with one-on-one coaching and peer collaboration rated the highest. Inferential analysis further revealed significant positive relationships between these support strategies and educators' self-reported confidence and adoption of digital tools. These combined insights validate the importance of personalized, ongoing support in blended learning environments.

The findings also show the significance of consistent feedback in professional development initiatives. Educators who received feedback on using digital tools reported greater confidence and engagement, suggesting that constructive feedback is essential for skill retention and growth. This sentiment aligns with the study's data showing that over 80% of respondents desire feedback, which supports a positive learning environment and motivates educators to refine their digital competencies. Providing structured feedback mechanisms as part of professional development may ensure educators gain skills and continuously improve and adapt them in response to evolving classroom needs.

A key finding was that one-on-one coaching and scenario-based learning made a big difference. These methods allowed educators to bridge the gap between theoretical knowledge and practical application, providing them with the confidence to integrate digital tools into their teaching practices. Adopting heutagogical approaches in professional development, where educators are empowered to take control of their learning, could be vital to overcoming barriers in digital tool adoption. Providing teachers hands-on, self-directed learning helps them use technology to fit their teaching style. This research aligns with research suggesting that hands-on, context-specific training is more effective than traditional professional development workshops, which often lack direct relevance to classroom challenges.

These findings reflect more than just preference; they suggest that effective professional development mirrors the core elements of heutagogy. When teachers receive one-on-one coaching or participate in scenario-based learning, they absorb content and engage in flexible, self-directed experiences that empower them to reflect, make choices, and apply learning in context. This autonomy is central to heutagogical practice, emphasizing the learner's ability to shape their learning journey (Cardullo et al., 2021; Lock et al., 2021). While heutagogy was not directly measured in this study, the positive response to personalized, reflective training experiences indicates that embedding self-directed learning strategies into professional development may strengthen digital adoption and educator resilience (Heatherton & Trespalacios, 2021).

While statistical results point to effective training strategies, educators' ability to participate in them has structural challenges. Although the survey did not include direct items assessing self-directed learning, the data suggest that heutagogical elements are valued by educators. One-on-one coaching and self-directed learning resources were among the top-rated forms of professional development, each receiving weighted averages above 3.5. These findings imply that when teachers are given opportunities to guide their learning with support available when needed, they respond positively. Bandura's (1977) and Prahani et al.'s (2022) theoretical frameworks connect self-efficacy and autonomy with instructional innovation. In particular, the positive responses to self-paced and feedback-rich experiences align with heutagogical principles and may offer a model for designing future professional learning experiences.

The study also highlights a common issue among educators: those who lacked access to ongoing support tended to revert to traditional methods despite initial training. School systems should emphasize investing in long-term, sustainable support structures like mentoring and post-training resources. Ensuring educators can maintain and build upon their digital competency over time. However, looking through the prism of time, time constraints emerged as a significant barrier to professional development participation, with many educators indicating that limited time prevented them from fully engaging with digital tools. This limitation points to a need for school systems to structure professional development in ways that accommodate educators' schedules, perhaps through flexible online modules or dedicated time within school hours for professional learning. By addressing time constraints, educational institutions can foster an environment where teachers can focus on building digital skills without sacrificing instructional responsibilities, thus enhancing the likelihood of sustained adoption.

Educators' perceptions of their preparedness to integrate digital tools varied significantly, with some feeling confident while others felt unprepared. The study highlights that hands-on, practical learning experiences such as scenario-based training can mitigate this disparity, bridging the gap between initial exposure and actual implementation in the classroom. Recognizing the need for diverse professional development pathways based on educators' experience levels could ensure that each teacher receives appropriate support, fostering a more uniform level of digital readiness across faculty. These findings, drawn from educators' experiences and statistical analysis, suggest the need for structural support beyond

isolated training events. Additionally, the study points to the potential role of digital content creators or mentors in supporting educators, offering a practical solution for schools struggling to provide adequate training and support. Future research could further explore the effectiveness of these roles in enhancing technology adoption and improving student outcomes.

The study also emphasizes the critical role of school leadership and institutional support in sustaining digital adoption. Leaders who prioritize technology integration and allocate resources for ongoing support, such as funding and time for professional development, are instrumental in helping educators overcome challenges. This support could include regular access to digital mentors and updates to policy frameworks that encourage experimentation with digital tools. By promoting a culture of innovation and supporting educators in this journey, school systems can create a sustainable environment that fosters continuous professional growth and the successful integration of digital tools in teaching practices.

Finally, educator confidence in using digital tools is essential for successful blended learning implementation. While not directly measured in this study, teacher confidence ties to professional development and support structures. Prior research highlights that self-efficacy is central to educators' willingness to adopt new teaching methods (Bandura, 1977; Cardullo et al., 2021). This study's high ratings for one-on-one coaching and peer collaboration suggest that these strategies may help foster confidence. Collaborative learning environments, such as professional learning communities, have been shown to enhance teacher engagement and skill development (Barry & Easterly, 2021; Viberg et al., 2020), reinforcing the value of supportive, community-based professional development.

Conclusion

This study highlights the significant barriers K-12 educators face in adopting and effectively using blended learning tools, particularly the lack of comprehensive professional development and sustained support. The findings demonstrate that ongoing training, practical scenario-based learning, and one-on-one coaching are critical in enhancing educators' digital competency and self-efficacy. Without these support systems, educators often revert to traditional methods, limiting the potential of blended learning to transform teaching practices and student engagement.

The findings suggest that a multi-faceted approach involving comprehensive training, practical learning experiences, and continuous support is essential to overcoming the barriers to blended learning adoption. By investing in these areas, educational institutions can better equip teachers to integrate digital tools and improve student engagement and learning. The study suggests that educational institutions should invest in long-term, structured support mechanisms, such as mentoring and digital content creators, to bridge the gap between initial training and the continued application of digital tools in the classroom. These efforts will ensure that educators are better equipped to integrate technology effectively, ultimately improving instructional outcomes and preparing students for a technology-driven world.

This study reinforces the need to incorporate heutagogy into professional development design. As digital learning tools continue to evolve, educators must be equipped with technical knowledge and the mindset and autonomy to adapt. This study's effectiveness of coaching, scenario-based learning, and self-directed resources suggests that flexible, learner-centered development supports lasting digital fluency (Cardullo et al., 2021; Lock et al., 2021). Institutions aiming to future-proof their workforce should consider building heutagogical principles, such as reflection, choice, and self-regulation, into ongoing support systems. Doing so may enhance teacher confidence and instructional resilience in an ever-changing educational environment.

This study further underscores the urgent need for systemic changes in how educational institutions support educators adopting blended learning tools. While professional development and initial training are critical, the research emphasizes that these must be part of a broader strategy that includes ongoing, adaptive support tailored to educators' diverse needs. Such a strategy enhances digital competency and self-efficacy and fosters a culture of innovation and resilience among educators, enabling them to navigate the evolving educational landscape confidently.

In addition to institutional investments, the findings highlight the importance of fostering a collaborative community of practice among educators. Peer mentoring, knowledge-sharing platforms, and collaborative problem-solving initiatives can complement formal training programs, creating a sustainable support network that empowers teachers to experiment with and refine their digital tools. Furthermore, these initiatives can bridge the gap between policy and practice, ensuring that technological integration is practical and impactful at the classroom level.

Ultimately, this study calls for reimagining professional development and support systems to align with the dynamic nature of technology and its role in education. By prioritizing these comprehensive, long-term solutions, educational institutions can overcome the barriers to blended learning adoption and unlock its transformative potential, preparing educators and students to thrive in an increasingly digital world. This undertaking requires a collective effort from policymakers, administrators, and educators to ensure that resources, training, and support are aligned with the realities of classroom challenges. Schools can cultivate a culture of continuous improvement and innovation in teaching and learning by fostering an environment where technology integration is seen as an evolving practice rather than a one-time initiative.

References

Akin, K. A., Aydin, E. A., & Taskin, S. (2022). The technology acceptance model in education: A comprehensive systematic review. *Education and Information Technologies*, 27(2), 1395-1421. https://doi.org/10.22804/kjep.2022.19.2.001

Alainati, S., Al-Hunaiyyan, A., Alhajri, R., Alahmad, F., & Alkhatib, H. (2023). Perceptions of Online Learning among Instructors: How to Maximize Instructors' Competencies in Virtual and Blended Learning. International Journal of Professional Business Review (JPBReview), 8(11), 1–23. https://doi.org/10.26668/businessreview/2023.v8i11.3924

AlHajri, R., Al-Sharhan, S., & Al-Hunaiyyan, A. (2017). 'Students' Perceptions of Mobile Learning: Case Study of Kuwait'. World Academy of Science, Engineering and Technology, Open Science Index 122, International Journal of Educational and Pedagogical Sciences, 11(2), 371 - 374.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Barry, D., & Easterly, D. (2021). Comparing the self-efficacy of Florida school-based agricultural education teachers delivering online and in-person instruction. *Advancements in Agricultural Development*, 2(2). doi.org/10.37433/aad.v2i2.109

Bates, A. W. (2019). *Teaching in a digital age: Guidelines for teaching and learning* (2nd ed.). Tony Bates Associates Ltd. pressbooks.bccampus.ca/teachinginadigitalagev2/

Cabello, P., Saadati, F., & Barahona, P. (2024). Assessing the Distance Teaching-Learning Experience in Higher Technical-Vocational Education in Chile. Journal of Hispanic Higher Education, 23(4), 228–246. https://doi.org/10.1177/15381927241228497

Cardullo, V., Wang, C., Burton, M., & Dong, J. (2021). K-12 teachers' remote teaching self-efficacy during the pandemic. *Journal of Research on Technology in Education*, 54(2), 1-13. https://doi.org/10.1080/15391523.2021.1927686

Castanha, J., Gurav, P., Indrawati, I., & Bhaskaran-Pillai, S. K. (2023). A study on behaviour intention towards adoption of navigation apps by travellers: The UTAUT2 perspective. *International Journal of Hospitality & Tourism Systems*, 16(1), 34–42.

Cojocariu, V.-M., Lazar, I., Nedeff, V., & Lazar, G. (2014). SWOT analysis of E-learning educational services from the perspective of their beneficiaries. *Procedia Social and Behavioral Sciences*, 116(1), 1999–2003. https://doi.org/10.1016/j.sbspro.2014.01.510

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003.

Dayal, S. (2023). Online education and its effect on teachers during COVID-19—A case study from India. *PLoS ONE*, 17(3), 1–15. https://doi.org/10.1371/journal.pone.0282287

Dele-Ajayi, O., Fasae, O. D., & Okoli, A. (2021). Teachers' concerns about integrating information and communication technologies in the classrooms. *PLoS ONE* 16(5): e0249703. doi.org/10.1371/journal.pone.0249703

European Commission. (2019). Directorate-General for Education, Youth, Sport and Culture. *Key competences for lifelong learning*. Publications Office. https://data.europa.eu/doi/10.2766/569540.

Heatherton, A., & Trespalacios, J. H. (2021). Examination of the SAMR Model for effective technology integration through an adaptive leadership Approach. *Journal of Educational Technology*, 18(3), 1–9. https://doi.org/10.26634/jet.18.3.18314

Ikonnikova, I., Sabirova, F., Batrakova, I., Filippova, A., & Garnova, N. (2022). Covid-19 effect on the assessment of the use of smartphone apps in STEM learning. *International Journal of Instruction*, 15(4), 1113–1132. https://doi.org/10.29333/iji.2022.15459a

Johnson, C. C., Walton, J. B., Strickler, L., & Elliott, J. B. (2022). Online teaching in K-12 education in the United States: A systematic review. *Review of Educational Research*, 1. https://doi.org/10.3102/00346543221105550

Lock, J., Lakhal, S., Cleveland, I. M., Arancibia, P., Dell, D., & De Silva, N. (2021). Creating technology-enabled lifelong learning: A heutagogical approach. *British Journal of Educational Technology*, 52(4), 1646–1662. https://doi.org/10.1111/bjet.13122

Mann, B., Wei, L., & Besnoy, K. (2021). Digital divides: K-12 student profiles and online learning. *Education Policy Analysis Archives*, 29(112–114), 1–21. https://doi.org/10.14507/epaa.29.6351

Martínez, L., & Muñoz, J. (2021). Are andragogy and heutagogy the secret recipe for transdisciplinary entrepreneurship education? *European Business Review*, 33(6), 957–974. https://doi.org/10.1108/EBR-11-2020-0290

Newfield, T. (2024). Barriers to Implementing Blended Learning in the K-12 Classroom: Quantitative Correlational Research (Order No. 31490806). Available from Dissertations & Theses @ University of Phoenix; ProQuest Dissertations & Theses Global. (3092180034). https://www.proquest.com

Office of Educational Technology. (2022). *National Educational Technology Plan.* https://tech.ed.gov/netp/

Prahani, B. K., Alfin, J., Fuad, A. Z., Saphira, H. V., Hariyono, E., & Suprapto, N. (2022). Learning Management System (LMS) Research During 1991-2021: How Technology Affects Education. International Journal of Emerging Technologies in Learning (iJET), 17(17), pp. 28–49. https://doi.org/10.3991/ijet.v17i17.30763

Proudfoot, D., & Kebritchi, M. (2017). Scenario-based eLearning and STEM education: A qualitative study exploring the perspectives of educators. *International Journal of Cognitive Research in Science, Engineering and Education*, 5(1), 7–18. doi.org/10.5937/IJCRSEE1701007P

Puentedura, R. R. (2013). SAMR: Moving from enhancement to transformation [Web log post]. Retrieved from http://www.hippasus.com/rrpweblog/archives/000095.html

Razali, F., Sulaiman, T., & Ayub, A. F. M. (2022). Factors of learning towards creating blended learning curriculum using learning management system in higher education during Covid-19. *International Journal of Instruction*, 15(4), 723–744. https://doi.org/10.29333/iji.2022.15439a

Robertson, J., & Sivia, A. (2022). Online but not alone: Teachers' perceptions of effective online school leadership (OSL). *International Journal of E-Learning & Distance Education*, 37(1), 1–41. https://doi.org/10.55667/ijede.2022.v37.i1.1230

Smith, K., Maynard, N., Berry, A., Stephenson, T., Spiteri, T., Corrigan, D., Mansfield, J., Ellerton, P., & Smith, T. (2022). Principles of problem-based learning (PBL) in STEM education: Using expert wisdom and research to frame educational practice. *Education Sciences*, 12(10), 728–N.PAG. https://doi.org/10.3390/educsci12100728

SurveyMonkey. (2023). *SurveyMonkey: the world's most popular free online survey tool*. San Mateo, California, USA, https://www.surveymonkey.com/

Taylor, N. R. (2021). Can you hear us now? A narrative inquiry of elementary educators' professional learning perceptions in pursuit of educational equity [ProQuest LLC]. In ProQuest LLC. https://www.proquest.com/docview/2640995301

Toraman, Y., & GEÇİT, B. B. (2023). User acceptance of Metaverse: An analysis for e-Commerce in the framework of technology acceptance model (TAM). *Sosyoekonomi*, 30(55), 85–104. https://doi.org/10.17233/sosyoekonomi.2023.01.05

Towip, T., Widiastuti, I., & Budiyanto, C. W. (2022). Students' perceptions and experiences of online cooperative problem-based learning: Developing 21st century skills. *International Journal of Pedagogy and Teacher Education*, 6(1), 37–42. https://doi.org/10.20961/ijpte.v6i1.56744

Tzafilkou, K., Perifanou, M., & Economides, A. A. (2023). Assessing teachers' digital competence in primary and secondary education: Applying a new instrument to integrate pedagogical and professional elements for digital education. *Educ Inf Technol* 28, 16017–16040 https://doi.org/10.1007/s10639-023-11848-9

Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315. https://doi.org/10.1111/j.1540-5915.2008.00192.x

Viberg, O., Grönlund, Å., & Andersson, A. (2020). Integrating digital technology in mathematics education: a Swedish case study. Interactive Learning Environments, 31(1), 232–243. https://doi.org/10.1080/10494820.2020.1770801

Xiao, Q., & Li, X. (2021). Exploring the antecedents of online learning satisfaction: Role of flow and comparison between use contexts. *International Journal of Computers, Communications & Control*, 16(6), 1–19. https://doi.org/10.15837/ijccc.2021.6.4398

Zindi, B. (2024). Prospects and Pitfalls of Continuous Professional Development Programmes in the Eastern Cape Department of Education. IAHRW International Journal of Social Sciences Review, 12(4), 511–520. https://iahrw.org/

Special Education Status of Emergent Bilingual Students: A Pre- and Post-Pandemic Analysis of Reading for Texas Grade 8 Students

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Abstract

The extent to which differences were present in the Texas state-mandated Reading assessment for Emergent Bilingual students by their special education status (i.e., Not Special Education, Special Education) for five school years was addressed. Data were collected from the Texas Education Agency Public Education Information Management System for all Grade 8 students for the two years prior to the pandemic (2017-2018 and 2018-2019) and the three years following the pandemic (2020-2021, 2021-2022, and 2022-2023). Lower percentages of Emergent Bilingual students in special education met grade level standards compared to Emergent Bilingual students not in special education. Notably, higher percentages of these students met grade level standards in the post-pandemic years, except for the 2020-2021 school year.

Keywords: reading assessment, educational leadership, special education, Bilingual

English Language Learners represent the fastest-growing demographic in the United States, with a population increase from 9.2% in 2010 to 10% in 2020 (National Center for Education Statistics, 2021). The previously used deficit terms “Limited English Proficient” and “English Language Learner” have been replaced with the asset-based term “Emergent Bilingual,” which describes a student who is acquiring an additional language while continuing to develop their home language (Przymus & Alvarado, 2019; Texas Education Agency 2022). Emergent Bilingual students are more likely to attend less affluent schools and to come from economically disadvantaged backgrounds, with parents who have received limited schooling (Callahan & Shifrer, 2016; Kanno & Harklau, 2012). These factors place these students at an elevated risk of encountering academic difficulties in the development of academic English language proficiency acquisition (Roberts et al., 2021). Furthermore, Emergent Bilingual students who face challenges in both their native language and English proficiency are at an elevated risk of being referred for special education programs (Ortiz et al., 2020).

Policymakers have made efforts to provide equitable outcomes for students whose native language is not English. Federal initiatives, such as The No Child Left Behind Act of 2001, mandated the annual assessment of reading proficiency for all students in Grades 3-8, regardless of economic or language status (Hernandez, 2011). For students with learning disabilities, the Individuals with Disabilities Education Improvement Act of 2004 required schools to ensure equitable educational opportunities and for states to disclose their performance on standardized assessments (Kart & Kart, 2021). Specifically for Emergent Bilingual students, the context of Part B, Subpart D of the Individuals with Disabilities Education Act included specific provisions ensuring that students are not categorized as having a disability solely based on "limited English proficiency” (Soto-Boykin et al., 2023). This regulation plays a vital role in preventing the incorrect labeling of language acquisition as a learning disability. In 2015, the Every Student Succeeds Act further delegated the responsibility to individual states to measure the yearly progress of all students, including Emergent Bilingual students, through assessments chosen by the state (Adler-Greene, 2019). The act also required closer monitoring of the academic and linguistic progress of Emergent Bilingual students dually served in special education programs (Kanga et al., 2023).

With respect to Texas, the state of interest for this article, 23% of students enrolled in public schools are Emergent Bilingual, representing almost a 47% increase from the 2012-2023 school year (Texas Education Agency, 2023a). In addition to the state’s Emergent Bilingual student population in this article, a major focus will also be the reading performance of Emergent Bilingual students dually served in language and special education programs. In the 2022-2023 school year, over 94,000 Emergent Bilingual students were enrolled in Grade 8, with only 67% of those students meeting expectations on the Texas state-mandated reading assessment, the State of Texas Assessments of Academic Readiness (STAAR) Reading test (Texas Education Agency, 2023a). Additionally, 10% of Emergent Bilingual students are also served in special education (Texas Education Agency, 2023b). State-mandated testing, which relies solely on a student's grade level and is conducted in English, overlooks the unique needs of students who are acquiring English or have learning disabilities (Castro & Artiles, 2021; Dakroub et al., 2020). Moreover, current guidelines for identifying reading and language disabilities are primarily normed on data collected from monolingual English-speaking children (Francis et al.,

2019). The need to understand better the relationship between reading performance on the state-mandated assessment and Emergent Bilingual students who are enrolled in special education is important because researchers such as Hokom (2021), Farnia and Geva (2019), and Morgan et al. (2018) have established that Emergent Bilingual students have an increased likelihood of misidentification or placement in special education programs than their monolingual peers. Emergent Bilingual students who receive special education services are also at an increased risk of dropping out of school and are less likely to graduate with a regular high school diploma (U.S. Department of Education, 2023b).

