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Exploring Teachers' Use of Instructional Technology During Reading for English Language Learners

Phyllis Ingram
Walden University

Walden University

College of Education and Human Sciences

This is to certify that the doctoral study by

Phyllis E. Ingram

has been found to be complete and satisfactory in all respects,
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Review Committee
Dr. Anissa Harris, Committee Chairperson, Education Faculty
Dr. Christopher Cale, Committee Member, Education Faculty
Dr. Mary Howe, University Reviewer, Education Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
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Abstract

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MS, Walden University, 2010

BS, Brenau University, 2005

Project Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

In the southeastern United States, many local school districts have mandated an increased use of instructional technology to address low reading proficiency among English language learners (ELLs). However, local district leaders and stakeholders concurred that additional research was needed to explore how teachers were using technology in their instructional practices for the academic content proficiency of ELLs. The purpose of this qualitative multisite case study was to explore Grade 3–5 teachers' perceptions of and experiences using instructional technology during reading instruction with ELLs; consequently, the research questions addressed these perceptions and experiences. The substitution, augmentation, redefinition, and modification (SAMR) model was the conceptual framework in this study. The purposeful sample included twelve reading teachers who were required to use technology during classroom instruction and whose classes were more than 51% ELLs. Additionally, each participant had more than two years of ELL teaching experience and either English Second Other Language certification or training in the Sheltered Instruction Observation Protocol. Data were collected through observations, semistructured interviews, and a document analysis of lesson plans. Using the SAMR model as a lens, the data were thematically analyzed and assigned a priori, open, and axial codes. The findings indicated that teachers may benefit from professional development focused on more effectively implementing reading instructional technology, specifically when modifying or redefining instruction with technology. The implications for positive social change include stakeholders and ELL students benefitting from enhanced reading and transformative instructional practices by directly addressing the instructional practices taking place in elementary ELL classrooms.

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Dedication

This project study is dedicated to my late mother, Peggy Perry, who believed I could do all things through Christ who strengthened me. She did not live to see my completion of this study, but her memory served as a continuous reminder during the process that I could do things that are perceived to be hard. I know I made her proud.

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There are many people I would like to thank for supporting me on this journey. My children, Micah, Gabriel, Joshua, and Jacob, who always encouraged me to keep working so they could call me Dr. Mom; my friends, who always listened and dried my tears when I wanted to just give up; Dr. Edgar Rivas, who mentored and always gave words of encouragement-especially on the weekends; my mom, who was always in awe of my perseverance; and Dr. Anissa Harris, who understood the frustrations I had when writing.

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Section 1: The Problem

The Local Problem

Based upon a review of school data, stakeholder surveys, and the 2018–2021 technology plan of Mallard School District (a pseudonym), a metropolitan school district in the southeastern United States (MSDSUS), the superintendent and chief academic officer for curriculum and instruction mandated instructional technology use across all academic content areas, for all students, including English language learners (ELLs). Using researched best practices, which included the benefits of instructional design and technology (IDT), MSDSUS launched a 2-year, billion-dollar initiative to provide teachers and students with instructional technology to use to increase academic proficiency. However, a problem existed at the local level where it was unknown how upper elementary teachers were using technology in their reading instructional practices, specifically for ELLs.

Background of the Study

The MSDSUS's 2015 reading proficiency initiative, Vision 20/20, was intended to increase reading proficiency through various approaches by utilizing 21st-century skills, including technology. The MSDSUS state's department of education team first adopted and established the technology plan guidelines in 2004. According to the Department of Education in the state that MSDSUS is in, the education team set goals in the 2007–2012 technology plan guidelines for school districts to have 95% of students obtain passing scores on the state's standardized testing inclusive of 21st-century skills. In MSDSUS, the technology advisory committee's strategic plan indicated that

instructional technology was to be embedded across the curriculum and used to reach the curricular goal of students achieving proficiency in content. This initiative corresponded to data collected from a focus group (comprising representatives from state colleges, universities, local businesses, community leaders, and larger corporations) that the district conducted. Based on the focus group findings, students were not adequately prepared for college or careers beyond high school, and limited exposure to technology use in content areas, including reading, could be the cause. According to MSDSUS interim chief information officer, lack of preparation and limited exposure to technology may have contributed to the reduction of students prepared for higher education or the workforce.