Concerning nationwide performance, during the 2020-2021 school year, 16.1% of Emergent Bilingual students were also identified as students with disabilities (National Center for Education Statistics, 2021), indicating a 30% increase between 2012 and 2020 (U.S. Department of Education, 2023b). In the first large-scale study of Emergent Bilingual students dually served in special education, Cooc (2023) analyzed national trends in reading and mathematics scores on the National Assessment for Educational Progress for 2004-2020. In both reading and mathematics, non-Emergent Bilingual students with disabilities outperformed Emergent Bilingual students with disabilities. These disparities in academic performance have not only continued over time but have also increased, especially for 9-year-olds. In 2020, the difference in mathematics achievement was 0.65 standard deviations lower between Emergent Bilingual students with disabilities and non-Emergent Bilingual students with disabilities. Moreover, the disparity in reading achievement between Emergent Bilingual students with disabilities was also significantly lower than non-Emergent Bilingual students with disabilities, a trend that has increased over time (Cooc, 2023).

In a similar national study, Kangas et al. (2023) investigated the reading performance of four subgroups of Emergent Bilingual students with disabilities, former Emergent Bilingual students with disabilities, Emergent Bilingual students with no disabilities, and former Emergent Bilingual students with no disabilities. Students formerly known as Emergent Bilinguals are individuals who have attained English proficiency and have been reclassified (Kangas et al., 2023). Data were collected from the National Assessment of Educational Progress reading assessments from 2009-2019 for Grades 4 and 8. Results for Grade 4 and Grade 8 were that among Emergent Bilingual students with disabilities, a significant majority (88% to 91%) attained “below basic” achievement levels compared to Emergent Bilingual students with no disabilities (61% to 69%), former Emergent Bilingual with disabilities (40%-67%), and former Emergent Bilingual students with no disabilities (15%-35%). Former Emergent Bilingual students with no disabilities also outperformed the other groups in the other three levels of performance on the reading assessment.

In a Texas study, Pariseau (2019) investigated the reading performance of Emergent Bilingual boys and girls enrolled in special education on the state-mandated reading test. Archival data were obtained for the 2014-2015, 2015-2016, 2016-2017, and 2017-2018 school years. Non-Emergent Bilingual boys in special education outperformed Emergent Bilingual boys in special education in the three Phase-in standards. Non-Emergent Bilingual girls in special education had statistically significantly higher scores than Emergent Bilingual girls in special education in Phase-in 2 and Phase-in 3 Standard performance.

In another study conducted in Texas, Hall (2022) examined STAAR Reading and Mathematics outcomes among students receiving special education services at one middle school in comparison to statewide results. Data for the 2018-2019 school year were obtained for one middle school for Grades 6, 7, and 8 and statewide. Students receiving special education services at the selected middle school underperformed in both the reading and mathematics assessments compared to the statewide scores for students in special education, spanning all three grade levels. Black and Hispanic students at the targeted middle school scored statistically significantly lower than students who were Two or More Races or White. Among students dually served in language and special education programs at the middle school, 32% were identified, with only 3% achieving the Approaches Grade Level Standard on the STAAR Reading assessment, and none reaching passing standards on the mathematics assessment (Hall, 2022).

In another Texas investigation, Gonzales (2016) addressed the relationship between the reading performance of Emergent Bilingual students enrolled in special education and their economic status. Archival data were obtained for the 2005-2014 school years for students in Grades 3-12. Results were the presence of significant relationships between the reading scores of Emergent Bilingual students and their economic status. Emergent Bilingual students enrolled in special education who were not economically disadvantaged outperformed Emergent Bilingual students who were economically disadvantaged (5.5% and 0.5% respectively).

In yet another study conducted in Texas, Holden (2016) investigated college readiness by the economic status of high school students enrolled in special education. Archival data from the state-mandated tests for the 2008-2011 school years were obtained from the Texas Education Agency for reading, mathematics, and both subjects for high school students diagnosed as being Learning Disabled. Statistically significant differences were present across all three school years. Of particular importance was that high school students diagnosed with a learning disability scored exceptionally low in reading, mathematics, and both subjects. High school students diagnosed with a learning disability who were not economically disadvantaged generally outperformed high school students with a learning disability who were economically disadvantaged. However, in the 2010-2011 school year high school students with a learning disability who were not economically disadvantaged scored lower in mathematics and both subjects than high school students with a learning disability who were economically disadvantaged.

Of importance to the readers is that in January 2018, the Texas Education Agency underwent corrective action by the United States Department of Education for noncompliance with ensuring that all students with disabilities were identified, located, or evaluated (DeMatthews & Knight, 2019). The Texas Education Agency fulfilled its obligations in June 2023 and at the time of this publication, was in compliance with all required actions. Additionally, the passage of House Bill 3928 mandated the Admission, Review, and Dismissal Committee to add Dyslexia services as a specialized service on a student's individualized education program (Texas Education Agency, 2023c). Unfortunately, a dearth of research studies exists concerning the reading performance of students classified as both Emergent Bilingual and receiving special education services in Texas. In an extensive and intensive search of the existing research

literature, no published studies could be located regarding the interconnection of the special education status of Grade 8 Emergent Bilingual students and their reading performance, specifically for the years after the COVID-19 pandemic. Moreover, no published works could be located regarding the performance of Grade 8 students on the Texas state-mandated reading assessment. Therefore, the association between special education status and Grade 8 Emergent Bilingual students on their reading performance, prior to and after the COVID-19 pandemic, will be addressed in this article.

Theoretical Framework

The theoretical framework for this article was based on cultural-ecological theory (Ogbu & Simons, 1998), which was applied to examine differences in academic outcomes for Emergent Bilingual students. John Ogbu's theory on minority student performance focuses on how discriminatory practices influence the academic performance of minority students in educational settings (Ogbu & Simons, 1998). Although policymakers have made efforts to provide equitable outcomes for students whose native language is not English, researchers such as Farnia and Geva (2019) and Morgan et al. (2018), contend that Emergent Bilingual students are at an increased risk of misidentification or placement in special education programs than their monolingual peers. State-mandated testing, which relies solely on a student's grade level and is conducted in English, overlooks the unique needs of students acquiring the English language or who have learning disabilities (Castro & Artiles, 2021; Dakroub et al., 2020). Moreover, the current methods for diagnosing reading and language disabilities rely primarily on data collected from monolingual English-speaking children, exacerbating the discriminatory treatment experienced by Emergent Bilingual students (Francis et al., 2019). Students receiving language and special education services are at an increased risk of dropping out of school and are less likely to graduate with a regular high school diploma, limiting their opportunities for success (U.S. Department of Education, 2023b). Whereas Ogbu's framework was on the achievement gaps among Black students (Ogbu & Simons, 1998) this article will expand on the research to examine how educational factors influence the achievement gap among Emergent Bilingual students.

Statement of the Problem

Language disparities on standardized assessments have been documented by multiple researchers (Martin, 2022; McGown, 2016; Paschall et al. 2018; Resilla & Slate, 2023). Additionally, researchers (e.g., Kauffman, 2019; Kim, 2017) have documented the likelihood of increased referrals to special education for students who encounter academic difficulties. Understanding the correlation between reading performance and Emergent Bilingual students receiving special education services is important because Emergent Bilingual students receiving special education services face an increased risk of dropping out of school and are less likely to attain a regular high school diploma (Castro & Artiles, 2021; Hokom, 2021; Morgan et al., 2018; U.S. Department of Education, 2023b). After a thorough and extensive review of the existing research literature, no published studies could be located on the reading performance of Grade 8 Emergent Bilingual students by their special education status, particularly for the school years following the pandemic.

Purpose of the Study

The purpose of this study was to determine the degree to which differences were present in the Grade 8 STAAR Reading assessment by the special education status of Emergent Bilingual students. The primary objective was to ascertain the effect of special education status on the reading performance of Emergent Bilingual students by performance standard (i.e., Approaches Grade Level Standard, Meets Grade Level Standard, and Masters Grade Level Standard). The second purpose was to examine the degree to which trends were present across five school years of Grade 8 STAAR Reading data (i.e., 2017-2018, 2018-2019, 2020-2021, 2021-2022, and 2022-2023).

Significance of the Study

The significance of this investigation was to ascertain the degree to which differences were present in the reading performance of Emergent Bilingual students by their special education status. Multiple researchers (McGown, 2016; Resilla & Slate, 2023) have examined the relationship between reading performance and language status, as well as limited researchers (Hall, 2022; Pariseau, 2019; Taylor, 2021) who have analyzed academic achievement on the state-mandated test for students enrolled in special education. However, no published articles in which the authors had examined the combined influence of language and special education status on the reading achievement of Grade 8 students could be located. Given the substantial role that language difficulties play in the decision-making process of referring Emergent Bilingual students to special education programs, a need exists for research studies on the effects of special education enrollment for Emergent Bilingual students on reading performance.

The STAAR Reading test was redesigned during the 2022-2023 school year to better align with the classroom learning environment (Texas Education Agency, 2023d). The redesign included the following components: new question formats, online testing with accommodations, evidence-based writing, and cross-curricular passages. This study provides two years of data preceding the onset of the COVID-19 pandemic and three years thereafter.

Research Questions

The primary research question addressed in this study was: What is the difference in the reading performance of Texas Grade 8 Emergent Bilingual students by their special education status (i.e., Not Special Education and Special Education)? Subquestions under this overarching research question are: (a) What is the difference in the Approaches Grade Level standard by the special education status of Emergent Bilingual students?; (b) What is the difference in the Meets Grade Level standard by special education status of Emergent Bilingual students?; (c) What is the difference in the Masters Grade Level standard by the special education status of Emergent Bilingual students?; (d) What trend is present in grade level standard performance by the special education status of Emergent Bilingual students across five school years?

Method

Research Design

A causal-comparative research design was utilized in this article (Johnson & Christensen, 2020).

Archival data from the Texas Education Agency Public Information Management System for the 2017-2018, 2018-2019, 2020-2021, 2021-2022, and 2022-2023 school years were utilized to analyze STAAR Reading scores. Achievement data were analyzed across three performance standards to determine the extent of differences that existed by the special education status of Emergent Bilingual students. The independent variable was student special education status (i.e., Not Special Education and Special Education) of Grade 8 Emergent Bilingual students in Texas. Dependent variables were the three student performance levels on the State of Texas Assessments of Academic Readiness Reading exam (i.e., Approaches Grade Level, Meets Grade Level, and Masters Grade Level) for the aforementioned school years.

Participants and Instrumentation

Participants in this study were Texas Grade 8 Emergent Bilingual students who were assessed on the STAAR Reading exam in the 2017-2018, 2018-2019, 2020-2021, 2021-2022, and 2022-2023 school years. Emergent Bilingual students are those individuals who are continuing to develop their home language while also learning an additional language (Texas Education Agency, 2023c). This term will be used to refer to all the previous labels. Data were acquired from the Texas Education Agency Public Information Management System spanning the aforementioned five school years. A Public Information Request was submitted to the Texas Education Agency requesting: (a) grade level, (b) STAAR Reading performance levels, (c) Emergent Bilingual indicator, and (d) special education status.

As indicated in Table 1, a substantial increase occurred in the number of Emergent Bilingual students in special education in the five school years. In the 2017-2018 school year, there were 55,506 Grade 8 Emergent Bilingual students. This number steadily grew to 92,497 by the 2022-2023 school year, representing a 66.6% increase. Also present was a notable increase in the number of Emergent Bilingual students in special education. In the 2017-2018 school year, 6,308 Grade 8 Emergent Bilingual students were in special education and 49,198 Emergent Bilingual students were not in special education (11.4% and 88.6%, respectively). This number increased to 10,519, a 67% increase, in the 2022-2023 school year. Represented in Figure 1 are these percentages across the five school years.

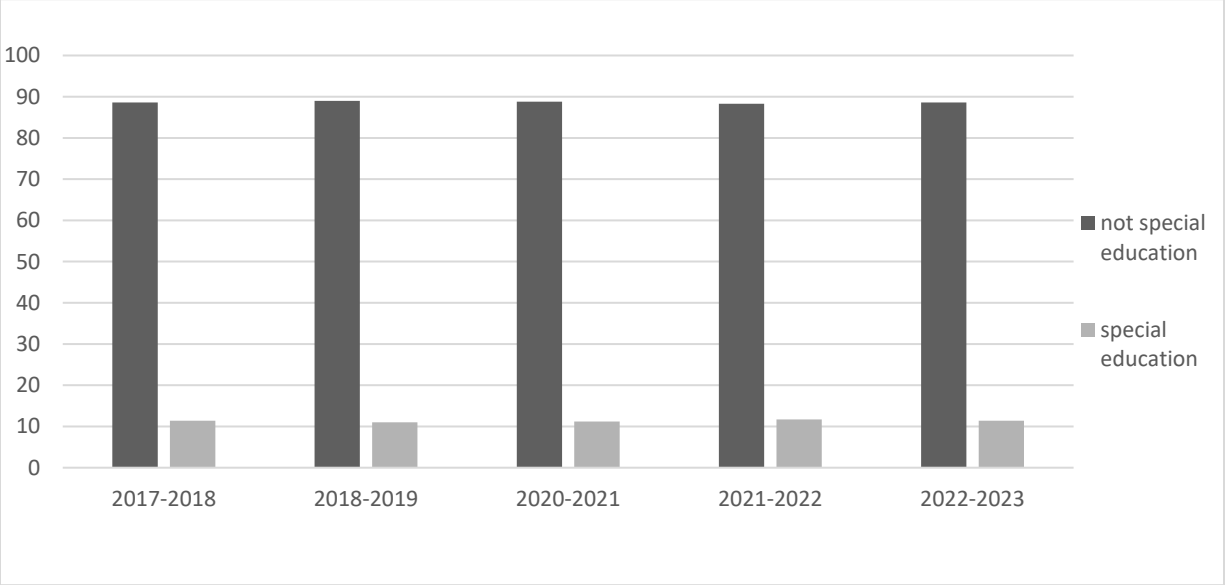
Table 1

Frequencies and Percentages of Texas Emergent Bilingual Students and Their Special Education Status for All Five School Years

School Year	Special Education n (%age)	Not Special Education n (%age)
2017-2018	*n* = 6,308 (11.4%)	*n* = 49,198 (88.6%)
2018-2019	*n* = 7,054 (11%)	*n* = 56,980 (88.9%)
2020-2021	*n* = 8,240 (11.2%)	*n* = 65,419 (88.8%)
2021-2022	*n* = 9,197 (11.7%)	*n* = 69,418 (88.3%)
2022-2023	*n* = 10,519 (11.4%)	*n* = 81,978 (88.6%)

Figure 1

Average Percentages of Emergent Bilingual Students by Their Special Education Status for All Five School Years



Three performance standards are assessed by the STAAR reading test. Achievement in the Approaches Grade Level standard signifies that students are proficient in applying knowledge and skills in familiar contexts, yet they may need focused academic intervention to succeed in the next grade level (Texas Education Agency, 2023e). Students achieving the Meets Grade Level standard have demonstrated proficiency in critical thinking skills when applied to familiar contexts. However, these students may benefit from short-term targeted intervention in the subsequent grade level (Texas Education Agency, 2023e). In the Masters Grade Level standard, students successfully exhibited critical thinking skills and proficiency in applying knowledge and skills in various contexts and are anticipated to be successful in the following grade level with minimal or no intervention needed (Texas Education Agency, 2023e).

Additionally, student performance on the STAAR was also examined by special education status, defined as a student who is enrolled in special education and related support services (U.S. Department of Education, 2023a). For this article, students who are Emergent Bilingual and receive special education services will be referred to as Special Education. Emergent Bilingual students who do not receive special education services will be referred to as not Special Education.

Regarding the psychometric properties of the STAAR Reading test, the Texas Education Agency contracted with the Human Resources Research Organization to provide an independent evaluation of the STAAR test. The organization concluded that the Grade 8 STAAR reading test was 96.6% fully aligned with intended expectations (Texas Education Agency, 2016). For additional information about the reliability and validity of the STAAR Reading assessment, readers are directed to consult the Technical Manuals on the Texas Education Agency website.

Results

Data Analysis

To determine the degree to which differences were present on the three performance standards (i.e., Approaches Grade Level, Meets Grade Level, and Masters Grade Level), Pearson chi-square analyses were conducted. The Pearson chi-square is the most appropriate statistical procedure when the independent and dependent variables are categorical (Slate, 2023). Before calculating any Pearson chi-square procedures, the underlying assumptions were checked and were verified to have been met.

Approaches Grade Level Analyses Across All Five School Years

For the first research question on the Approaches Grade Level standard for the 2017-2018 school year, the result was statistically significant, $\chi^2(1) = 1647.81$, $p < .001$. The effect size for this finding, Cramer's V, was small, .17 (Cohen, 1988). As revealed in Table 2, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than 26 percentage points, met the Approaches Grade Level standard than did Emergent Bilingual students who were not in special education.

Table 2

Frequencies and Percentages of the Approaches Grade Level Standard by the Special Education Status of Emergent Bilingual Students for All Five School Years

School Year and Special Education Status	Did Not Meet *n* and %age of Total	Met *n* and %age of Total
2017-2018		
Not Special Education	(*n* = 27,885) 56.7%	(*n* = 21,313) 43.3%
Special Education	(*n* = 5,255) 83.3%	(*n* = 1,053) 16.7%
2018-2019		
Not Special Education	(*n* = 29,098) 51.1%	(*n* = 27,882) 48.9%
Special Education	(*n* = 5,736) 81.3%	(*n* = 1,318) 18.7%
2020-2021		
Not Special Education	(*n* = 37,688) 57.6%	(*n* = 27,731) 42.4%
Special Education	(*n* = 6,965) 84.5%	(*n* = 1,275) 15.5%
2021-2022		
Not Special Education	(*n* = 21,982) 31.7%	(*n* = 47,436) 68.3%
Special Education	(*n* = 6,175) 67.1%	(*n* = 3,022) 32.9%
2022-2023		
Not Special Education	(*n* = 23,621) 28.8%	(*n* = 58,357) 71.2%
Special Education	(*n* = 6,729) 64%	(*n* = 3,790) 36%

With respect to the 2018-2019 school year, the Pearson chi-square revealed the presence of a statistically significant difference, $\chi^2(1) = 2315.21$, $p < .001$, Cramer's V was small, .19 (Cohen, 1988). As delineated in Table 2, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than 30 percentage points, met the

Approaches Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students who were not in special education.

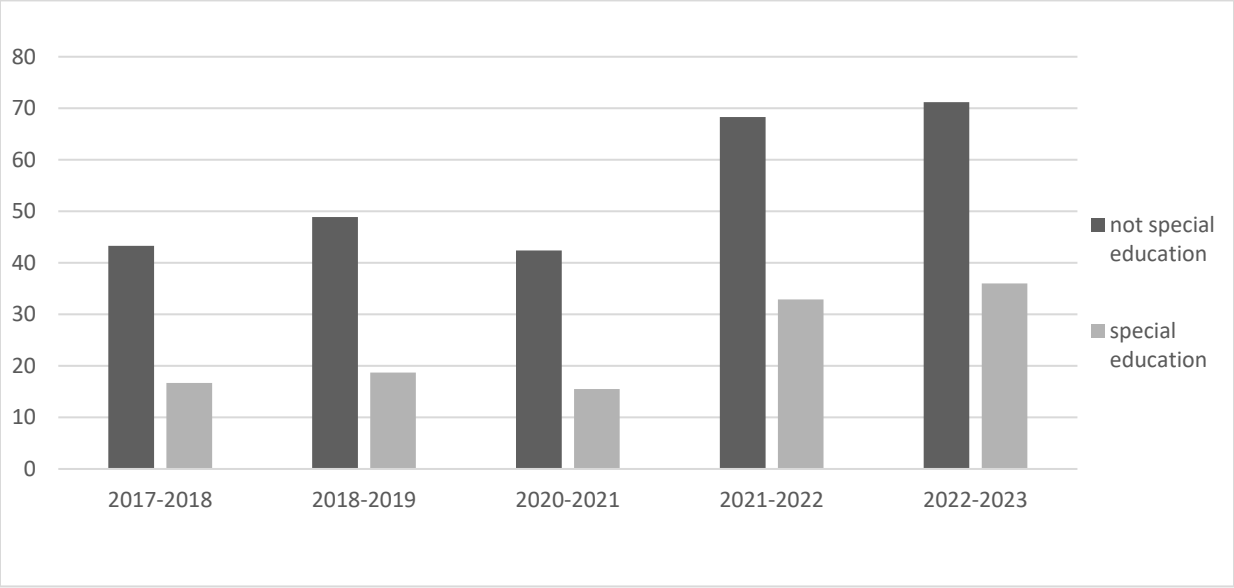
Concerning the 2020-2021 school year, a statistically significant difference was yielded, $\chi^2(1) = 2221.04$, $p < .001$, below small effect size, Cramer's V = .17 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 26 percentage points, met the Approaches Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are contained in Table 2.

For the 2021-2022 school year, the result was statistically significant, $\chi^2(1) = 4445.90$, $p < .001$, small effect size, Cramer's V = .24 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 35 percentage points, met the Approaches Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are contained in Table 2.

Lastly, for the 2022-2023 school year a statistically significant difference was yielded, $\chi^2(1) = 5226.64$, $p < .001$, small effect size, Cramer's V = .24 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 35 percentage points, met the STAAR Reading exam Approaches Grade Level standard than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are revealed in Table 2. Illustrated in Figure 2 are the percentages across all five school years.

Figure 2

Average Percentages of Emergent Bilingual Students by Their Special Education Status Who Met the STAAR Reading Approaches Grade Level Standard for All Five School Years



Meets Grade Level Analyses Across All Five School Years

For the first research question on the Meets Grade Level standard for the 2017-2018 school year, the result was statistically significant, $\chi^2(1) = 514.17$, $p < .001$. The effect size for this finding, Cramer's V, was below small, .01 (Cohen, 1988). As revealed in Table 3, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than nine percentage points, met the Meets Grade Level standard than did Emergent Bilingual students who were not in special education.

Table 3

Frequencies and Percentages of the Meets Grade Level Standard by the Special Education Status of Emergent Bilingual Students for All Five School Years

School Year and Special Education Status	Did Not Meet *n* and %age of Total	Met *n* and %age of Total
2017-2018		
Not Special Education	(*n* = 43,445) 88.3%	(*n* = 5,753) 11.7%
Special Education	(*n* = 6,160) 97.7%	(*n* = 148) 2.3%
2018-2019		
Not Special Education	(*n* = 46,281) 81.2%	(*n* = 10,699) 18.8%
Special Education	(*n* = 6,768) 95.9%	(*n* = 286) 4.1%
2020-2021		
Not Special Education	(*n* = 54,722) 83.6%	(*n* = 10,697) 16.4%
Special Education	(*n* = 7,985) 96.9%	(*n* = 255) 3.1%
2021-2022		
Not Special Education	(*n* = 44,999) 64.8%	(*n* = 24,419) 35.2%
Special Education	(*n* = 8,446) 91.8%	(*n* = 751) 8.2%
2022-2023		
Not Special Education	(*n* = 51,655) 63%	(*n* = 30,323) 37%
Special Education	(*n* = 9,673) 92%	(*n* = 846) 8%

With respect to the 2018-2019 school year, the Pearson chi-square revealed the presence of a statistically significant difference, $\chi^2(1) = 957.29$, $p < .001$, Cramer's V was small, .12 (Cohen, 1988). As delineated in Table 3, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than 14 percentage points, met the Meets Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students who were not in special education.

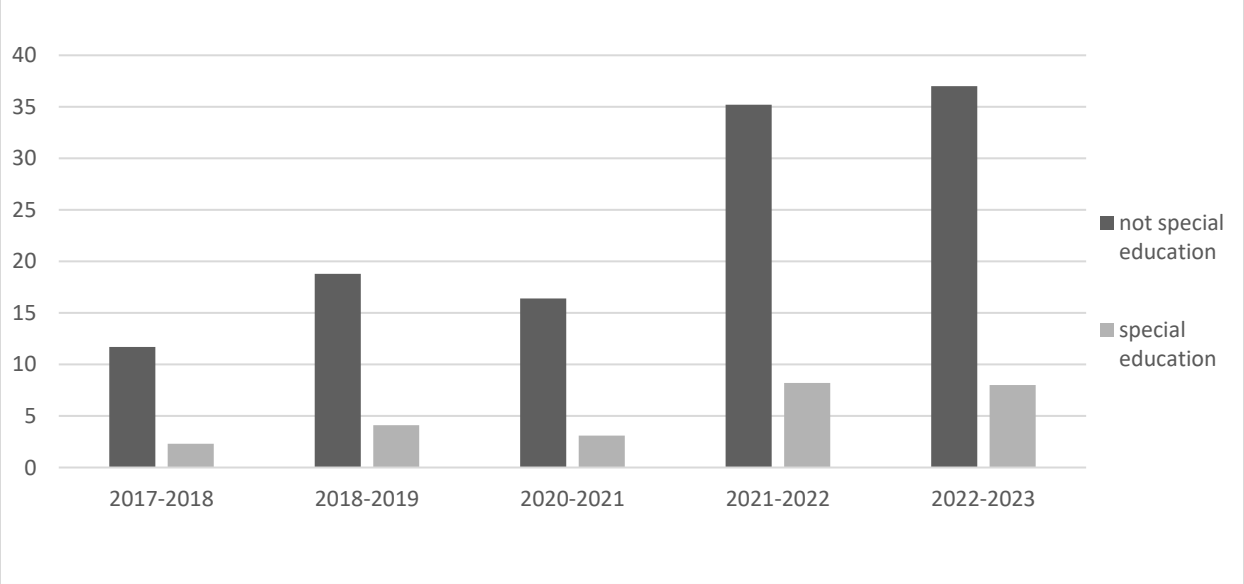
Concerning the 2020-2021 school year, a statistically significant difference was yielded, $\chi^2(1) = 1016.08$, $p < .001$, small effect size, Cramer's V = .12 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 13 percentage points, met the Meets Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are contained in Table 3.

For the 2021-2022 school year, the result was statistically significant, $\chi^2(1) = 2722.18$, $p < .001$, small effect size, Cramer's V = .19 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 27 percentage points, met the Meets Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are revealed in Table 3.

Lastly, for the 2022-2023 school year a statistically significant difference was yielded, $\chi^2(1) = 3496.33$, $p < .001$, small effect size, Cramer's V = .19 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 29 percentage points, met the STAAR Reading exam Meets Grade Level standard than did Emergent Bilingual students not in special education. Delineated in Table 3 are the descriptive statistics for this school year. Depicted in Figure 3 are the percentages across all five school years.

Figure 3

Average Percentages of Emergent Bilingual Students by Their Special Education Status Who Met the STAAR Reading Meets Grade Level Standard for All Five School Years



Masters Grade Level Analyses Across All Five School Years

For the first research question on the Masters Grade Level standard for the 2017-2018 school year, the result was statistically significant, $\chi^2(1) = 177.29$, $p < .001$. The effect size for this finding, Cramer's V, was below small, .06 (Cohen, 1988). As revealed in Table 4, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than three percentage points, met the Masters Grade Level standard than did Emergent Bilingual students who were not in special education.

Table 4

Frequencies and Percentages of the Masters Grade Level Standard by the Special Education Status of Emergent Bilingual Students for All Five School Years

School Year and Special Education Status	Did Not Meet *n* and %age of Total	Met *n* and %age of Total
2017-2018		
Not Special Education	(*n* = 47,401) 96.3%	(*n* = 1,797) 3.7%
Special Education	(*n* = 6,278) 99.5%	(*n* = 30) 0.5%
2018-2019		
Not Special Education	(*n* = 54,192) 95.1%	(*n* = 2,788) 4.9%
Special Education	(*n* = 7,008) 99.3%	(*n* = 46) 0.7%
2020-2021		
Not Special Education	(*n* = 62,588) 95.7%	(*n* = 2,831) 4.3%
Special Education	(*n* = 8,199) 99.5%	(*n* = 41) 0.5%
2021-2022		
Not Special Education	(*n* = 57,509) 82.8%	(*n* = 11,909) 17.2%
Special Education	(*n* = 8,947) 97.3%	(*n* = 250) 2.7%
2022-2023		
Not Special Education	(*n* = 73,140) 89.2%	(*n* = 8,838) 10.8%
Special Education	(*n* = 10,407) 98.9%	(*n* = 112) 1.1%

With respect to the 2018-2019 school year, the Pearson chi-square revealed the presence of a statistically significant difference, $\chi^2(1) = 266.88$, $p < .001$, Cramer's V was below small, .07 (Cohen, 1988). As delineated in Table 4, a statistically significantly lower percentage of Emergent Bilingual students in special education, more than four percentage points, met the Masters Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students who were not in special education.

Concerning the 2020-2021 school year, a statistically significant difference was yielded, $\chi^2(1) = 286.49$, $p < .001$, below small effect size, Cramer's V = .06 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than three percentage points, met the Masters Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are contained in Table 4.

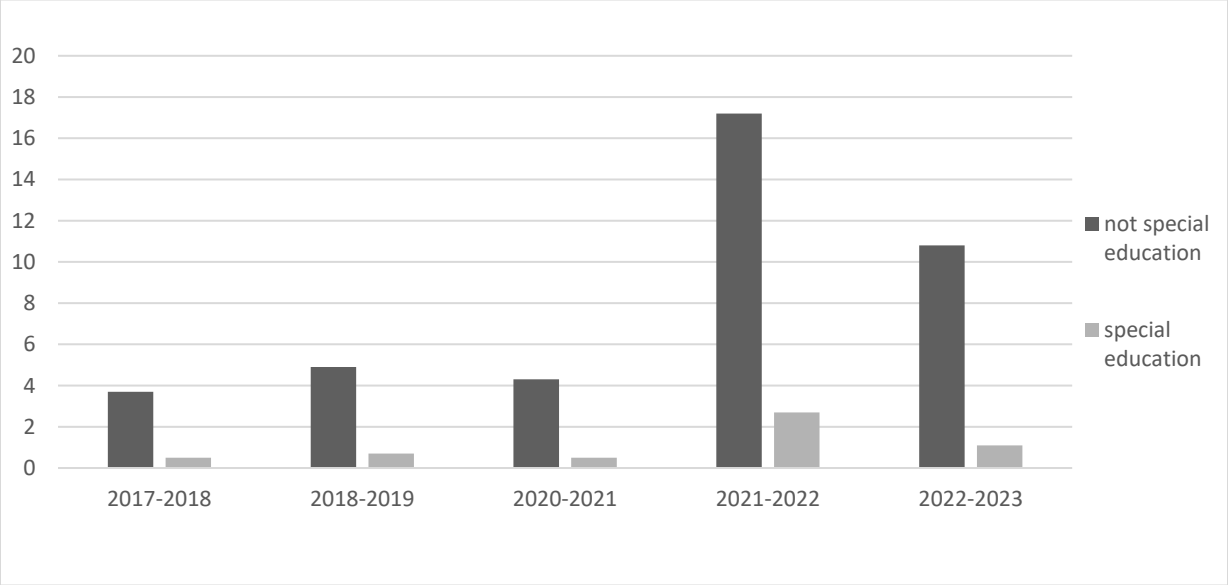
For the 2021-2022 school year, the result was statistically significant, $\chi^2(1) = 1294.67$, $p < .001$, small effect size, Cramer's V = .13 (Cohen, 1988). A statistically significantly lower percentage of Emergent Bilingual students in special education, more than 14 percentage points, met the Masters Grade Level standard on the STAAR Reading exam than did Emergent Bilingual students not in special education. Descriptive statistics for this analysis are revealed in Table 4.

Lastly, for the 2022-2023 school year a statistically significant difference was yielded, $\chi^2(1) = 1007.02$, $p < .001$, small effect size, Cramer's V = .10 (Cohen, 1988). A statistically

significantly lower percentage of Emergent Bilingual students in special education, more than nine percentage points, met the STAAR Reading exam Masters Grade Level standard than did Emergent Bilingual students not in special education. Presented in Table 4 are the descriptive statistics for this school year. Depicted in Figure 4 are the percentages across all five school years.

Figure 4

Average Percentages of Emergent Bilingual Students by Their Special Education Status Who Met the STAAR Reading Masters Grade Level Standard for All Five School Years



Discussion

This investigation was a causal-comparative research design in which the reading performance of Texas Grade 8 Emergent Bilingual students was addressed by their special education status (i.e., Special Education, Not Special Education). Archival data from the Texas Education Agency's Public Education Information Management System were collected for all Grade 8 students for the two years prior to the pandemic (2017-2018 and 2018-2019) and the three years following the pandemic (2020-2021, 2021-2022, and 2022-2023). Three Grade Level standards were examined: Approaches Grade Level, Meets Grade Level, and Masters Grade Level. Statistically significant results were present for each of the five years examined for all three grade level performance standards.

In the two years preceding the pandemic (2017-2018 and 2018-2019), only 16.7% of Emergent Bilingual students in special education met the Approaches Grade Level standard compared to 43.3% of Emergent Bilingual students not in special education, reflecting a gap of over 26 percentage points. In the 2018-2019 school year, 18.7% of Emergent Bilingual students in special education met the Approaches Grade Level standard compared to 48.9% of Emergent Bilingual students not in special education, indicating a difference of over 30 percentage points. However, in the most recent data for the 2022-2023 school year, the gap widened, with 36% of

Emergent Bilingual students in special education meeting the Approaches Grade Level standard compared to 71.2% of Emergent Bilingual students not in special education, resulting in a disparity of over 35 percentage points.

With respect to the Meets Grade Level standard, in the two years prior to the pandemic (2017-2018 and 2018-2019), only 2.3% of Emergent Bilingual students in special education met the standard compared to 11.7% of Emergent Bilingual students not in special education. In the 2018-2019 school year, the percentage of students who met the standard increased to 4.1% of Emergent Bilingual students in special education and 18.8% of Emergent Bilingual students not in special education. The most recent data for the 2022-2023 school year indicates that only 8% of Emergent Bilingual students in special education met the Meets Grade Level standard compared to 37% of Emergent Bilingual students not in special education. Notably, the disparities between Emergent Bilingual students in special education and Emergent Bilingual students not in special education widened in the three years after the pandemic.

Regarding the Masters Grade Level, in the two years preceding the pandemic (2017-2018 and 2018-2019), only 0.5% of Emergent Bilingual students in special education met the grade level performance standard compared to 3.7% of Emergent Bilingual students not in special education. In the 2018-2019 school year, the percentage slightly increased to 0.7% of Emergent Bilingual students in special education who met the Masters Grade Level and 4.9% of Emergent Bilingual students not in special education. In the most recent data for the 2022-2023 school year, the gap widened, with 1.1% of Emergent Bilingual students in special education meeting the Masters Grade Level standard compared to 10.8% of Emergent Bilingual students not in special education, resulting in a disparity of over nine percentage points.

Connections to Existing Literature

Language disparities on standardized assessments have been documented by multiple researchers (Martin, 2022; McGown, 2016; Paschall et al. 2018; Resilla & Slate, 2023) prior to the pandemic. Additionally, researchers such as Holden (2016) and Pariseau (2019) have established that students in special education demonstrate statistically significantly lower academic achievement than students not in special education. The findings from this pre- and post-pandemic investigation align with the findings of previous researchers (e.g., Cooc, 2023; Hokom, 2021; Kangas et al., 2023), indicating that Emergent Bilingual students in special education have statistically significantly lower academic achievement than Emergent Bilingual students not in special education. However, no published studies could be located in which the researchers examined the interconnectedness of language status and special education on the reading achievement of Grade 8 Emergent Bilingual students following the COVID-19 pandemic. Addressed in this investigation was the gap left by previous researchers (Hall, 2022; Holden, 2016; Pariseau, 2019), who focused on the reading performance of Texas elementary and high school special education students.

Connections to Theoretical Framework

The outcomes of this multiyear study uphold Ogbu's cultural-ecological theory that disparities in treatment and limited access to resources within educational systems (Ogbu & Simons, 1998; Worrell, 2014) contribute to the growing achievement gap for Emergent Bilingual students in

special education. Pandemic school closures disproportionately impacted nearly six million students with disabilities nationwide (National Center for Education Statistics, 2021). School districts paused initial evaluations for special education services (Mendoza et al., 2022), and special education teachers were hindered from providing individualized instruction (Lange, 2021). Additionally, the virtual format reduced the availability of instructional accommodations accessible to students in a classroom setting, resulting in student performance highly dependent on whether or not they could receive assistance at home, a substantial challenge for Emergent Bilingual students who often come from families who are non-English speaking and who have limited schooling (Callahan & Shifrer, 2016; Kanno & Harklau, 2012). These disparities in treatment and limited access to resources during the pandemic placed these vulnerable students at an elevated risk of increasing academic difficulties (Roberts et al., 2021) and inconsistent special education services (Lange, 2021). Consequently, the underperformance of Emergent Bilingual students in special education compared to Emergent Bilingual students not in special education was exacerbated in the years following the pandemic (2020-2021, 2021-2022, and 2022-2023).

Implications for Policy and for Practice

As a result of this multiyear statewide investigation, numerous policy recommendations are suggested. Previous researchers (McGown, 2016; Resilla & Slate, 2023) have examined the relationship between reading performance and language status, whereas only a few researchers (Hall, 2022; Pariseau, 2019; Taylor, 2021) have analyzed the influence of special education status on achievement in state-mandated tests. Considering that students with disabilities have consistently underperformed compared to their peers without disabilities, alternative approaches to standardized assessments could be utilized to evaluate their literacy skills. Although the STAAR Reading test was redesigned in the 2022-2023 school year to align more closely with the classroom experience (Texas Education Agency, 2023c), using assessments exclusively in English remains inequitable for students who are simultaneously managing a learning disability and learning English.

Secondly, school district leaders are encouraged to expand the availability of bilingual programming from the primary grades to the secondary grades. Although elementary-age Emergent Bilingual students have access to a variety of bilingual programs and support, few districts in Texas offer bilingual programming after Grade 5. In middle school, students who have not reclassified receive limited language support through English as a Second Language pullout classes and special education support from service providers who do not speak their native language. Continuing language support through the secondary grades and providing students with a solid foundation in language will help them to become bilingual and biliterate, maximizing their potential.

Lastly, in terms of practice, special education teachers should receive ongoing professional development in effective literacy and language instruction and support, which is essential for secondary Emergent Bilingual students (Sikes & Villanueva, 2021). Schools should consider hiring a bilingual literacy coach to provide teacher support. For students struggling with both language acquisition and learning disabilities, tailored professional development in

linguistic and special education support to meet their unique needs will help to close the achievement gap for Emergent Bilingual students dually served in special education.

Recommendations for Future Research

Based on the findings of this investigation, several recommendations for future research are suggested. First, it is recommended that researchers replicate this study in other grade levels to determine if the observed achievement gaps are prevalent in other grade levels. Secondly, as the current analysis was exclusively on Grade 8 Emergent Bilingual students within Texas, it is suggested that this study be extended to other states. Thirdly, another recommendation would be to replicate this study utilizing data specifically from the revised STAAR Reading assessment to verify the consistency of results. Additionally, expanding this study to include other subject areas assessed in Grade 8, such as mathematics, science, and social studies, is suggested. Lastly, researchers should examine Emergent Bilingual students by their economic status and by their ethnicity/race to gain a more comprehensive understanding of their academic performance.

Conclusion

In this multi-year investigation, the extent to which differences were present on the Texas state-mandated Reading assessment for Emergent Bilingual students by their special education status (i.e., Not Special Education, Special Education) for the 2017-2018, 2018-2019, 2020-2021, 2021-2022, and 2022-2023 school years was addressed. Archival data were obtained from the Texas Education Agency Public Education Information Management System for all Grade 8 students for the two years prior to the pandemic (2017-2018 and 2018-2019) and the three years following the pandemic (2020-2021, 2021-2022, and 2022-2023). In each of the five years examined and across the three grade level performance standards, statistically significantly lower percentages of Emergent Bilingual students in special education met grade level standards reading than Emergent Bilingual students not in special education. Post-pandemic percentages of students who met standards were higher than pre-pandemic, except for the 2020-2021 school year. In all three performance standards, a decrease in the percentage of students who met standards was observed in the first year following the pandemic. Notably, the percentage of students who met all three performance standards for the 2021-2022 and 2022-2023 school years surpassed the percentages of students who met standards in the two pre-pandemic years.

References

Adler-Greene, L. (2019). Every Student Succeeds Act: Are schools making sure every student succeeds? *Touro Law Review, 35,* 11.

Callahan, R. M., & Shifrer, D. (2016). Equitable access for secondary English Learner students: Course taking as evidence of EL program effectiveness. *Educational Administration Quarterly, 52*(3), 463-496. https://doi.org/10.1177/0013161X16648190

Castro, D. C., & Artiles, A. J. (2021). At the intersection of language, learning, and disability in the education of young bilingual children. In E. Garcia & B. Flores (Eds.), *Language, learning, and disability in the education of young bilingual children* (pp. 1-5). Multilingual Matters. https://doi.org/10.21832/9781800411852-003

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.

Cooc, N. (2023). National trends in special education and academic outcomes for English Learners with disabilities. *The Journal of Special Education, 57*(2), 106-117. https://doi.org/10.1177/00224669221147272

Dakroub, M., Hendricks, R., & Hammonds, C. (2020). An evaluation of assessment equity for special education students in Texas. *Educational Research Quarterly*, *44*(2).