Despite a commitment to improving reading instruction in the field of education, a continued concern exists regarding the use of instructional technologies to support reading instruction (Mei et al., 2018). According to Alhejoj (2020) and Zientek et al. (2015), technology transformed teaching and learning when integrated into the curriculum, instruction, and assessment because it became a helpful tool for learning content and concepts. As such, instructional technology could be used during instruction in all content areas.

Moreover, teachers' reading instructional practices for ELLs should include explicit instruction in information literacy using instructional technology (Prince, 2018). A lack of this practice might have negatively influenced students, particularly ELLs, because researchers have indicated that students' reading scores have improved in classes that used technology (Fransson et al., 2020; Goodwyn, 2014; Huang & Hong, 2016).

Furthermore, Hispanic students, who represented nearly 80% of the ELLs, were among the fastest-growing student demographic (Li, 2013; National Center for Education Statistics, 2017) and were among a subgroup of ELLs greatly affected by the quality of instructional strategies they receive (Lopez, 2018; Tellez & Manthey, 2015).

Instructional technology use in reading is vital to the efficacy of improving student achievement (Hur, 2019). Prince (2018) specified that teachers' instructional best practices must meaningfully tie technology use to content targets, including reading. Specifically, researchers have found that ELL teachers or teachers who teach ELL students are expected to incorporate both research-based reading and instructional technology strategies into their teaching practices (Inceli, 2015; Koura & Zahran, 2017).

As a result of required reading prerequisites, district personnel in MSDSUS sought and used research-based instructional strategies, such as the Sheltered Instruction Observation Protocol (SIOP) model, to address reading deficiencies in ELLs. The district endorsed the instructional strategies of the SIOP model across all content areas, which were inclusive of instructional technology strategies for ELLs and provided teachers with professional development on how it was to be implemented. This best practice model guides teachers in the instructional processes by supporting the delivery of strategies and instructional techniques that improved student achievement across all content, specifically for ELLs (Inceli, 2015; King, 2021). According to Echevarria et al. (2013) and King (2021), appropriate SIOP lessons are those in which teachers integrate technology into their lesson delivery. According to a Region 1 English language coordinator II, MSDSUS adopted the SIOP instructional model as one of the instructional

strategies for ELL students; yet, most elementary ELL students struggled to meet proficiency levels in reading assessments. In the school district, it was unknown how elementary teachers used instructional technology in the reading curriculum for ELLs; therefore, I conducted this qualitative multisite case study of elementary teachers to investigate their perceptions of technology use for ELLs and how they used technology in their reading instructional practices to provide further insight into improving reading instructional strategies for ELLs within the district. To explore teachers' perceptions and their instructional best practices for teaching and learning using technology in their classrooms, I used the substitution, augmentation, modification, redefinition (SAMR) model as a framework.

Before this project study, few studies had been conducted in the MSDSUS to explore teachers' perceptions of and how they used technology in their reading instructional practices to support an increase in ELLs' reading proficiency. The purpose of this project study was to explore teachers' perceptions of and experiences using instructional technology during the reading instruction of Grades 3–5 ELLs.

Rationale

Local Evidence

According to data obtained from MSDSUS, potential school research sites, and the state's Department of Education, teachers might not have been using instructional technology best practices for ELLs during reading instruction to master grade-level standards. MSDSUS used perception surveys related to the effective use of instructional technology in developing a shared vision, set goals, and implemented technology use

across all content areas. Research conducted by the district, which included community forums, focus groups, and listening sessions, identified school stakeholder concerns related to instructional and curricular goals and showed that the infrastructure provided by the district could optimize instructional technology, but classroom teachers sporadically used the technology.

Recent researchers have conducted studies on varying degrees of instructional technology use in the classroom and the benefits resulting from that use. According to Handoko (2020) and Seifert (2016), most classroom teachers merely apply technology without many transformations of student instructional outcomes, and schools do not use much instructional technology. Instead, the instruction students are receiving lacks transformative (i.e., higher order) skills often found when teachers move beyond merely enhancing the learning experiences of students using instructional technology (e.g., substituting conventional pencil and paper assignments with typed assignments; Handoko, 2020; Seifert, 2016). These conclusions added weight to the argument that it was beneficial for teachers to create, use, and thoroughly engage students using instructional technology in the academic content for increased academic gains (International Society for Technology in Education, 2017).

MSDSUS leadership has pinpointed literacy and embedding technology in the curriculum in the district's technology initiative. The latter point concerned the district because a shift in instructional best practices has taken root across the field of education related to an increase in instructional technology use to address the inequities and gaps in reading (see Hur, 2019).