DeMatthews, D. E., & Knight, D. S. (2019). The Texas special education cap: Exploration into the statewide delay and denial of support to students with disabilities. *Education Policy Analysis Archives, 27*, 2. https://doi.org/10.14507/epaa.27.3793

Farnia, F., & Geva, E. (2019). Late-emerging developmental language disorders in English-Speaking Monolinguals and English-Language Learners: A longitudinal perspective. *Journal of Learning Disabilities, 52*(6), 468-479. https://doi.org/10.1177/0022219419866645

Francis, D. J., Rojas, R., Gusewski, S., Santi, K. L., Khalaf, S., Hiebert, L., & Bunta, F. (2019). Speaking and reading in two languages: On the identification of reading and language disabilities in Spanish-speaking English Learners. *New Directions for Child and Adolescent Development, 2019*(166), 15-41. Portico. https://doi.org/10.1002/cad.20306

Gonzales, M. R. (2016). *A study of the correlation between the socioeconomic status and reading scores of English Language Learners enrolled in special education programs in Texas.* (Publication N. 10255783) [Doctoral dissertation, Texas A&M University]. ProQuest Dissertations and Theses Global.

Hall, P. J. (2022). *Improving academic outcomes for students with disabilities: Peeling back the onion.* (Publication N. 10657131) [Doctoral dissertation, University of Houston]. ProQuest Dissertations and Theses Global.

Hernandez, D. J. (2011). *Double jeopardy: How third-grade reading skills and poverty influence high school graduation.* The Annie E. Casey Foundation, 1-15.

Hokom, M. A. (2021). *English Learners with disabilities: A Texas school district perspective.* (Publication N. 29241713) [Doctoral dissertation, Texas A&M University]. ProQuest Dissertations and Theses Global.

Holden, C. N. (2016). *Differences in college-readiness rates for students who were enrolled in special education in Texas: A multiyear, statewide investigation*. (Publication N. 29241713) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

Johnson, R. B., & Christensen, L. B. (2020). *Educational research: Quantitative, qualitative, and mixed approaches* (7th ed.) Sage.

Kangas, S. E. N., Dai, S., & Ardasheva, Y. (2023). The intersection of language and disability progress of English Learners with disabilities on NAEP reading. *The Journal of Special Education, 58*(2), 99-99. https://doi.org/10.1177/00224669231213054

Kanno, Y., & Harklau, L. (Eds.). (2012). *Linguistic minority students go to college.* Routledge. https://doi.org/10.4324/9780203829387

Kart, A., & Kart, M. (2021). Academic and social effects of inclusion on students without disabilities: A review of the literature. *Education Sciences*, *11*(1), 16. https://doi.org/10.3390/educsci11010016

Kauffman, A. H. (2019). Latino education in Texas: A history of systematic recycling discrimination. *St. Mary's Law Journal*, *50*(3), 861-916.

Kennedy-Shaffer, L. (2019). Before $p < 0.05$ to beyond $p < 0.05$: Using history to contextualize p-values and significance testing. *The American Statistician, 73*(sup1), 82–90. https://doi.org/10.1080/00031305.2018.1537891

Kim, W. G. (2017). Long-term English Language Learners' educational experiences in the context of high-stakes accountability. *Teachers College Record: The Voice of Scholarship in Education, 119*(9), 1-32. https://doi.org/10.1177/016146811711900903

Lange, D. (2021). *COVID and the classroom: The impact of the COVID-19 pandemic on special education and policy implementation* (Honors Theses). Colby College. https://digitalcommons.colby.edu/honorstheses/1308

Martin, A. (2022). *Differences in the writing performance of Texas elementary school students as a function of their economic status, gender, and language status: A multiyear statewide study.* (Publication N. 13819687) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

McGown, J. A. M. (2016). *Differences in reading performance of Texas elementary school students as a function of economic status, gender, and ethnicity/race: A Texas statewide study.* (Publication N. 10306227) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

Mendoza, M. E., Brewer, T. F., Smith, M. S., Stein, M. A., & Heymann, S. J. (2022). Lessons from United States school district policies and approaches to special education during the COVID-19 pandemic. *International Journal of Inclusive Education,* 1-20. https://doi.org/10.1080/13603116.2022.2056643

Morgan, P. L., Farkas, G., Cook, M., Strassfeld, N. M., Hillemeier, M. M., Pun, W. H., Wang, Y., & Schussler, D. L. (2018). Are Hispanic, Asian, Native American, or Language-Minority children overrepresented in special education? *Exceptional Children, 84*(3), 261-279. https://doi.org/10.1177/0014402917748303

National Center for Education Statistics. (2021). *English Language Learners in public schools.* https://nces.ed.gov/programs/coe/indicator/cgf

Ortíz, A. A., Fránquiz, M. E., & Lara, G. P. (2020). The education of Emergent Bilinguals with disabilities: State of practice. *Bilingual Research Journal*, *43*(3), 245-252. https://doi.org/10.1080/15235882.2020.1823734

Pariseau, M. M. (2019). *Differences in reading as a function of the economic status, ethnicity/race, and English Learner status of Texas Grade 4 boys and girls in special education: A multiyear statewide investigation.* (Publication N. 27805273) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

Paschall, K. W., Gershoff, E. T., & Kuhfeld, M. (2018). A two-decade examination of historical race/ethnicity disparities in academic achievement by poverty status. *Journal of Youth and Adolescence, 47*(6), 1164-1177. https://doi.org/10.1007/s10964-017-0800-7

Przymus, S. D., & Alvarado, M. (2019). Advancing bilingual special education: Translanguaging in content-based story retells for distinguishing language difference from disability. *Multiple Voices for Ethnically Diverse Exceptional Learners*, *19*(1), 23-43. https://doi.org/10.3102/1582297

Resilla, C. A., Slate, J. R. (2023). Economic disadvantage and English I End-of-Course exam differences by student language status: A Texas multiyear investigation. *Journal of Education and Social Development, 7*(1), 1-8. https://doi.org/10.5281/zenodo.8049840

Roberts, G. J., Hall, C., Cho, E., Coté, B., Lee, J., Qi, B., & Van Ooyik, J. (2021). The state of current reading intervention research for English Learners in grades k–2: A best-evidence synthesis. *Educational Psychology Review, 34*(1), 335-361. https://doi.org/10.1007/s10648-021-09629-2

Sikes, C. L., & Villanueva, C. K. (2021). *Creating a more bilingual Texas: A closer look at bilingual education in the Lone Star State.* Every Texan.

Slate, J. R. (2023). *Advanced statistical analyses: How to perform them and how to write them up in an understandable manner: A primer for graduate students, faculty, and educational leaders.* ICPEL Publications. International Council of Professors of Educational Leadership.

Soto-Boykin, X., Brea-Spahn, M. R., Perez, S., & McKenna, M. (2023). A critical analysis of state-level policies impacting racialized Emergent Bilinguals suspected or labeled as dis/abled. *Language, Speech, and Hearing Services in Schools*, *54*(3), 729-745. https://doi.org/10.1044/2023_lshss-22-00137

Taylor, A. N. (2021). *Differences in the mathematics performance of Texas Grade 4 boys and girls enrolled in special education as a function of their economic status and ethnicity/race: A multiyear statewide investigation.* (Publication N. 28801872) [Doctoral dissertation, Sam Houston State University]. ProQuest Dissertations and Theses Global.

Texas Education Agency. (2016). *Independent evaluation of the validity and reliability of STAAR Grades 3-8 assessment scores: Part 2.* https://tea.texas.gov/

Texas Education Agency. (2022a). *Item 11: Approval of bilingual special education educator standards advisory committee members.* https://tea.texas.gov/about-tea/leadership/state-board-for-educator-certification/sbec-meetings/sbec-2022/july-agenda-item-11.pdf

Texas Education Agency. (2022b). *PEIMS Standard Reports, Emergent bilingual/English learner by grade report*. https://rptsvr1.tea.texas.gov/adhocrpt/va/geo/elcategory_22.html

Texas Education Agency. (2023a). *Enrollment in Texas public schools 2022-2023.* https://tea.texas.gov/reports-and-data/school-performance/accountability-research/enroll-2022-23.pdf

Texas Education Agency. (2023b). *Emergent Bilingual students in Texas Fact Sheet #1.* https://www.txel.org/media/hxcfzvqe/factsheet1

Texas Education Agency. (2023c). *House Bill 3928.* https://tea.texas.gov/about-tea/news-and-multimedia/correspondence/taa-letters/house-bill-hb-3928

Texas Education Agency. (2023d). *STAAR Redesign. https://tea.texas.gov/student-assessment/assessment-initiatives/staar-redesign*

Texas Education Agency. (2023e). *State of Texas Assessments of Academic Readiness (STAAR) performance labels and policy definitions.* https://tea.texas.gov/staarperformancelabelsandpolicydefinitions.pdf

U.S. Department of Education. (2023a). *Free Appropriate Public Education.* https://www2.ed.gov/about/offices/list/ocr/frontpage/pro-students/issues/dis-issue03.html

U.S. Department of Education. (2023b). *OSEP fast facts: Students with disabilities who are English Learners served under IDEA Part B.* https://sites.ed.gov/idea/osep-fast-facts-students-with-disabilities-english-learners#

Rural Educational Leaders' Perceptions of the Impact of Opioids on Student Mental Health in Appalachia

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Abstract

This study investigates the perceptions and responses of educational leaders in K12 settings concerning the mental health needs of students who have been impacted by Opioid Use Disorder. We adopt a bio-ecological view to frame the participants' lived experiences. Employing a basic qualitative design, we interviewed ten educational leaders of schools in rural Appalachia, including superintendents, principals, and school psychologists. The findings are categorized into five themes: Opioid Impact on Family Structures and Need for School Support, Opioid Impact on School Structures and Resource Allocation, Holistic Intervention as a Moral Imperative, School-Based Mental Healthcare Support Systems, and Need for Educational Focus on Social Emotional Learning. Recommendations advocate for increased mental health initiatives for K12 schools within high opioid incident rate communities.

Keywords: Appalachia, educational leadership, mental health, opioid crisis, rural, well-being

In the past decades, rural Appalachia has been brought to the forefront of the opioid epidemic (Schalkoff et al., 2020; Schalkoff et al., 2021). Within Appalachian Ohio, the impact of the opioid crisis has created adverse effects with increased addiction and overdose rates, impacts local economies, and causes detrimental effects on the communities' social and psychological well-being (Hess & Lowery, 2020; Lowery et al., 2023). These impacts are especially difficult for K12 school learners and learning environments (Goddard, 2021).

In 2017, the federal government declared the opioid crisis a public health emergency (U.S. Department of Health and Human Services [DHHS], 2017). This designation created increased access to prevention and treatment services, distribution of overdose-reversing drugs, and a strengthening of overdose reporting processes (DHHS, 2017). According to the Center of Disease Control (2023), "In 2020, an estimated 2.7 million people ages 12 or older reported having an Opioid Use Disorder" (para. 2). Nationally, opioid related overdose deaths increased at least six times from 1999 to 2017 (Meit et al., 2019; Scholl et al., 2019). From 1999 to 2020, the CDC estimated more than 564,000 individuals had died from opioid related overdoses across the United States (Chennattu, 2023; Metzger & Metzger, 2023; Welle et al., 2023). These statistics demonstrate the social and economic impacts of an ongoing opioid epidemic and set the foundation for our analysis of the opioid epidemic's impact on rural Appalachian school districts in Southeastern Ohio.

Purpose and Research Question

Within this context, it becomes important to have better insight into how school leaders understand and respond to the opioid crisis. Therefore, this study centers around a fundamental research inquiry:

- How do educational leaders perceive the significance of mental health programs in mitigating the consequences of the opioid crisis for their students?

To investigate this query, we undertook qualitative interviews with educational leaders in rural areas. These interviews aimed to unravel how these leaders address mental health issues stemming from the influence of opioids on their schools, students, staff, and community stakeholders.

Importance of the Study

In 2021, more than 80,000 individuals in the U.S. died of opioid-related overdoses (National Institute on Drug Abuse, 2023). Of the more than 107,000 Americans that lost their lives from a drug overdose in the 12 months ending in January 2022, about 75%, "involved at least one opioid, with 66.5% involving synthetic opioids" (CDC, 2022, para. 4). In addition to the high misuse and overdose rates the epidemic has also had a substantial impact on the federal economy. Specifically, it was estimated that in 2018 the opioid crisis cost the U.S. $665 billion, making up 3.2 % of gross domestic product (Economic Report of the President, 2020).

Bullinger and Wing (2019) estimated that 548,000 school-age children resided in homes with an individual who was suffering from opioid misuse disorder. Adolescents raised in households with the presence of opioid misuse are at a higher risk for mental health issues, drug misuse, and accidental opioid poisoning (Winstanley & Stover, 2019). The effects of the

opioid epidemic inside the home carry over into the school. Educational leaders are in a unique position to support students who are directly affected by the opioid crisis (Hess & Lowery, 2020; Lowery et al., 2023).

Relevant Literature

The Opioid Epidemic

Quinones (2015) and Macy (2018) provided portrayals of the intentional distribution of powerful drugs such as OxyContin throughout Appalachian communities. Capitalizing on the pain of millions, the Sacklers, owners of Purdue Pharma, became one of the wealthiest U.S. families with an astounding net worth of over 14 billion (Macy, 2018; Quinones, 2015). This wealth came at the expense of millions of lives and resulted in broken communities that are still trying to address the hardship of addiction (Cuéllar & Humphreys, 2019; Edelman, 2021; Keefe, 2021; Macy, 2022; Meier, 2018).

From a regional lens, in 2017, death rates were 65% higher in Appalachian regions when compared to non-Appalachian regions of the United States (Meit et al., 2019). Macy (2018) stated, “Appalachia was among the first places where the malaise of opioid pills hit the nation in the mid 1990s, ensnaring coal miners, loggers, furniture makers, and their kids” (p. 16). In Ohio specifically, there was a 25% increase from 2019 to 2020 in overdose rates, with over 5,017 Ohioans dying (Ohio Drug Overdose Report, 2020). Every year since 2007, drug overdose has remained one of Ohio’s leading causes of death (Ohio Department of Health, YEAR).

Appalachian Ohio comprises 32 counties that rank among the poorest in the state (Michaud & Jolley, 2019; Morrone et al., 2021). Approximately 29% of school-age children in Appalachian Ohio live in poverty (Shamblin et al., 2016). Students from lower socio-economic levels experience a disproportionate impact from social morbidities, including violence, drug and alcohol abuse, depression, lack of reliable healthcare, and poverty (Wynche et al., 1997). According to Shamblin (2016), “Despite the pervasive poverty and health disparities Appalachian residents face, access to mental health services is severely limited” (p. 190). Barriers such as economic constraints, transportation, and health insurance can impact how healthcare services are utilized in rural locations (Shamblin et al., 2016; Burfoot-Rochford, 2020). Acknowledging regional realities, such as access to needed interventions and funding, is critical when developing solution models to multi-faceted issues like the opioid epidemic (Hess & Lowery, 2020; Lowery et al., 2023).

Trauma-Informed Care, ACEs, and School-Based Mental Health Programs

Students who experience caregiver Opioid Use Disorder (OUD) are at higher risk for mental health issues that impact their ability to engage in K12 educational settings (Felleti et al., 1998; Goddard, 2021). This includes attention and concentration, memory, organizational skills, language acquisition, truancy, and school suspension (Mirick & Steenrod, 2016; Perry & Szalavitz, 2017). Furthermore, a student’s ability to self-regulate emotions, set goals, build social-emotional skills, and build empathy may be impaired (Choi et al., 2020; Thomas et al., 2019; Perry & Winfrey, 2021). The home and community environments lead to students experiencing adverse childhood events (Perry, 2002, 2009).

Healthcare practitioners have developed trauma-sensitive models, often referred to as trauma-informed care (TIC), to appropriately respond to individuals impacted by trauma (Guevara et al., 2021). Substance Abuse and Mental Health Services Administration (SAMHSA) is a leading organization that advocates for the widespread adoption of trauma-informed care. They have defined trauma as an event or a set of circumstances having long-lasting emotional or physical effects on one's well-being (Forber-Pratt et al., 2021; Perry, 2002). SAMHSA's four-step action plan included "Four R's": realize, recognize, respond, and resist further traumatization (Forber-Pratt et al., 2021). Healthcare facilities, public service sectors, and educational settings can adopt TIC practices.

SAMSHA characterized trauma-informed schools as schools "in which children are resilient in the face of stress and adversity, equipped with skills to regulate their behavior and feel safe enough in the classroom to learn rather than act out" (Shamblin et al., 2016, p. 24).

Guided by SAMSHA TIC models, researchers Shamblin et al. (2016) emphasized that teachers in trauma-informed schools are "confident in their abilities to meet children's needs, even when they are challenged by external stressors and adversity. Moreover, they embody and model health, attuned and responsive relationships with their children" (p. 24). TIC can take the form of staff training and providing services directly to students (Chudzik et al., 2023; Shamblin et al., 2016). Several studies highlight an increase in teacher-reported competency levels after completing TIC training (Shamblin et al., 2016; Forber-Pratt et al., 2021; Dorado et al., 2016; Eillien et al., 2008; Perry, 2009).

Training in TIC along with Adverse Childhood Experiences (ACEs) has provided educators with a chance to develop necessary skills to handle challenging behavior, recognize signs of trauma, reduce stress, and create a structured setting where teachers are mindful of triggers (Bellis et al., 2019; Chudzik et al., 2023; Felleti et al., 1998; Goddard, 2021; Guevara et al., 2021). The effectiveness of these trainings demonstrates how trauma-informed care can mitigate trauma responses in classroom settings (Dorado et al., 2016; Langley et al., 2015). Langley et al. (2015) argued that students at the elementary level who went through school-based interventions based on these trainings saw benefits from research-backed therapy, including reduced levels of anxiety, posttraumatic stress, and depression among participating students.

Staff members interacting with students have a critical role in creating a trauma-sensitive environment where all students can thrive regardless of background or experience (Chudzik et al., 2023). Forber-Pratt et al. (2021) examined the viewpoints of school resource officers who underwent TIC professional development. The study found that the staff benefited from this training and were better equipped to handle the spectrum of student needs while avoiding re-traumatization (Forber-Pratt et al., 2021). Studies indicate that TIC practices and knowledge of ACEs benefit all students (Chudzik et al., 2023; Goddard, 2021; Shamblin et al., 2016).

In recent years, the landscape of school-based health centers has witnessed a notable transformation (Arenson et al, 2019; Dunfee, 2020). Initially designed to administer preventive physical health care for adolescents primarily, these centers have undergone a significant evolution, expanding their scope to encompass the critical realm of mental health and

substance abuse support within their student populations (Brown & Bolen, 2008; Wynche et al., 1997). School buildings can be ideal sites to offer mental health services given their role in the lives of students (Lankford, 2019; Phillipo & Kelly, 2014; Wynche et al., 1997). Providing mental health services in schools is cost-effective for students, staff, and outside services, and aids in mitigating barriers, such as time or travel constraints (Lankford, 2019; Langley et al., 2015; Brown & Bolen, 2003).

K12 educators have a central role to play in supporting students' mental health as they often interact with students navigating mental health challenges (Phillipo & Kelly, 2014; Kirchner et al., 2001). Educational leaders often underutilize teachers as a resource when addressing mental health challenges within a school's student population (Phillipo & Kelly, 2014; Compton et al., 2019). Previous research has examined teachers' personal and professional sense of obligation to support students facing mental health challenges, while acknowledging many feel they do not have the tools or skills to properly help students (Ekornes, 2017; Kirchner et al., 2001; Wynche et al., 1997). When teachers are well-trained, they have improved abilities to identify and respond to a student's trauma and mental health concerns (Kirchner et al., 2001).

School-based mental health programs remain critical, given that 50% of all mental health disorders emerge during adolescence (Belfer, 2008). Approximately 20% of US children ages 2 to 8 experience a mental or behavioral disorder (CDC, 2022). When educational leaders partner with community mental health providers, it improves children's healthcare access and provides necessary support for lifelong success (Kirchner et al., 2001; Wynche et al., 1997). Communities experiencing the opioid epidemic and its associated trauma benefit from educational settings becoming partnered spaces for the provision of mental health services and interventions (Hess & Lowery, 2020; Brown & Bolen, 2003; Lankford, 2019).

Theoretical Framework: A Bio-Ecological Systems View

Given the complexity of opioid-related trauma and mental health, we have elected to frame our inquiry with Bronfenbrenner's (1979) bio-ecological systems theory. This framework conceptualizes children's development as nested within interacting social systems. This lens can be applied to how the disruption in life and learning experienced by students (microsystem) comes into play with school capacity (mesosystem/exosystem) and place or rural Appalachia (macrosystem) across time (chronosystem).

Bronfenbrenner's (1979) positions human development as a dynamic product of nested, interacting environments that extend outward from the individual child to the broadest reaches of culture and history. At the center is the microsystem, the realm of everyday, face-to-face relationships in families, classrooms, and peer groups. The quality of those immediate interactions forms the first line of influence on a student's mental health. These can be as routine as a grandparent trying to establish a morning routine or a teacher noticing signs of anxiety, or as traumatic as having knowledge of a parent overdosing or being incarcerated due to opioid misuse.

The mesosystem captures the connections among those settings, such as the way a counselor's phone call to a caregiver can reinforce strategies discussed in a trauma-informed

classroom. This includes how the coordination between child-protective services and school leadership shapes a re-entry plan for a student whose parent has overdosed. Beyond these direct linkages is the exosystem, or the broader array of institutions and decisions that touch children indirectly. This might refer to district staffing formulas, county mental-health levies, or a local hospital's decision to host a school-based clinic. These systems are highly visible in rural Appalachia, where schools and communities may be viewed as under-resourced, and a single change in one agency reverberates quickly through the school.

Surrounding the other systemic layers is the macrosystem. The macrosystem refers to the cultural values, economic structures, and policy climates that normalize specific responses and exclude others (Bronfenbrenner, 1979). In many Appalachian communities, traditions of self-reliance collide with the moral imperative leaders feel to provide wrap-around supports, creating distinctive tensions about what schools "ought" to do. Finally, the chronosystem introduces time as a developmental dimension: students in this study experienced the cascading effects of the late-1990s prescription-opioid boom, the fentanyl wave of the 2010s, and the compounding disruption of the COVID-19 pandemic, each phase re-shaping family stability, funding streams, and professional development priorities over the years.

Bronfenbrenner's theory would later be refined as the bio-ecological PPCT model (Bronfenbrenner & Morris, 2006). This framework emphasized *proximal processes*—the increasingly complex interactions between an evolving person and the symbols, objects, and people in their environments. Within our study, trauma-informed care (TIC) practices and social-emotional learning (SEL) lessons constitute purposeful proximal processes designed to interrupt negative cascades triggered by opioid-related trauma. By situating those interventions within the broader PPCT schema, we can trace how decisions made in a superintendent's office (exosystem) reshape classroom rituals (microsystem) and, over time, alter students' developmental trajectories (chronosystem). Public-mental-health scholars have shown that such multi-level tracing yields the most actionable policy guidance because it keeps the reciprocal traffic between individuals and contexts in clear view.

Adopting Bronfenbrenner's perspective, therefore, allows us to frame rural educational leaders not merely as service providers but as integral elements of a complex system that engages across ecological layers. The dynamic nature of their work comprises cultivating stability and resilience for children living amid the opioid epidemic. Viewed through this lens, every decision a superintendent or a principal makes about staffing or partnerships has implications that extend into the community. These implications include reshaping teachers' daily interactions, influencing family coping strategies, and eventually shifting community norms around mental health. The foregrounding of these cross-level ripples emphasizes how leaders' decisions can interrupt negative concerns and intensify protective processes already in rural Appalachian schools and communities.

Methodology

Research Design

This study employs a qualitative research approach, explicitly focusing on verbal data collected through interviews (Flick, 2018). The goal is to gain in-depth insights into participants'

experiences, perspectives, and attitudes regarding the phenomenon under investigation (Patton, 2015). This approach is suitable for examining complex social and behavioral phenomena, allowing for a deep exploration of individual perceptions and the construction of meaning (Creswell & Poth, 2018).

Participant Selection

Study participants consisted of ten educational leaders responsible for students' overall well-being, including superintendents (5), principals (3), a school psychologist (1), and a counselor (1). Using a purposeful sampling approach, we focused on the Appalachian counties of Southeastern Ohio with the highest rates of opioid overdoses (Ohio Department of Mental Health and Addiction Services, 2019).

Data Collection

We used semi-structured interviews as our method for data collection. The duration of the interviews ranged from 45 to 65 minutes. Interviews were conducted via video conferencing platforms of the participants' choosing. Prior to the interview, participants were given an opportunity to provide informed consent. Interviews centered on participants' educational leadership experiences with implications related to the opioid epidemic's impact on students and the perceived effects of mental health programs. Using semi-structured interviews, the questions allowed participants the latitude to engage in a deeper exploration of their perceptions and lived experiences.

Data Analysis

Interviews were transcribed using a transcription service and then reviewed by the researchers for errors. The qualitative data analysis software MAXQDA was used during coding to organize and retrieve data. The research team conducted a line-by-line emergent coding process (Saldaña, 2021) and a multicycle coding process. The first cycle of coding yielded over 600 codes. The second cycle of coding yielded 34 code families. Finally, five thematic units were used to categorize these final groupings of data.

Findings/Themes

The five emerging themes are Opioid Impact on Family Structures and Need for School Support, Opioid Impact on School Structures and Resource Allocation, Holistic Intervention as a Moral Imperative, School-Based Mental Healthcare Support Systems, and Need for Educational Focus on Social Emotional Learning. These themes illuminate the prevalence of opioid-related trauma and the need for mental healthcare within school communities.

Impact on Family Structures and Need for School Support

When examining the impact of opioid use on school-aged children, this research illuminated that students' family structures can change unexpectedly. Participants discussed households where parents, grandparents, or other caregivers experienced opioid use disorder. As Superintendent Litteral disclosed, *"Probably every kid and every adult in my district could make some connection to a family member, friend, neighbor, someone who's been either impacted or is addicted to drugs in our community."* As Superintendent Dunn described, "Whether you're

dealing with a direct consequence of student use or predominantly adult use with parents, grandparents. You're always dealing with the indirect impact of the opioid epidemic and addiction."

All participants recounted at least one story of a student who lost a loved one to an opioid-related overdose. Superintendent Dixon stated, *"Before COVID, I was tracking the amount of overdose deaths with my parents. By January, we lost seven parents to overdoses. You're talking about one little school district, and we just lost seven parents."* The impact of the opioid epidemic spares no one. With remorse, Superintendent Dunn described a recent situation in the district, *"A few years ago in our elementary building where we had five of our elementary kiddos lose a parent to an overdose, three of them found their parent."*

Not only does the loss of a loved one create trauma for students, but the presence of a caregiver in the home who is misusing opioids can create similar adverse childhood experiences. In a distressed tone, one leader, Counselor Brown, recounted,

> *One thing that stands out immediately to me is kids raising themselves because of an absent parent. I've had multiple cases where kids are fending for themselves, feeding themselves, and raising themselves. I'm thinking of one student who was eating cold canned ravioli every day because of an absent parent due to addiction.*

Participants noted that, for some students, inconsistent parental care meant they had to take on the responsibility of caring for their siblings and themselves.

Parental drug use has also resulted in changing family structures in which children are put into the care of close family members or Child Protective Services (CPS). With deep concern, Superintendent Litteral noted, *"I would say in my elementary building at the time, about 1/3 of my kids were being raised by their grandparents. So, it was a major change in family structures."* Litteral further explained the depth of this dilemma,

> *A couple of years in when I came to the district office, as an assistant superintendent, we had three students who went home and found their parent dead, a kindergartner, a second grader, and a ninth grader. This was just going home in the afternoon and hopping off a school bus walking in finding your parent dead of an overdose.*

With concern, Litteral added, "The question became how we can help students who have just experienced a life-altering tragedy." Based on these observed impacts, educational leaders and districts must reflect on their role in providing stability and counseling for these students.

Impact on School Structures and Resource Allocation

The opioid epidemic impacts educational systems and processes, from the teacher in the classroom to resources to fund additional health care and mental health supports. The effect also involves numerous unplanned demands on and reallocation of limited educational resources. Included in this system is educator preparation and professional development. Superintendent Dixon explained how teachers could feel unprepared to manage an evolving crisis. He shared, *"Our teachers were a little frustrated. They knew they had degrees; they know how to teach children; they love the classroom."* He added that teachers in his district were

unprepared to address the multifaceted complexities of teaching children impacted by opioid misuse.

Additionally, several participants described other supports needed to respond to students coming from opioid-addicted households. For example, they indicated an increased need to interact with social services and other community supports. School Psychologist Allen disclosed, *"I'm calling CPS every other week."* As a mandatory reporter, she offered a list of her concerns that prompted her to call CPS. Primarily, she acknowledged observable signs of neglect, including students coming to school dirty, not having a change of clean clothes, a lack of food, and not up to date on immunizations. Superintendent Scott noted a necessary relationship with CPS, stating, *"I must unfortunately talk to Children Protective Services weekly, because of [these concerns]."*

The impact on resources extends to medical and emotional support as well. Participants argued that districts are now contending with students entering schools who were born with addiction, requiring additional staff and professional development. According to Superintendent Literal, the rapid increase in Individualized Education Plans (IEPs) and Special Education (SPED) Services is a result of students who were born addicted to opioids entering the school system. Litteral's explanation of this dilemma indicated that one of the first projects as a superintendent was to reallocate available resources to meet the needs of these students. He stated*, "That's been a major change to our school structure as we've had to add an intervention specialist at every grade level."*

Holistic Intervention as a Moral Imperative

Several of the participants alluded that drug awareness does not often occur at home, so this forces schools to take on the responsibility. For the rural Appalachian school leaders highlighted in this research, nurturing students' understanding of the opioid epidemic is a compelling moral imperative that they feel they must address. The unanimous consensus among interviewees is that schools hold the responsibility to educate students about drugs. Superintendent Litteral passionately expressed this sentiment, stating, *"If the schools do not educate the students about [opioid] addiction, then who will? It is our moral obligation to provide them with that."*

Participants emphasized the pivotal role of educational spaces in disseminating research-based information concerning drug misuse. Principal Scott indicated a concern for the normalization of drug use among young people raised in affected households due to continuous exposure. In response, Scott initiated programs offering comprehensive support to students and their extended families. For instance, they established a resource closet providing free clothing, toiletries, and food supplies year-round. In addition, he has created several initiatives to help students and their extended families. For example, they have created a resource closet in which students and their families can receive free clothing, toiletries, and food supplies throughout the year, even if school is not in session.

Another superintendent partnered with a local doctor to create a resource center in which students, staff, and local community members can receive healthcare services on the school district's campus. The center is used for various other events such as workout classes, counseling, seminars about relevant issues (e.g., drug use prevention, vaping), standardized

testing, and community-wide events (e.g., fall festivals). For a small rural community, this addition has become a safe space for citizens to connect and positively contribute to the larger community. Both individuals recognize that student health is intricately intertwined with their larger family circumstances.

Principal Smith stated, *"Teachers are the first line of defense for their students, because they spend, you know, seven hours a day with those kids. Many of our students spend more time with their teachers than maybe their families because of work schedules."* When trained to recognize signs of opioid-related distress or trauma, teachers can serve as key interventionists. On the frontline, they are uniquely positioned to identify students who may be struggling. Through this identification, students are more likely to receive the social and emotional support they require, if the resources exist to address their trauma.

School-Based Mental Healthcare Support Systems

As educational leaders in this study addressed the opioid epidemic, they collectively expressed an ongoing tension between the desire to provide prevention programming and the urgency to implement intervention measures. Although not fully articulated, in our understanding of the data, the sentiment implied placing a band-aid on a gaping wound. Many of the school leaders conveyed a shared belief that waiting until a problem necessitates intervention is inadequate. Preventative methods should take precedence over later interventions to effectively combat the opioid crisis in the long term. As Superintendent Allen lamented, *"Whether we're talking about social emotional skills, early literacy skills, you know, any of those things, the earlier we can intervene, the more likely we are to have a positive outcome and change the trajectory for these students."*

Participants cited the benefits of prevention efforts, perceiving them to help students severely impacted by various social phenomena, such as the opioid epidemic. Superintendent Dixon shared one example of this,

> *We took our alternative schools, which are for very severe behavior--students with drug and alcohol addictions, students who most likely will not graduate from high school. We brought that back into our building, and we put a full-time Health Recovery Services counselor in that classroom. We took the stance that mental health and well-being come first, academics second. When we started that unit, we had 15 to 20 kids in it. And by being proactive at the younger levels, we're down to probably seven to 10 kids in that unit. That's a success for us.*

Participants stressed the positive outcomes of prevention programs introduced at younger levels. The HOPE Squad, a suicide prevention initiative, designated certain students as positive leaders, trained in suicide prevention techniques, and responsible for disseminating these ideas within their schools. Despite its outdated nature, almost half the participants felt that the D.A.R.E. program yielded noteworthy outcomes. Five participants mentioned D.A.R.E. as a program targeting drug and alcohol abuse prevention, and these individuals claimed a 30%-40% reduction in student intent to use illegal substances.

Two prominent obstacles to implementing these programs are a lack of funding and time. These two constraints often limit the degree to which support systems can be provided to

students. It's important to acknowledge these constraints while also emphasizing that there are small pockets of opportunities to address the needs of students impacted by opioid misuse. As Superintendent Scott stated,

> *If you really want to make something part of the culture, then you prioritize it. As a leader, if you believe in something, or you feel like something needs to be a priority, you've got to make time. Everybody's excuse is always, 'I don't have time' Well, you got to make time; be intentional. Especially regarding the time that you spend with children.*

Participants highlighted collectively that it is easy for schools to prioritize preparation for state assessments or benchmarks and minimize the services and programs that address prevention.

As a school psychologist, Aaron explained, if a student cannot *function "socially, emotionally, behaviorally in the world, then the higher-level thinking skills of reading are often not achieved."* He added, *"We could have hired another Title I Reading teacher because we have plenty of kids still struggling to read. But we knew we had to do something different in order to get the outcomes that we wanted."* Therefore, the school hired an intervention specialist. He acknowledged that academic skills were *"absolutely important,"* but he placed a premium on the students' mental health as a prerequisite to academic success.

Participants further bolstered the notion of prevention versus intervention. As an example, Superintendent Aims shared,

> *We focus so much in the county and probably throughout the state on interventions. Prevention just isn't that attractive. So, what money is being spent on prevention? Very little. By the time that it's really becoming an issue, well, we feel it's too late then. I would love to be able to do more in terms of prevention. We're trying to do that here.*

All ten interviewees attested that implementing such programs positively impacted their students' academic achievements and well-being.

Educational Focus on Social Emotional Learning

Participants in this study revealed an increase in the focus on social-emotional learning (SEL) in schools. SEL emphasized the importance of providing young people with the skills to self-regulate their emotions and behaviors, helping students better understand themselves, and connecting with other people in their environments.

When students understand their emotions, they can better identify and advocate for their own well-being. As Superintendent Litteral informed,

> *Our goal is to raise kids who know how to talk about their feelings. My generation, we didn't do that. We don't talk about it; we just move on. But we want to get a generation of kids who are comfortable knowing how their bodies work, knowing how to calm themselves if they're in stressful situations. So, although as a district, we've tried to really focus in on what we can control. We realize we can't control what they experience [at home]. We have to make the best of the time that we have with them.*

Similarly, Principal Brown described cognitive development as a key social-emotional learning component. She stated, *"If we really think about how our brain functions, how important it is to*

self-regulate, and what some research says, in order to learn, your brain has to be regulated." She stressed just how crucial social emotional learning is for students, and how important it is for educators to understand the evidence around the developmental components of SEL. As students develop the strategies for emotional self-regulation, they are more likely to succeed in a structured school environment. According to Mrs. Brown, the school environment can be easily disrupted by outside stressors, such as the opioid epidemic.

Since students are only in the school setting 7 hours a day, for roughly 180 days per year, time is a limited resource for educators and educational leaders to address social-emotional needs. Additionally, the time educators spend on social-emotional wellness is limited by curricular and instructional expectations. For example, four of the 10 participants had implemented an SEL curriculum for students. One participant described how the SEL curriculum was implemented in their district,

> *For K-5, all our students see the social-emotional class as one of their daily activities each day. So, it's rotated with music, PE, technology, those kinds of things. It is one of the five offerings. Every kid in our district is being offered those foundational social-emotional skills. These are based in trauma informed practices that are helping us to combat some of these issues with kids.*

This deliberate integration of SEL into the daily rhythm of schooling reflects a strategic shift in how student development is framed—not as an ancillary concern, but as foundational to academic learning and behavioral regulation. By embedding social-emotional instruction alongside traditional enrichment subjects, these districts are signaling a philosophical reordering of priorities. In that regard, emotional literacy is not supplemental—it is structural. In resource-constrained environments impacted by trauma, such as rural Appalachia, this reframing positions SEL not just as a support mechanism but as a form of educational justice aimed at restoring developmental opportunity for vulnerable learners.

Discussion

Viewed through a bio-ecological lens, the five themes reveal cross-level feedback loops: family trauma (micro) overwhelms teachers (meso), reallocating scarce rural resources (exo), while Appalachian norms of self-reliance (macro) complicate SEL adoption over time (chrono). These findings underscore the desire of educational leaders to offer unwavering support and stability to students grappling with the disruptive nature of the ongoing opioid epidemic. Participants understand the realities of students coming to educational settings from environments in which opioid use disorder and abuse are present. They also acknowledged the complex struggle to provide critical resources for student emotional health in the context of schooling.

These findings suggest several implications for research, practice, and policy. Future studies might explore specific TIC and SEL models in greater detail, particularly from students' perspectives, and share successful approaches across districts. The rural Appalachian examples reveal that investing in mental health programs, building partnerships with local agencies, and embedding socio-emotional support in standard school operations can yield long-term benefits, even in resource-limited environments. Policy makers, in turn, should recognize the importance

of adequately funding mental health initiatives and codifying TIC and SEL within K-12 legislation to foster educational settings that support the whole child.

Table 1

Bronfenbrenner's Bio-Ecological Systems Theory and Study Themes

Theme/Finding	Ecological Level It Maps To	Evidence from Data
Family Structures Disrupted by Opioids	Microsystem	The student's immediate environment
New School Structures and Resource Allocation	Mesosystem/Exosystem	Home-school interactions; District funding flows, CPS, outside agencies
Holistic Intervention as Moral Imperative	Macrosystem	Prevailing cultural values around care, health and schooling in rural Appalachia
School-Based Mental Healthcare Support	Exosystem	Policies, community health centers, funding streams that shape what schools can do
Educational Focus on Social Emotional Learning	Chronosystem	Opioid crisis plus COVID timelines shape priorities over time

School leaders employ strategies aligned with their commitment to holistic approaches for student health and academic success. These strategies encompassed tailoring educational experiences based on individual student needs, reinforcing support systems within the school structure, embedding essential resources (such as mental health counseling, food, clothing, and healthcare), cultivating synergistic partnerships with local resources, prioritizing students' socio-emotional development, and offering teachers and staff Trauma-Informed Care (TIC) training. For these changes to be sustainable, alignment across systems is required: macro-level funding that enables exosystem services, mesosystem teacher PD, and strengthened microsystem supports.

Most participants (9 out of 10) elaborated on the application of TIC programs and ACEs within their districts, recognizing their significance in supporting all students, especially those students affected by the opioid crisis. Educational leaders confronting the opioid crisis find themselves at the forefront of an epidemic. The participants of this study prioritized the allocation of resources that helped to ensure classroom teachers were positioned to respond effectively to students amid the crisis. This expansion of responsibility is a departure from the traditional reliance solely on counselors, reflecting the growing recognition that all educators play a role in students' socio-emotional well-being.

Participants noted that professional development is vital in equipping school staff with the competencies needed to implement trauma-informed care (TIC). It is essential to add that participants drew a definitive connection between teacher development and student needs. As one superintendent indicated, accurately assessing students' needs allows schools to allocate resources more effectively, reinforcing the link between socio-emotional well-being and

academic achievement. This alignment becomes especially critical in rural Appalachian districts that have been strongly affected by opioid misuse. School leaders in these districts sought to integrate social-emotional learning (SEL) into both curriculum and culture. For instance, one district *infused* its educational environment with TIC and SEL by training everyone, not only teachers but also custodians. Additionally, they instituted an SEL class at the elementary level and partnered with outside organizations (e.g., DARE) to provide awareness to older students.

This awareness that behaviors are projections of external experiences, often outside of the student's control, can help teachers approach each student in a way that minimizes the long-term impacts of trauma (Choi et al., 2020; Shamblin et al., 2016). Trauma-informed care advocates for a shift from punitive behavioral responses to responses based on understanding that children impacted by trauma may not have the skills to practice emotional regulation (Dorado et al., 2016; Perry & Szalavitz, 2017; Perry & Winfrey, 2021; Shamblin et al., 2016). When schools address the unmet needs of their students, the academic and social goals intrinsic to education are more likely to be achieved.

Conclusion

Our study reveals the profound and multifaceted impact that the opioid epidemic has had on the mental health of students and educators in rural Appalachian Ohio. By providing a space for the voices of educational leaders to be heard, we have aimed to document how these leaders perceive the consequences of misuse on family stability, school resource allocation, and the growing demand for trauma-informed care and social-emotional learning in their schools. Applying Bronfenbrenner's bio-ecological systems theory allowed us to situate their perceptions and insights within a broader developmental framework, illuminating how challenges at the microsystem level—such as student trauma and caregiver loss—are inextricably linked to larger exosystemic and macrosystemic pressures like underfunded services or lack of services, particularly in rural settings.

In this analysis, school leaders emerge as more than merely administrators. They are systemic agents obligated to cultivate responses that support student and community well-being.

Our findings indicated a need for new and nuanced policy focusing on mental health services in rural schools and a greater investment in professional development that empowers all school personnel to serve as trauma-sensitive supports. At the same time, we recommend that future research explore students' lived experiences within these systems, providing a space for youth voices. This can help researchers and practitioners better understand how proximal processes like SEL and school-based interventions shape their development over time. By embracing a systems view of educational leadership, we affirm that schools can be more than academic spaces; they can become centers of healing, resilience, and transformation for children impacted by public health crises.

References

Arenson, M., Hudson, P. J., Lee, N., & Lai, B. (2019). The evidence on school-based health centers: A review. *Global Pediatric Health*, *6*(1), 1-10.

Belfer, M. L. (2008). Child and adolescent mental disorders: the magnitude of the problem across the globe. *Journal of Child Psychology & Psychiatry*, *49*(3), 226-236.

Bellis, M. A., Hughes, K., Ford, K., Ramos Rodriguez, G., Sethi, D., & Passmore, J. (2019). Life course health consequences and associated annual costs of adverse childhood experiences across Europe and North America: A systematic review and meta-analysis. *The Lancet Public Health*, *4*(10), e517-e528.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design.* Harvard University.

Bronfenbrenner, U., & Morris, P. (2006). The bioecological model of human development. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1. - Theoretical models of human development* (6th ed.) (pp. 793-828). Wiley.

Brown, M. B., & Bolen, L. M. (2003). School-based health centers: Strategies for meeting the physical and mental health needs of children and families. *Psychology in the Schools*, *40*(3), 287-287.

Bullinger, L. R., & Wing, C. (2019). How many children live with adults with opioid use disorder? *Children and Youth Services Review*, *104*(1), 1-18.

Burfoot-Rochford, I. (2020). Heroin, prescription opioids, and rural superintendents: Understanding rural district and superintendent responses to the opioid epidemic in western Pennsylvania. *Journal of Research in Rural Education*, *36*(1), 1-13.

Centers for Disease Control and Prevention (CDC). (2022). *Fighting fentanyl: The federal response to a growing crisis*. CDC Washington.

Chennattu, R. S. (2023). *Opioid use disorder in upstate New York: An evaluation of a community-based intervention* (Doctoral dissertation, State University of New York at Binghamton).

Choi, K. R., Stewart, T., Fein, E., McCreary, M., Kenan, K. N., Davies, J. D., Naureckas, S., & Zima, B. T. (2020). The impact of attachment-disrupting adverse childhood experiences on child behavioral health. *The Journal of Pediatrics, 221*(1), 224-229.

Chudzik, M., Corr, C., & Fisher, K. W. (2023). Trauma-informed care: The professional development needs of early childhood special education teachers. *Journal of Early Intervention*, *46*(1), 113-129.

Compton, W. M., Jones, C. M., Baldwin, G. T., Harding, F. M., Blanco, C., & Wargo, E. M. (2019). Targeting youth to prevent later substance use disorder: An underutilized response to the US opioid crisis. *American Journal of Public Health*, *109*(1), S185-S189.

Cuéllar, M. F., & Humphreys, K. (2019). The political economy of the opioid epidemic. *Yale Law & Policy Review*, *38*(1), 1-75.

Dorado, J. S., Martinez, M., McArthur, L. E., & Leibovitz, T. (2016). Healthy environments and response to trauma in schools (HEARTS): A whole-school, multi-level, prevention and intervention program for creating trauma-informed, safe and supportive schools. *School Mental Health*, *8*(1), 163-176.

Dunfee, M. N. (2020). School-based health centers in the United States: Roots, reality, and potential. *Journal of School Health, 90*(8), 665-670.

Edelman, M. (2021). Hollowed out Heartland, USA: How capital sacrificed communities and paved the way for authoritarian populism. *Journal of Rural Studies*, *82*, 505-517.

Ekornes, S. (2017). Teacher stress related to student mental health promotion: The match between perceived demands and competence to help students with mental health problems. *Scandinavian Journal of Educational Research*, *61*(3), 333-353.

Flick, U. (2018). *Introduction to qualitative research* (6th ed.). Sage.

Goddard, A. (2021). Adverse childhood experiences and trauma-informed care. *Journal of Pediatric Health Care*, *35*(2), 145-155.

Guevara, A. M. M., Johnson, S. L., Elam, K., Rivas, T., Berendzen, H., & Gal-Szabo, D. E. (2021). What does it mean to be trauma-informed? A multi-system perspective from practitioners serving the community. *Journal of Child & Family Studies*, *30*(11), 2860-2876. https://doi.org/10.1007/s10826-021-02094

Hess, M. E., & Lowery, C. L. (2020). Crisis leadership and the impact of opioids on schools and students: Perspectives of school leaders in rural Appalachia. *Education Leadership Review*, *21*(1), 126-141.

Keefe, P. R. (2021). *Empire of pain: The secret history of the Sackler dynasty*. Anchor.

Kirchner, J. E., Yoder, M. C., Kramer, T. L., Lindsey, M. S., & Thrush, C. R. (2000). Development of an educational program to increase school personnel's awareness about child and adolescent depression. *Education*, *121*(2), 235-246.

Langley, A. K., Gonzalez, A., Sugar, C. A., Solis, D., & Jaycox, L. (2015). Bounce back: Effectiveness of an elementary school-based intervention for multicultural children exposed to traumatic events. *Journal of Consulting and Clinical Psychology*, *83*(5), 853-865.

Lankford, S. (2019). On site therapy services: Access to care in chronic trauma [Special issue]. *European Journal of Educational Sciences*, 140-148.

Lowery, C. L., Hess, M. E., Ramsey, C. K. G., & Fewell, C. (2023). Opioids and school leaders: Bricolage leadership in Appalachian Ohio. *International Journal of Leadership in Education*. Advanced online publication. https://doi.org/10.1080/13603124.2023.2275642

Macy, B. (2018). *Dopesick: Dealers, doctors, and the drug company that addicted America*. Bloomsbury.

Macy, B. (2022). *Raising Lazarus: Hope, justice, and the future of America's overdose crisis*. Back Bay.

Meier, B. (2018). *Pain killer: An empire of deceit and the origin of America's opioid epidemic*. Random House.

Meit, M., Heffernan, M., & Tanenbaum, E. (2020). Investigating the impact of the diseases of despair in Appalachia. *Journal of Appalachian Health*, *1*(2), 7-18.

Metzger, S., & Metzger, O. (2023). A shift left: Revised regulations for opioid prescribing in New Jersey. *Journal of Medical Regulation, 109*(1), 29-39.

Michaud, G., & Jolley, G. J. (2019). Economic contribution of Ohio's wood industry cluster: identifying opportunities in the Appalachian region. *Review of Regional Studies, 49*(1), 149-171.

Mirick, R., & Steenrod, S. (2016). Opioid use disorder, attachment, and parenting: Key concerns for practitioners. *Child & Adolescent Social Work Journal*, *33*(6), 547-557.

Morrone, M., Cronin, C. E., Schuller, K., & Nicks, S. E. (2021). Access to health care in Appalachia: Perception and reality. *Journal of Appalachian Health, 3*(4), 123-136.

Perry, B. D. (2002). Childhood experience and the expression of genetic potential: What childhood neglect tells us about nature and nurture. *Brain and Mind*, *3*(1), 79-100.

Perry, B. D. (2009). Examining child maltreatment through a neurodevelopmental lens: Clinical applications of the neurosequential model of therapeutics. *Journal of Loss and Trauma*, *14*(4), 240-255.

Perry, B. D., & Szalavitz, M. (2017). *The boy who was raised as a dog—And other stories from a child psychiatrist's notebook: What traumatized children can teach us about loss, love, and healing* (3rd ed.). Basic Books.

Perry, B. D., & Winfrey, O. (2021). *What happened to you?: Conversations on trauma, resilience, and healing*. Flatiron Books.

Phillippo, K. L., & Kelly, M. S. (2014). On the fault line: A qualitative exploration of high school teachers' involvement with student mental health issues. *School Mental Health: A Multidisciplinary Research and Practice Journal*, *6*(3), 184-200. https://doi-org.proxy.library.ohio.edu/10.1007/s12310-013-9113-5

Quinones, S. (2015). *Dreamland: The true tale of America's opiate epidemic*. Bloomsbury.

Saldaña, J. M. (2021). *The coding manual for qualitative researchers* (4th ed.). SAGE Publications.

Schalkoff, C. A., Lancaster, K. E., Gaynes, B. N., Wang, V., Pence, B. W., Miller, W. C., & Go, V. F. (2020). The opioid and related drug epidemics in rural Appalachia: A systematic review

of populations affected, risk factors, and infectious diseases. *Substance Abuse, 41(*1), 35-69.

Schalkoff, C. A., Richard, E. L., Piscalko, H. M., Sibley, A. L., Brook, D. L., Lancaster, K. E., Miller, W. C., & Go, V. F. (2021). “Now we are seeing the tides wash in”: Trauma and the opioid epidemic in rural Appalachian Ohio. *Substance Use & Misuse, 56*(5), 650-659.

Scholl, L., Seth, P., Kariisa, M., Wilson, N., & Baldwin, G. (2019). Drug and opioid-involved overdose deaths—United States, 2013–2017. *Morbidity and Mortality Weekly Report, 67*(51-52), 1419-1427.

Shamblin, S., Graham, D., & Bianco, J. A. (2016). Creating trauma-informed schools for rural Appalachia: The partnerships program for enhancing resiliency, confidence and workforce development in early childhood education. *School Mental Health: A Multidisciplinary Research and Practice Journal*, *8*(1), 189-200.

Substance Abuse and Mental Health Services Administration. (2021). *Key substance use and mental health indicators in the United States: Results from the 2020 National Survey on Drug Use and Health*. National Survey on Drug Use and Health.

Thomas, M. S., Crosby, S., & Vanderhaar, J. (2019). Trauma-informed practices in schools across two decades: An interdisciplinary review of research. *Review of Research in Education*, *43*(1), 422-452.

Welle, K., Colorafi, K., & Daratha, K. (2023). Opioid and nerve block administration in knee arthroplasty: An observational retrospective evaluation. Pain Management Nursing.

Winstanley, E. L., & Stover, A. N. (2019). The impact of the opioid epidemic on children and adolescents. *Clinical Therapeutics*, *41*(9), 1655-1662.

The Spatialization Process and the Impact on Developing Equity-Oriented Rural Educational Leadership

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Abstract

There is substantial and extensive literature detailing the importance equity-oriented urban educational leadership development. However, there is a critical lack of literature addressing the development of equity-oriented rural educational leadership preparation programs. Increasingly, sociologists have identified how spatial hierarchies are reified within societies, specifically how rural identities are spatialized as a less privileged sociocultural identity. In turn, this line of inquiry helps problematize how, or if, rural schools are deemed worthy of investment in high-quality, equity-oriented professional development by US society. As leadership preparation programs examine what it means to be 'rural' and the marginalization experienced within school systems labeled as 'rural' due to lack of access to economic, social, and cultural capital, it is important to understand how rural identities are spatialized and how this social process shapes deficit narratives about rural education systems and the associated lived experiences of those within rural communities. This article uses a collaborative self-study methodology to examine pervasive societal beliefs contributing to spatialized rural identities to inform the development of, and need for, equity-oriented rural educational leadership preparation programs that can contribute to a more democratic US society.

Keywords: rural education, rural schools, rural educational leadership, equity-oriented educational leadership, spatialization, spatial hierarchies, sociocultural identities

The body of literature examining the preparation and professional development of equity-oriented educational leaders has long been of interest to the field of education in an effort to help create a more inclusive United States (US) society (Galloway & Ishimaru, 2015; Leithwood, 2021; Rigby & Tredway, 2015; Theoharis, 2024). This has occurred predominantly through an urban-centric paradigm that informs what equity-oriented development looks like in action, specifically the use of critical perspectives to help support educational leadership frameworks that address issues of social justice for the communities that schools serve (DeMatthews, 2018; Green, 2017). Equity-oriented leaders recognize disparities experienced by students and work to eliminate systemic barriers so all students receive quality education (Khalifa, 2012). Specifically, this body of literature has helped create important frameworks that support the development of transformative educational leadership that centers the lived experiences of racially and culturally minoritized students and focuses on changing policies, practices, and pedagogies to help create more inclusive and equitable educational outcomes (O'Malley & Capper, 2015; Rivera-McCutchen, 2021; Shields & Hesbol, 2020; Virella, 2023).

However, the depth of critical literature contributing to equity-oriented rural educational leadership development is largely lacking (Hardwick-Franco, 2019; Orphan & McClure). Research for equity-focused leadership mainly focuses on urban schools, however rural educational leaders also need to comprehend these complexities and establish frameworks that cater to marginalized students' specific needs to achieve true societal equity (Mette, 2022). Additionally, leadership preparation programs often overlook rural educational leadership, excluding it from equity and reform conversations, even though rural schools serve as community anchors that are shaped by distinct social, economic, and political forces (McHenry-Sorber & Hall, 2018; Parson et al., 2016). Despite the fact that almost a quarter of all the rural US population consists of racially minoritized people (Rowlands & Love, 2021), most of US society spatializes rural as monocultural and White (Crain, 2023; Joubert & Lensmire, 2021). Worse yet, some in US society view rural people as unable to make informed political decisions, which is reinforced by the belief that rural communities are perceived as unworthy of access to basic infrastructure (Cramer, 2016; Gimpel et al., 2020).

Literature has increasingly examined spatial hierarchies that influence personal and societal perceptions about how rural is viewed as a less privileged sociocultural identity (Halabi, & Shoshana, 2024), which reinforces notions how rural communities are viewed as undeserving of investment such as quality healthcare, economic opportunities, and educational resources (Walsh, 2012). As such, rurality has become defined as problematic and politicized, even though this is a relatively new social development since the 1990s (Jacobs & Shea, 2023). Foundational pieces about rural educational experiences underscore the perceptions US society has about rural places, namely that rural communities are irrelevant, lack sociocultural complexity, and that the lived economic and political experiences of rural people do not amount to marginalization (Corbett, 2020). Achieving equity-oriented leadership requires acknowledging rural schools as both sites of historical oppression and resilience, which in turn can center their unique challenges and strengths that should be central to rural educational reform (Mette, 2022).

Given the wide variety of sociocultural identities represented within US rural communities (Azano & Means, 2022; Cain & Willis, 2022; Puente, 2024), including but not limited to race, ethnicity, LGBTQ+ status, SES, ability, and other lived experiences (Cormier et al., 2024; Khalifa, 2020), unpacking spatialized experiences can help to understand how equity-oriented rural educational leadership might be better developed and supported in rural spaces to contribute to a more just US society. As such, it is important to consider the conceptualization of what it means to be 'rural' as it relates to addressing issues of inequities in schools, including but not limited to a lack of economies of scale, increased enrollment of racially and culturally minoritized students, lack of access to resources, geographic isolation, and lower academic outcomes (Welsh, 2024). Moreover, there is not one definition of 'rural' and as such should not be thought of as either monocultural or solely racialized as White (Williams, 2023). To problematize the spatialization process further, and for the health and future of a functional democracy that has become spatially divided, leadership preparation programs can continue to address what it means to develop equity-oriented rural educational leaders who can help create more inclusive rural education school systems.

In this article we examine how rural identities are spatialized in US society, specifically examining the implications of this process for developing equity-oriented rural educational leaders. Using a self-study methodology, we engage and reflect on our experiences as scholars and practitioners at the intersection of racial and spatial sociocultural identities (Joubert & Lensmire, 2021) to analyze how societal narratives frame the spatial identity of rural as inferior, uneducated, and undeserving of investment (Keyes et al., 2014). Through this self-study, we leverage our own positionality growing up in rural places and in institutions serving rural educational leaders to problematize and increase awareness through our research and instruction in educational leadership preparation programs of how rural people are spatialized, specifically the importance of developing equity-oriented rural educational leaders.

Moreover, we examine how spatialized deficit narratives shape the preparation and development of equity-oriented rural leaders and contribute to a lack of understanding about how to provide more inclusive rural educational experiences, which is of particular importance in rural communities that are experiencing rapid racial and cultural diversification (Biddle & Mette, 2018). As such, we unpack the tensions we identify as they relate to the spatialization process in US society through the following research question: "How and in what ways do pervasive societal beliefs view rural people as inferior, uneducated, and undeserving inform the need to develop access to equity-oriented rural educational leadership preparation and development?" In this article, we highlight the intersections of policies, practices, and pedagogies shaping equity-oriented rural educational leadership.

Literature Review

The prevalence of equity-oriented literature to address the marginalization of students in US education systems has played a critical role in helping create more just and inclusive educational leadership preparation programs since the late 20th century and the early 21st century (Anderson, 2001; Goldring et al., 2009; Khalifa, 2012; Scheurich, 1995; Tillman et al., 2003; Young & Liable, 2000). This body of literature highlights the importance of understanding the role that privileged sociocultural identities have on educational leaders and the importance of

acknowledging how race, ethnicity, gender, LGBTQ+ status, and other lived experiences influence equity-oriented educational leadership development (Khalifa et al., 2020; Mette et al., 2023; Theoharis & Brooks, 2012; Yosso, 2002; Young & Lopez, 2011). From this research foundation, equity-oriented educational leadership development highlights the importance of developing a critical consciousness that rejects the normalcy of privileged identities (i.e. whiteness, heteronormativity, class, etc.) that focuses on capacity-building to honor the lived experiences that students bring with them to the schoolhouse everyday (Gay, 2018; Gay, 2024; Waite, 2021).

As such, it is critical for educational leaders to reflect on their own privileged sociocultural identities, and while educational leaders do not need to belong to racial and/or cultural groups to engage in equity-oriented educational leadership, they do need to acknowledge their privilege to address systemic inequities (Khalifa, 2020; Milner, 2020). Given the ongoing presence and influence of whiteness and Christian nationalism in US society that promotes anti-Blackness, xenophobia, Islamaphobia, and anti-LGBTQ+ ideologies, among other forms of hatred (Gorski & Perry, 2022), equity-oriented leaders can play a critical role ensuring marginalized students achieve academic success. The professional development that principals receive play critical roles in the development of just and inclusive educational environments (Mullen & Hall, 2024).

By centering equity within educational leadership development, school systems in the US can begin the long process of examining and deconstructing policies, practices, and pedagogies that reify marginalization (Leithwood, 2021; Radd et al., 2021). To accomplish this goal throughout US society, including in rural places that have traditionally lacked focus on the creation of equity-oriented rural educational leadership, requires a reimagination of how to create and sustain just and inclusive educational systems in a pluralistic society (Holloway, 2021; Mackey et al., 2024). Given the increased focus about how spatial identities play a role in the sociocultural development of people within US society, specifically how being spatialized as rural is associated with incompetence, unworthiness of investment and/or economic development, and broadly is seen as a less privileged identity (Halabi, & Shoshana, 2024), it is important to consider spatiality as a sociocultural construct.

Spatial Identity as a Sociocultural Identity

While spatial identity is considered a key concept to socialized development in sociology (Koch, 2015; Guhin et al., 2021; Passi, 1991), it is often an undertheorized sociocultural identity within the field of educational leadership. Since spatial identity has historically been missing in equity-oriented educational leadership literature, there tends to be a lack of research that scrutinizes the social construction of space (Keyes et al., 2014). Specifically, educational leadership preparation and professional development could leverage the creation of more equitable education outcomes for rural students and the increasingly diverse communities they serve (Joubert & Lensmire, 2021; Welsh, 2024).

There is great opportunity for educational leadership preparation programs to conceptualize and problematize how spatiality could be included within the sociocultural ecosystem to better understand how people experience marginalized identities that are informed by US society (Mette, 2022; Mette et al., 2023). Specifically, educational leadership

preparation programs could greatly benefit from challenging how spatialized identity could be included with other sociocultural identities such as race, culture, religion, gender, LGBTQ+ status, and class to understand how people experience marginalization determined by societal hierarchies (Bourdieu, 1986; Weis & Cipollone, 2013). For this to occur, however, requires the acknowledgement of how people perceive those spatialized as rural, specifically societal views that see rural spaces and people as inferior and unworthy of infrastructure and/or investment (Harper, 2024).

Perhaps most important is the need for educational leadership preparation programs to acknowledge that rural is neither monocultural and nor exclusively racialized as White (Crain, 2023; Williams, 2023). While almost 25% of the rural US population is racialized as People of Color (Rowlands & Love, 2021), there are persistent perceptions and policies in US society that suggest rural communities are unworthy of access to basic social resources (Cramer, 2016; Gimpel et al., 2020; Mette et al., 2019). It is precisely because of these beliefs that educational leadership preparation programs could invest in the development of equity-oriented rural educational leadership programs to ensure rural students have access to education systems that promote justice, inclusion, and understanding of how to function within a pluralistic society.

The Need for Equity-Oriented Rural Educational Leadership Development

With the rapidly changing demographic landscape of rural communities due to global migration (Biddle & Mette, 2018; McHenry-Sorber & Hall, 2018), it is imperative that educational leadership preparation programs focus on development of equity-oriented rural leadership, particularly, but not exclusively, as it relates to addressing the political and ideological views supporting white supremacy (Leonardo, 2009). Given the fundamental differences experienced by rural principals compared to urban principals (Orphan & McClure, 2019; Parson et al., 2016), the need for rural-relevant professional development is profound. This is especially true given the sociopolitical challenges facing rural schools where community members might be resistant to discussing topics of race and other marginalized identities and lived experiences (Khalifa, 2020; Milner, 2020).

Some of the challenges facing rural educational leaders are structural and some are perceptual. Regarding structural challenges, these include inequitable funding models (Van Regenorter et al., 2025), lack of access to rural-relevant professional development (Hardwick-Franco, 2019), disproportionate workload demands that cannot be addressed by economies of scale (Klar & Huggins, 2020), ongoing retention issues (Orphan & McClure, 2019), and a very real history of spatial division based on racial identity (Tieken, 2014). The perceptual challenges, however, are sometimes harder to address as they are socialized perceptions and beliefs, including negative stereotypes about white Christian nationalism that is just as prevalent in urban and suburban areas (Gallo, 2020; Gorski & Perry, 2022). Together, the structural and perceptual challenges facing rural education contribute to the labeling of rural school systems as inferior, the idea that rural teachers are uneducated, and that rural communities in general are undeserving of investment (Joubert & Lensmire, 2021; Keyes et al., 2014).

That being said, there is a vast array of sociocultural identities represented in rural communities, (Azano & Means, 2022; Cain & Willis, 2022; Puente, 2024), including racial and cultural identities, meaning that rural children deserve the same high-quality, equity-oriented

education systems as any other child. Moreover, rural school systems deserve to have their assets leveraged to help contribute to a more democratic and pluralistic society, including rural schools serving as community hubs, utilizing smaller class sizes that allow for a deeper connection to students and parents, and using community connections to support greater collaboration between teachers and administrators (Orphan & McClure, 2019; Parson et al., 2016). Notedly, if rural school systems are to play a role in helping develop a more inclusive and just US society, then they must be provided with educational leadership development and professional development that acknowledges them as having societal value and not solely seen as 'fly over' spaces (Tickamyer et al., 2017).

Methodology

As researchers and educators committed to helping develop more equity-oriented educational leaders in rural settings, we became engaged in collaborative self-study (Bodone et al., 2004; Butler et al, 2023). This allowed us to critically examine how rural is spatialized within education preparation efforts, specifically the influence this has on the ability to create a more equitable US society (Mette, 2022). A self-study in qualitative research is primarily centered around a researcher's inquiry into their practices, motivations, and experiences within a professional context. It provides a structured yet flexible framework for personal reflection and critical analysis, encouraging researchers to explore the interplay between their actions and broader pedagogical and theoretical constructs (Vanassche & Kelchtermans, 2015).

We began collaborating after presenting at a national educational leadership conference and became critical colleagues (Donaldson, 2008). This partnership helped us problematize the spatialization of rural identity, which in turn helped us to increase our awareness of space as an undertheorized sociocultural identity. Using self-study to create more critical perspectives on how rural identity is spatialized as inferior, we leveraged the self-study process to better understand how our conceptualizations might better bridge the gap between theory and practice by questioning sociopolitical perceptions (Monreal et al., 2024), specifically to deepen our commitment to support the development of equity-oriented rural educators.

Data were collected over the course of 18 months and consisted of nine meetings that were both in-person and virtual using video conferencing software. The meetings lasted between 60 and 90 minutes each, and in each meeting, we took detailed notes to preserve the dialogue that occurred. In these meetings we conceptualized how spatialization of rural people occurs in US society, specifically related to the lack of training of equity-oriented educational leaders in rural settings. In between these meetings we engaged in ongoing development of a spatialization framework based on our own experiences supporting the development of rural educational leaders in preparation programs, as well as reflecting on our own positionalities of people who grew up in rural places. We chose to write vignettes that helped address theoretical applications of our problem of practice, as well as to deepen the complexity of our understanding (Gravett et al., 2017; Ulvik et al., 2020). From these autobiographical data, we co-created knowledge to increase our understanding of a social process (Vanassche & Kelchtermans, 2015), specifically the spatialization of rural identity and educational preparation within US society.

For the purposes of this collaborative self-study, we engaged in thematic analysis (Braun & Clarke, 2006) that afforded us the opportunity to interpret how our experiences in helping develop equity-oriented educational leaders in rural settings are informed by the spatialization process. Thematic analysis was well-suited to this inquiry given its capacity to interpret lived experience while preserving the complexity and nuance of our subjectivities. Through the analysis of our vignettes, we engaged in an iterative process that supported a more critical understanding of our own subjectivities (Corbin & Strauss, 2008), specifically our own experiences navigating urban-centric perspectives that marginalize rural people (Harper, 2024), as well as the implied message that you must leave your rural community if you are to find success in US society (Corbett, 2020). Through the iterative process to deepen our understanding of our own lived experiences, as well as those of others, our critical analyses leverage our experiences (Butler et al., 2024) and highlight the importance of ensuring the development of equity-oriented school systems in rural settings.

As part of this process, we recognized that self-study is inherently subjective. To advance trustworthiness, we embraced the practice of reflexivity (Finlay, 2002), which involved sustained critical self-examination of our roles as both researchers and participants. We maintained individual journals to record our evolving interpretations and affective responses, which helped surface assumptions and inform subsequent dialogue. Additionally, we incorporated feedback from trusted colleagues who served as critical friends. These supportive yet constructively critical peers challenged our interpretations, posed probing questions, and strengthened the rigor of our claims (Alan et al., 2020). These exchanges also helped us navigate potential biases and deepen our analytical insights. Although this inquiry is limited to our own experiences and positionalities, we believe that the reflective and dialogic nature of self-study allows for findings that resonate beyond the individual, offering new language and perspectives for educational leadership programs seeking to advance equity in rural school systems. Ultimately, this methodological approach allowed us to bridge theory and practice in ways that are deeply personal yet broadly relevant to the field.

Positionality

As educators from diverse rural backgrounds, we bring a depth of perspective and understanding to the challenges rural communities face in the US. As the first author, a cisgender, heterosexual White male, and the second author, a cisgender, heterosexual Black male, we each bring unique lived experiences illuminating rural life's complexities that are often overlooked in mainstream narratives. Growing up in rural settings in different regions of the country, we have encountered firsthand the misconceptions that paint the rural US as homogenous, uneducated, and predominantly White. Our journeys, marked by experiences of socioeconomic struggle and the navigation of educational and professional systems, have shaped our commitment to challenging these harmful narratives.

For the Ian, his upbringing in a rural Northern mill town exposed him to how rural people, including himself, are socialized as inferior due to socioeconomic status and lack of access to cultural capital compared to urban and suburban counterparts. As a child who at times qualified for free and reduced lunch, he learned firsthand the lived experiences of economically deprived rural communities and the systemic barriers that perpetuate inequality

for the benefit of upper-to-middle class White urbanites and suburbanites. Similarly, Jamon, who was raised in rural North Carolina, grappled with the erasure of Black communities and other Communities of Color from the narrative of the rural US. His experiences have underscored the importance of countering the notion of rural communities as intellectual deserts. By bridging our sociocultural identities and lived experiences, we aim to amplify the voices of marginalized rural populations and promote a more inclusive and nuanced understanding of rural life. Specifically, we highlight the need for researchers and practitioners to understand the importance of investing in equity-oriented rural education systems to help lead schools and the communities they serve.

Findings

Through our analyses, three themes emerged that inform our experiences and understanding of how to help develop equity-oriented rural educational leaders. These themes include, 1) resisting how spatialized categories are used to inform geographic superiority; 2) critiquing how access to economic and cultural benefits are spatialized, and 3) challenging how spatialized identity is an undertheorized sociocultural identity. As such, we unpack pervasive societal beliefs that view rural people as inferior, unable, and unworthy of contributing to a more functional and just US democracy.

Resisting How Spatialized Categories are Used to Inform Geographic Superiority

As we engaged in our vignettes and autobiographical data, it became clear to both of us that how people viewed our own lived experiences growing up in rural places created challenges for us to navigate higher education and in educational preparation programs more specifically. Both of us have a wide variety of experiences that view rural as inferior and reinforce deficit-orientation about rural spaces. Not only does this support the 'learning to leave' mentality that negatively contributes to the 'brain drain' put on rural communities, but it many cases it also reinforces our own lived experiences that see rural spaces as unworthy or undeserving of investment when compared with urban and suburban counterparts. In one reflection, Ian shared the following experience with higher education colleagues who commented on the possibility of developing rural educational leadership development pipelines:

> *I always find the distain for rural-focused educational leadership within higher education fascinating. You know, it's like you almost learn to not mention it in certain circles that clearly have an urban-centric paradigm and aren't necessarily willing to hear about the struggles of rural schools. There were a series of conversations I journaled about because they were so surprising to me what was said in the meetings. There was an opportunity for an educational leadership program I was associated with to collaborate with a cadre of rural school districts who were seeking a partnership with a higher education entity, and as someone who is interested in helping develop equity-oriented rural educational leadership I was thrilled. But when this was discussed at the program level, there was significant pushback. Several people within the preparation program vocalized that they didn't believe the program should focus on rural schools – that who we serve should be solely urban based. The conversations became contentious and the people who opposed the opportunity became adamant that we shouldn't serve any district outside of the urban area. As someone who grew up in a rural area, and have experienced countless*

exchanges where people from urban areas make fun of you or judge you for being from a rural area, this particular exchange really hit home and highlighted the belief that some people have that urban areas are superior and rural spaces are inferior and unworthy of investment.

For Ian, this exchange reinforced the idea that the urban-rural divide is very real within the field of educational leadership preparation. These experiences concern Ian because of the resistance to support the development of rural educational leaders, and perhaps more alarming is the unnecessary doubt it places on rural educational leaders to engage in developing more equity-oriented school systems. As such, these philosophical and pedagogical conflicts create tensions about how educational preparation programs place socialized views about space onto rural communities without first understanding what counter narratives might exist within rural spaces. These experiences highlight how rural communities – and more specifically people – are spatialized.

In Jamon's experience, he reflected on geographic superiority by discussing challenges as a former rural educator and strategies employed as a rural educational leader scholar he witnesses in rural school districts. He stated:

As a former rural educator, it was often difficult to create a college-going culture because many parents and community members, such as town council members, believed that attending college meant leaving and never returning. In hindsight, a narrative is/was success is framed as something that happens elsewhere, reinforcing the idea that rural communities have little to offer beyond high school. I understood this struggle personally, as I often suppressed my rural identity in non-rural spaces, especially during my undergraduate days, to avoid being perceived as ignorant or a 'country bumpkin.' I believed that a college education would help dismantle this stereotype, making it easier to prove that being from a rural area did not equate to a lack of intelligence or ambition. At the same time, I worked to show students that college did not have to mean permanent separation from their hometowns. I partnered with local businesses to create career pathways that tied post-secondary education to rural opportunities, including in education. Now, in my current role, I am helping to develop an educational leadership preparation strand that strengthens the rural education pipeline, ensuring that rural schools continue to cultivate leaders who see value in staying and contributing to their community.

These experiences, along with many others, help inform our understanding of the importance of supporting the development of equity-oriented rural educational leaders. From these conversations, exchanges, and reflections, we acknowledge that frameworks that see rural communities as *fly over* spaces are often reified within US society and educational leadership preparation programs more broadly. Unfortunately, the spatialization of geographic areas has become divisive in US society and does little to help develop rural educational leaders who are able to create inclusive educational environments that celebrate rural students who have a wide variety of sociocultural identities. It is from this dialogue that we engage with the intentional development of equity-oriented rural educational leaders who are able to provide

counter narratives about how US society views rural school systems and the specific commitment to creating inclusive and welcoming rural spaces.

Critiquing How Access to Economic and Cultural Benefits are Spatialized

A large part of our collaboration engaged in reflecting about how and in what ways rural schools lack access to equitable monetary and cultural resources compared to urban and suburban schools. Our collective experiences serving in a wide variety of rural educational institutions throughout the US, including the Northeast, the Mid-Atlantic, the South, the Midwest, and the Mountain West, give us a deep understanding of the lived experiences regarding how rural people are spatialized, specifically how funding models and lack of access to cultural institutions creates inequities for rural students. In working together to analyze and understand our own lived experiences across a geographically diverse range of institutions, we identified these commonalities experienced within educational leadership preparation programs that prevent access to economic and cultural benefits. From the beginning, both of us noted the challenge to provide educational leadership preparation that was rural-relevant or even acknowledged different challenges that rural educational leaders must navigate. In one of the early vignettes, Ian reflected on the economic inequities and lack of access experienced by rural school systems:

> *It's really helpful for me to engage with you, Jamon, and listen to your experiences both as someone who is preparing rural educational leaders and as someone who was a practicing rural administrator. We come from vastly different geographic areas, but our experiences in these various rural settings help us to critique and unpack the common challenges facing rural schools. Unless you have lived it, most people running educational leadership preparation programs really don't know the constant economic threats that rural schools face. These little community schools, some of which have served generations of families within the same community, are always under threat of consolidation or closure because they lack economies of scale, and they are seen as inefficient education systems that aren't worth saving. And this only reinforces the belief that rural people – and their community – are somehow unworthy of access to basic social systems.*

Throughout the reflection process, Ian connected the lack of funding for rural schools to the types of training that rural educational leaders need to be provided to be properly prepared to help lead a rural school system. For example, rural educational leaders tend to wear 'many hats' because of the various administrative roles often assigned in rural school settings, which is tied to funding levels that do not support the same division of labor often seen in suburban and urban districts. However, most educational leadership preparation programs do not engage in rural-relevant models, meaning that many educational leaders that come out of preparation programs are untrained to navigate the economic and structural differences experienced in rural school systems.

For Jamon, he discussed the limitations and lack of access as a rural student and later faced as a rural administrator:

Growing up in rural North Carolina, cultural and academic enrichment opportunities were scarce. Field trips to museums simply didn't happen, and I do not recall visiting one until I was a teacher in a large urban district – an experience that, in many ways, fascinated me more than my students. While I completed a few advanced placement (AP) courses, financial constraints and limited course offerings meant I never fully engaged in the program, and I didn't realize how many AP options existed until I attended a summer program at the University of North Carolina – Project Uplift. There, I met students who were enrolled in several AP courses, including advanced art and foreign languages – subjects that were not available in my high school. Later, as a rural school administrator, I pushed to expand pre-AP and AP course offerings, only to face resistance from district leadership, who claimed finances made such initiatives impractical. They insisted that honors courses were enough, reinforcing the idea that rural students should settle for less. Over time, I internalized the same message I had been told as a student: to see the world, to find real opportunity, I had to leave. It was a narrative I unknowingly passed on to my students, never questioning why our hometown wasn't seen as a place where success could thrive. The truth is, rural students are systematically denied access to the same resources as their urban and suburban peers, not because they are labeled as lacking potential, but because society has long decided their futures should be constrained by geography.

In addition to the economic inequities experienced by rural school systems, both of us have lived experiences navigating rural communities lack of access to cultural resources. This includes access to museums, zoos, cultural centers, and art galleries that are often exclusively housed in urban centers and are not readily accessible to many rural communities in the same manner as they are to their urban and suburban counterparts. By confronting these structural inequities that prevent access to cultural resources, we were further able to critique how rural is spatialized and labeled as undeserving of cultural access that contributes to inequities in rural communities.

From this collaboration and the sharing of our autobiographies, we have been able to make sense about what is needed in order to help inform the development of equity-oriented rural educational leaders. Specifically, educational leadership preparation programs and professional development can highlight the importance of how rural educational systems might be able to provide more equitable access for rural students to benefit from cultural resources that are often located many hours away. By engaging in these challenges and tensions, rural-serving educational leadership preparation programs might be able to reimagine practices and policies that can challenge the lack of equitable access to cultural resources experienced by students in rural school systems.

Challenging How Spatialized Identity is an Undertheorized Sociocultural Identity

Perhaps one of the most interesting and nuanced aspects of our collaboration was identifying how spatialized identity is often an ignored sociocultural identity within the field of education, and educational leadership more specifically, despite the fact that place and space are consider foundational aspects of socialized development within the field of sociology. Specifically, we found great value in how educational leadership preparation programs might benefit from

challenging how spatialized identity could be included with other sociocultural identities such as race, culture, ethnicity, class, LGBTQ+ status, and other lived experiences to understand how people experience marginalization determined by societal preferences. In doing so, our vignettes and autobiographical data highlight not only our own experiences being spatialized as rural in our own rural educational experiences, but also how we learned to navigate higher education with a rural sociocultural identity and the influences this has on us as we support educational leadership development in rural education systems.

Ian most notably engaged in unpacking spatialized identity when working closely with other White rural educators who often struggled to understand the intersection of their spatial and racial identities. He shared:

> *Some of the most fascinating work, and honestly probably some of the most rewarding conversations, have come from helping rural educational leaders who are racialized as White try to frame their spatialized identity within the context of US society. And in many of those conversations, the challenges have come when these White educational leaders try to position their spatialized identity as just as marginalized as racial identity, which is just not a reality for rural White folx in US society. But by working closely with these educational leaders, especially those that might struggle to understand their own spatially-induced racial illiteracy, is the awareness and the development of critical consciousness to understand how race is the foundational privileged identity in US society. And from there, you can help educational leaders understand that poor White rural people are marginalized in economic and political ways that informed what Fred Hampton (1969) discussed when he engaged in the idea of political coalitions that extended across racial and spatial identities. And when you help educational leaders understand that solidarity and socialism can address racial and spatial inequities – that is incredibly powerful.*

Part of the challenge of helping prepare equity-oriented rural educational leaders also requires training and professional development that acknowledges a portion of US society spatializes rural as monocultural and White. This reinforces and reifies inequitable outcomes throughout the US that do not acknowledge the diversity of race, ethnicity, and culture that exists within rural US communities. When rural-facing educational leadership preparation programs fail to incorporate these frameworks and paradigms, this influences a lack of equitable outcomes for students. However, when spatial identity is included in these conversations, with discussion that appropriately centers race, ethnicity, and culture prior to unpacking spatialized identities, rural educational leaders can play an important role in addressing how their school might function in more inclusive and equitable ways.

Ian's experience with resistance to rural leadership preparation within higher education resonated with Jamon's encounters navigating educational spaces that failed to recognize rural students, and particularly rural students of color, as central to equity discussions. Jamon shared:

> *During my time in educational leadership preparation programs and while I served as a Black rural educational leader and administrator, it was not uncommon for me to encounter the assumption from multiple individuals that Black school and district-based administrators were better suited for urban districts, reinforcing the notion that rural*

equals White and urban equals racially diverse. In my preparation programs, discussions of equity almost exclusively focused on urban settings, as if the racial and cultural struggles of rural students did not exist. I also faced implicit biases from White and Black rural and urban colleagues, who were surprised that I had advanced in my career despite coming from 'a small country town.' These encounters emphasized how spatialized identity is undertheorized in educational leadership discourse, particularly for People of Color navigating the intersection of race and place.

Just as Ian witnessed reluctance of higher education to invest in rural leadership development, Jamon faced the assumption that Black school leaders belonged in urban districts, reinforcing the false dichotomy that urban spaces are more diverse and deserving of equity work, while rural spaces are homogeneous and peripheral to these conversations. This erasure is not incidental, as it is embedded in the very ways in which rural identity is conceptualized, both in education discourse and broader societal narratives. The absence of equity-oriented development for rural educational leaders reinforces the expectation that professionals of all races, but specifically Black educational leaders, cannot engage in developing more inclusive and just education systems in rural communities. This paradigm fails to recognize the racial diversity of rural communities and reinforces the idea that rurality is considered a deficiency rather than opportunity. If rural educational leadership is to be truly equity-oriented, it must acknowledge not only the structural inequities rural students face, but also how race, identity, and place intersect to shape leadership opportunities, student experiences, and community expectations.

Discussion

The purpose of this article is to show that rural-focused educational leadership preparation programs need to move beyond merely adapting urban-centric strategies to address social inequities. The way US society considers rural areas to be less important, or worse yet, less worthy of investment and development (Keyes et al., 2014), affects institutional resource distribution and allocation. Perhaps just as important is the negative impact these deficit-orient policies, practices, and paradigms have on rural community self-image and social development (Harper, 2024; Jacobs & Shea, 2023). Educational leadership programs need to focus on creating leaders who are equipped to tackle systemic inequities in rural education if rural schools are to become places of opportunity instead of places of departure that experience 'brain drain' (Corbett, 2020) as well as counter the divestment of social, cultural, and economic capital (Bourdieu, 1986; Weis & Cipollone, 2013). One implication of this framing is that leadership preparation programs must shift from deficit models to asset-based frameworks that recognize rural community resilience and capacity as central to reimagining and strengthening educational systems in ways that are grounded in local values, experiences, and needs. Leadership standards, professional development programs, and policy frameworks should be reconsidered to address the diverse racial, economic, and spatial factors present in rural education settings instead of treating these areas as uniform and unchanging (Azano & Means, 2022; Cain & Willis, 2022), which means they must be intentionally designed with rural communities in mind reflecting their unique political, social, and geographic realities, and structured to prepare leaders to navigate challenges such as limited funding, staffing shortages,

and community resistance, all while fostering inclusive, equitable, and affirming school environments.

Higher education's resistance to rural leadership development reveals an essential deficiency in the evaluation of rural educational leadership within the field of education more broadly. The absence of rural-relevant leadership within educational leadership preparation programs (Klar & Huggins, 2020; Van Regenorter et al., 2025) sends a message that rural school systems are inferior to urban and suburban places and spaces (Harper, 2024; Walsh, 2012). As a result, preparation programs in higher education must actively partner with rural districts to co-construct leadership pipelines that validate rural experiences and counter the urban-normative bias embedded in traditional leadership discourses that see them as incapable or unwilling to address social inequities. Neglecting rural educational leadership reifies the failure to serve students and communities spatialized as rural (Parson et al., 2016), as well as perpetuates disparities that equity-oriented education systems are designed to eliminate (Holloway, 2021). To promote a pluralistic US society, investing in rural educational leadership requires specific actions, such as targeted funding for training rural leaders and forming partnerships between universities and rural districts along with rural-relevant policy changes. The implications of investing in equity-oriented educational leadership preparation programs could be profound, specifically if it helps to highlight the potential for coalitions of educational leaders from across places and spaces who are willing to engage in addressing inequitable societal outcomes in the name of a more just and humane US society.

This study advocates for the application of transformative paradigms for rural educational leaders, which should be recognized as an essential element of educational equity and social justice, and perhaps just as importantly be seen as a critical foundation for a healthy US society. As such, educational leadership preparation programs must directly address the damaging narratives that portray rural areas as less sophisticated, lacking sociocultural diversity, and therefore less worthy of investment. By providing counter narratives of what it means for PK-12 students to learn in rural areas, equity-oriented rural educational leadership programs can help create education systems that are capable of reimagining a society that refuses to allow itself to be divided by geographic boundaries and gerrymandering politics. Future research should examine how rural leaders address spatialized deficit narratives through their own experiences while also considering race, class, and mobility as mediating factors. Focusing on rural perspectives within educational leadership discussions can help advance the field of educational leadership preparation toward a leadership model that embraces both inclusivity and social justice while meaningfully appreciating place-based identity to create a more equitable democracy.

Conclusion

Research identifies the ongoing need for rural educational leadership preparation and development, specifically the critical component of developing equity-focused educational leadership frameworks within places spatialized as rural (Hardwick-Franco, 2019; Mette, 2022; Orphan & McClure). While the research of developing equity-oriented urban educational leadership has been critical to the field of educational leadership (Galloway & Ishimaru, 2015; Leithwood, 2021; Rigby & Tredway, 2015; Theoharis, 2024), much of US society has ignored the

needs of rural educational leadership to support rural communities that are socioculturally diverse (Crain, 2023; Joubert & Lensmire, 2021) and that can increase commitment to more equitable outcomes for all rural students. As such, policies and research about educational leadership development have traditionally discarded the important role rural schools can play on the development of a healthy, inclusive, and just society (Cramer, 2016), which in turn leads to rural students and leaders who are deprived of necessary resources and support to help ensure school improvement (Gimpel et al., 2020). Continuing to ignore the needs of developing equity-oriented rural educational leaders only reifies an unjust US society that is more susceptible to beliefs of geographical superiority.

The intent of this article is to help highlight and critique sociocultural hierarchies related to spatialized identities (Halabi, & Shoshana, 2024), which in turn informs how rural students receive less access to quality education training and development (Walsh, 2012). Leadership preparation programs should recognize the complex and diverse nature of rural education instead of treating rural schools as secondary to urban and suburban priorities to prepare leaders who can address these unique inequities within rural settings. Transforming rural leadership preparation requires intentional efforts to challenge the societal assumptions that equate rurality with deficiency, and instead foster leadership development that views rural schools as vital sites capable of addressing community needs. While rural school systems and rural communities are certainly capable of perpetuating disparities that should be addressed through equity-oriented rural educational leadership, such as addressing the experiences of racially minoritized students who have been marginalized in rural communities that are predominantly White (Mealy, 2020), many urban school systems fail to address similar disparities based on various privileged sociocultural identities. As such, it is important for educational leadership preparation programs to view rural communities as possessing assets that can be used to leverage and create trusting community spaces to better address the experiences of historically marginalized students (Orphan & McClure, 2019).

Perhaps most importantly, educational leadership development programs should consider how to invest in rural schools intentionally while establishing policies that value local expertise and create leadership pathways that nurture, rather than deplete, rural educational experiences and outcomes to develop more inclusive and just schools. The goal of inclusive education systems remains unattainable for rural communities until they receive proper attention in equity-oriented school reform discussions. To empower rural leaders, we must recognize how they can function as agents of change and provide them with rural-relevant support and development. Spatially-conscious, equity-oriented rural educational leadership development can enable educators to redefine how rural school education systems can – and should – play a dynamic roll to reimagine and transform what is possible in the rural schoolhouse.

References

Alan, B., Sarıyev, H., & Odabaşı, H. (2020). Critical friendship in self-study. *Journal of Qualitative Research in Education, 9*(25). https://doi.org/10.14689/enad.25.14

Anderson, G. L. (2001). Disciplining leaders: A critical discourse analysis of the ISLLC national examination and performance standards in educational administration. *International Journal of Leadership in Education*, 4, 199-216.

Azano, A., & Means, D. (2022). Rethinking Equity and Justice in Rural Organizations: Implications for Policy and Practice. *The Rural Educator, 43*(1), 110-114. https://doi.org/10.35608/ruraled.v43i1.1359

Biddle, C. & Mette, I. (2018). Education and information. In A. R. Tickamyer, J. Sherman, & J. Warlick (Eds.), *Rural poverty in the United States* (pp. 322-348). Columbia University Press.

Bodone, F., Gudjonsdottir, H., & Dalmau, M. C. (2004). Revisioning and recreating practice: Collaboration in self-study. International handbook of self-study of teaching and teacher education practices (pp. 743-784). Springer.

Bourdieu, P. (1986). The forms of capital. In: J. G. Richardson (Ed.), Handbook of theory and research for sociology of education. Greenwood (pp. 46- 58), New York.

Butler, B. M., Burns, R. W., & Willey, C. (2023). Toward a renewal of supervisory scholarship and practice in teacher education: A collaborative self-study. *Journal of Educational Supervision, 6*(3), 47-68. https://doi.org/10.31045/jes.6.3.3

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77– 101. https://doi.org/10.1191/1478088706qp063oa

Cain, E. J., & Willis, J. F. (2022). "Does It Identify Me?": The Multiple Identities of College Students from Rural Areas. *The Rural Educator, 43*(1), 74-87. https://doi.org/10.35608/ruraled.v43i1.1199

Cervone, J. A. (2018). *Corporatizing rural education: Neoliberal globalization and reaction in the United States*. Palgrave Macmillan.

Corbett, M. (2020). *Learning to leave: The irony of schooling in a coastal community* (2nd ed.). West Virginia University Press.

Cormier, D. R., Mette, I. M., & Oliveras, Y. (2024). A primer for culturally responsive instructional supervision. In D. R. Cormier, I. M. Mette, & Y. Oliveras (Eds.), *Culturally responsive instructional supervision: Leadership for equitable and emancipatory outcomes* (pp. 11-30). Teachers College Press.

Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). Sage.

Crain, A. M. (2023). Social constructions of rurality: A case study in institutional policy design. *Journal of Research in Rural Education, 39*(2), 1-18. https://doi.org/10.26209/JRRE3902

Cramer, K. J. (2016). *The politics of resentment: Rural consciousness in Wisconsin and the rise of Scott Walker*. University of Chicago Press.

DeMatthews, D. E. (2018). *Community engaged leadership for social justice: A critical approach in urban schools*. Routledge.

Donaldson, G. A. (2008). *How leaders learn. Cultivating capacities for school improvement*. Teachers College Press.

Finlay, L. (2002). "Outing" the researcher: The provenance, process, and practice of reflexivity. *Qualitative Health Research, 12*(4), 531-545. https://doi.org/10.1177/104973202129120052

Gallo, J. (2020). Against the grain: Narratives of rural teachers' professional lives. *The Rural Educator, 41*(2), 1-13. https://doi.org/10.35608/ruraled.v41i2.862

Galloway, M. K., & Ishimaru, A. M. (2015). Radical recentering: Equity in educational leadership standards. *Educational Administration Quarterly*, *51*(3), 372-408. https://doi.org/10.1177/0013161X15590658

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (2nd ed.). New York, NY: Teachers College Press.

Gay, G. (2024). Afterword. In D. R. Cormier, I. M. Mette, & Y. Oliveras (Eds.), *Culturally responsive instructional supervision: Leadership for equitable and emancipatory outcomes* (pp. 285-287). Teachers College Press.

Goldring E., Porter A., Murphy J., Elliott S. N., Cravens X. (2009). Assessing learning-centered leadership: Connections to research, professional standards, and current practices. *Leadership and Policy in Schools*, 8, 1-36.

Gorski, P. S., & Perry, S. L. (2022). *The flag and the cross: White Christian nationalism and the threat to American democracy*. Oxford University Press.

Gimpel, J. G., Lovin, N., Moy, B., & Reeves, A. (2020). The urban–rural gulf in American political behavior. *Political Behavior*, *42*, 1343-1368. https://doi.org/10.1007/s11109-020-09601-w

Gravett, S., de Beer, J., Odendall-Kroon, R., & Merseth, K. K. (2017). The affordance of case-based teaching for the professional learning of student-teachers. *Journal of Curriculum Studies, 49*(3), 369–390. https://doi.org/10.1080/00220272.2016.1149224

Green, T. L. (2017). Community-based equity audits: A practical approach for educational leaders to support equitable community-school improvements. *Educational Administration Quarterly*, *53*(1), 3-39.

Guhin, J., Calarco, J. M., & Miller-Idriss, C. (2021). Whatever happened to socialization? *Annual Review of Sociology*, *47*(1), 109-129. grahttps://doi.org/10.1146/annurev-soc-090320-103012

Harris, E., II. (2021). Black soil in the Mississippi Delta: Thriving on the farm against the odds. *Journal of Research in Rural Education, 37*(7), 15–22. https://doi.org/10.26209/jrre3707-03

Halabi, D., & Shoshana, A. (2024). Hierarchies of Elitism among Urban and Rural Palestinian Students in Israel. *Urban Education*, *0*(0). https://doi-org.gate.lib.buffalo.edu/10.1177/00420859241279447

Hampton, F. (1969). *Power anywhere there's people*. Speech delivered at Olivet Church.

Hardwick-Franco, K. G. (2019). Educational leadership is different in the country; What support does the rural school principal need? *International Journal of Leadership in Education*, *22*(3), 301-315.

Harper, T. A. (2024). An utterly misleading book about rural America. *The Atlantic*. https://www.theatlantic.com/ideas/archive/2024/04/white-rural-rage-criticism/677967/

Holloway, J. (2021). *Metrics, standards, and alignment in teacher policy: Critiquing fundamentalism and imagining pluralism*. Springer.

Jacobs, N. F. & Shea, D. (2023). *The rural voter: The politics of place and the disuniting of America*. Columbia University Press.

Joubert, E., III, & Lensmire, T. (2021). Introduction: Black Lives Matter and rural education. *Journal of Research in Rural Education, 37*(7), 1–3. https://doi.org/10.26209/jrre3707-01

Keyes, K. M., Cerdá, M., Brady, J. E., Havens, J. R., & Galea, S. (2014). Understanding the rural-urban differences in nonmedical prescription opioid use and abuse in the United States. *American Journal of Public Health, 104*(2), 52-59. https://doi.org/10.2105/AJPH.2013.301709

Khalifa, M. (2012). A re-new-ed paradigm in successful urban school leadership: Principal as community leader. *Educational Administration Quarterly*, *48*(3), 424-467.

Khalifa, M. (2020). *Culturally responsive school leadership* (2nd ed.). Harvard Education Press.

Koch, N. (2015). "Spatial socialization": Understanding the state effect geographically. *Nordia Geographical Publications*, *44*(4), 29–35. Retrieved from https://nordia.journal.fi/article/view/64739

Leithwood, K. (2021). A review of evidence about equitable school leadership. *Education Sciences*, *11*(8), 377. https://doi.org/10.3390/educsci11080377

Leonardo, Z. (2009). *Race, whiteness, and education*. Routledge.

Mackey, H. J., O'Shea, C. M., & Schettler, S. (2024). Building bridges for change: Culturally responsive instructional supervision for Indigenous students. In D. R. Cormier, I. M. Mette, & Y. Oliveras (Eds.), *Culturally responsive instructional supervision: Leadership for equitable and emancipatory outcomes* (pp. 185-197). Teachers College Press.

McHenry-Sorber, E., & Hall, D. (2018). The diversity of rural educational leadership [special issue]. *Journal of Research in Rural Education, 34*, 1-3.

Mealy, T. M. (2020). *Race conscious pedagogy: Disrupting racism at majority White schools*. McFarland & Company.

Mette, I. M. (2022). Developing equitable school leaders in a predominantly White rural educational leadership program in the US. *International Journal of Educational Leadership Preparation, 17*(1), 75-87.

Mette, I. M., & Bengston, E. (2015). Site-based management vs. systems-based thinking: The impact of data-driven accountability and reform. *Journal of Cases in Educational Leadership, 18*(1), 27-38. https://doi.org/10.1177/1555458914568314.

Mette, I. M., Biddle, C., Congdon, M, & Mercado, A. (2019). Parochialism or pragmatic resistance? The role of community-engaged leadership, activist scholarship, and vulnerable rural ecologies within school reform. *Australian and International Journal of Rural Education, 29*(2), 78-98.

Milner IV, H. R. (2020). *Start where you are, but don't stay there: Understanding diversity, opportunity gaps, and teaching in today's classrooms.* Harvard Education Press.

Monreal, T., Deroo, M. R., & Pitts, B. (2024). Where we are: Reflecting on our use of critical mapping practices for spatial justice in teacher education. *Social Studies Research and Practice, 19*(2), 157-170.

Mullen, C. A., & Hall, R. B. (2024). Professional Development Supporting Principals' Changing Roles as Equity-Oriented Leaders. *International Journal of Educational Leadership Preparation, 19*(1), 120-137.

O'Malley, M. P., & Capper, C. A. (2015). A measure of the quality of educational leadership programs for social justice: Integrating LGBTIQ identities into principal preparation. *Educational Administration Quarterly*, *51*(2), 290-330.

Orphan, C. M., & McClure, K. R. (2019). An anchor for the region: Examining a regional comprehensive university's efforts to serve its rural, Appalachian community. *Journal of Research in Rural Education, 35*(9), 1-19.

Parson, L., Hunter, C., & Kallio, B. (2016). Exploring educational leadership in rural schools. *Planning & Changing, 47*(1/2), 63-81.

Passi, A. (1991). Deconstructing regions. Notes on the scales of spatial life. *Environment and Planning, 23*(2), 239-256.

Puente, M. (2024). "I want to give back": Examining the Mestiza consciousness of multilingual rural Latinx students from California's San Joaquin Valley. *The Rural Educator, 45*(4), 1-14. https://doi.org/10.55533/2643-9662.1518

Rigby, J. G., & Tredway, L. (2015). Actions matter: How school leaders enact equity principles. In M. Khalifa, N. Witherspoon Arnold, A. F. Osanloo, & C. M. Grant (Eds.), *Handbook of urban educational leadership* (pp. 329–347). Rowman & Littlefield.

Rivera-McCutchen, R. L. (2021). "We don't got time for grumbling": Toward an ethic of radical care in urban school leadership. *Educational Administration Quarterly*, *57*(2), 257-289.

Rowlands, D. W., & Love, H. (2021). Mapping rural America's diversity and demographic change. *Brookings*. https://www.brookings.edu/articles/mapping-rural-americas-diversity-and-demographic-change/

Shields, C. M., & Hesbol, K. A. (2020). Transformative leadership approaches to inclusion, equity, and social justice. *Journal of School Leadership*, *30*(1), 3-22.

Scheurich, J. J. (1995). The knowledge base in educational administration: Postpositivist reflections. In Donmoyer R., Imber M., Scheurich J. J. (Eds.*), The knowledge base in educational administration: Multiple perspectives* (pp. 17-31). Albany: State University of New York Press.

Theoharis, G. (2024). *The school leaders our children deserve: Seven keys to equity, social justice, and school reform*. Teachers College Press.

Theoharis, G., Brooks, J. (2012). *What every principal needs to know to create equitable and excellent schools*. New York, NY: Teachers College Press.

Tickamyer, A. R., Sherman, J., & Warlick, J. (2017). Politics and policy: Barriers and opportunities for rural peoples. In A. R. Tickamyer, J. Sherman, & J. Warlick (Eds.), *Rural poverty in the United States* (pp. 439-447). Columbia University Press.

Tieken, M. C. (2014). *Why rural schools matter*. The University of North Carolina Press.

Tillman, L. C., Lopez, G., Larson, C., Capper, C., Scheurich, J. J., & Marshall, C. (2003). Leadership for social justice: Identifying the terrain, crafting a mission and purpose. In Lunenburg F. C., Carr C. S. (Eds.), *Shaping the future: Policy, partnerships, and emerging perspectives* (pp. 60-75). Lanham, MD: Scarecrow Press.

Ulvik, M., Eide, H. M. K., Eide, L., Helleve, I., Jensen, V. S., Ludvigsen, K., Roness, D., & Torjussen, L. P. S. (2022). Teacher educators reflecting on case-based teaching - a collective self-study. *Professional Development in Education*, *48*(4), 657–671. https://doi.org/10.1080/19415257.2020.1712615

Van Regenmorter, A., Lehmann, E., Grichko, V., & Newland, L. (2025). The complex art of wearing multiple hats: A case study of dual-role administrators in rural school districts. *The Rural Educator, 46*(1), 36-48.https://doi.org/10.55533/2643-9662.1435

Vanassche, E., & Kelchtermans, G. (2015). The state of the art in self-study of teacher education practices: A systematic literature review. *Journal of Curriculum Studies, 47*(4), 508–528. https://doi.org/10.1080/00220272.2014.995712

Virella, P. M. (2023). Introducing the pillars of equity-oriented crisis leadership: a conceptual framework. *School Leadership & Management*, *43*(4), 390-410.

Waite, S. R. (2021). Towards a theory of critical consciousness: A new direction for the development of instructional and supervisory leaders. *Journal of Educational Supervision, 4*(2). https://doi.org/10.31045/jes.4.2.4

Walsh, K. C. (2012). Putting inequality in its place. Rural consciousness and the power of perspective. *American Political Science Review, 106*(3), 517-532. https://doi.org/10.1017/S0003055412000305

Welsh, R. O. (2024). Does rural mean not urban? Reconsidering the conceptualization and operationalization of rural school districts. *Urban Education,*1-36. https://doi.org/10.1177/00420859241227929

Weis, L., & Cipollone, K. (2013). 'Class work': Producing privilege and social mobility in elite US secondary schools. British Journal of Sociology of Education, 34(5–6), 701–722. https://doi.org/10.1080/01425692.2013.816037

Williams, B. (2023). Monocultural crises and rural geographies. *Dialogues in Human Geography*. https://doi.org/10.1177/20438206231217574

Yosso, T. J. (2002). Toward a critical race curriculum. *Equity & Excellence in Education*, 35, 93-107.

Young, M. D., & Laible, J. (2000). White racism, anti-racism, and school leadership preparation. *Journal of School Leadership*, 10, 374-415.

Young, M. D., & Lopez, G. R. (2011). The nature of inquiry in educational leadership. In English F. W. (Ed.), *The Sage handbook of educational leadership* (pp. 233-254). Thousand Oaks, CA: Sage.