Data from 2017 on the MSDSUS Department of Education website revealed that ELLs continued to perform below grade level in reading on the state's summative assessments. The MSDSUS's assessment tool was a comprehensive summative assessment in which students in Grades 3–12 were tested on the state-adopted content standards at the end of each grade or course. Reading assessment scores from each of the three research sites in the district showed a comparison of all students in the testing Grades 3 through 5 and ELLs in the same testing grades (see Table 1). Based on reading proficiency scores across students at all three sites, ELLs represented more than 50% of nonproficient grade-level students.

Table 1

Percentages of Nonproficient Students on 2015 English Language Arts Summative Assessment by School Site

	School 1		School 2		School 3	
Year	Total %	ELL %	Total %	ELL %	Total %	ELL %
2017	56	63	38	45	18	40
2016	60	67	37	49	23	58
2015	61	69	35	50	30	65

As shown in Table 1, ELLs' reading achievement scores were lower than non-ELL's scores as well as the scores of all students considered nonproficient in reading. As a result of low reading achievement, MSDSUS schools focused on instructional processes to address the reading instruction ELLs receive. Even so, potential schools within the district have reported in their Comprehensive School Improvement Plan, a tool used by

school districts to focus on selected areas to address the academic needs of students, that more instructional technology should be made available and used by teachers and students in reading instruction in the classroom.

Evidence in Profession/Discipline

Technology has become a conventional instrument in teaching reading, with a continued emphasis on finding approaches and components that make instructional technology effective in reading (Archer et al., 2014; Chauhan, 2017; Scherer et al., 2020). The use of technology parallels the 2018 MSDSUS Department of Education literacy initiative, "THE WHAT," which indicated that to improve reading achievement for all K–12 students, teachers must integrate reading instruction across all content and that this instruction must encompass, among other things, technology.

The emphasis on reading and using instructional technology also revealed some concerns that teachers of ELL students experience. Cassidy et al. (2016) and Connelly et al. (2021) found that traditional reading instruction often fails to provide all the reading skills that students require. Additionally, Kenny (2020) and Trainin et al. (2016) found that less than three fourths of U.S. fourth-grade students are fluent readers (i.e., their reading comprehension scores are below grade level). Alenezi (2017) found that exemplar and typical teachers had varying degrees of concerns, such as time, self-efficacy, restrictions from administrators, and lack of support, when using instructional technology. Moreover, the target population of this project study was Hispanic ELLs, and according to the National Assessment of Educational Progress ([NAEP], 2015), only 21% of these students in Grade 4 score proficient or higher on reading assessments. Over the

last 20 years, Hispanic ELL students experienced only minimal growth in reading and remained at basic reading according to the data collected by the NAEP (2015). Achievement gaps were statistically significant between the highest-scoring subgroups and Hispanic English Language Learners (NAEP, 2015).

Historically, researchers studying reading instruction for ELLs have shown that inadequate use of instructional technology is an increasing issue, even though the researchers observed improvement in controlled studies of technology utilization (August et al., 2014; Milhourn, 2021; Union et al., 2015). However, other researchers noted that instructional technology use in all curricular content areas for ELLs was an enhancing tool for teachers to meet the educational goals of modern classrooms (Li, 2013; Woodrich & Fan, 2017). Specifically, instructional technology in reading instruction may not be used proportionately to the rise of ELL student populations. As such, many school districts have lagged in implementing measures to nurture a shift in instructional technology use for reading instruction and in continuous school improvement plans (Schildkamp, 2019).

According to Byrd (2018), Oakley et al. (2018), and Zheng et al. (2018), using instructional technology effectively through online collaborative learning, technology-enhanced audible and visual tools, and computer educational programs during instruction can lead to increases in student reading. Furthermore, Anderson (2018) and Fogarty et al. (2017) confirmed that the use of instructional technology during reading improved the comprehension skills of students. However, at the study site, it was unknown how teachers were using technology within their reading instruction for ELLs.

Definition of Terms

ELLs: Any student who initially speaks a language other than English and, therefore, has the most room for improvement in reading proficiency (Roy-Campbell, 2013).

IDT: A systematic course of learning programs with outcomes capable of producing consistently, reliable instructional materials that address the educational needs of a specific learner (Donmez & Cagiltay, 2016).

Instructional technology: Integrated learning elements that include the comprehensive processes to which people, actions, concepts, and devices all share in the whole aspect of learning (Mayes et al., 2015).

Reading instruction: The process by which students build the capacity to learn and use language in all forms of communication, including reading, speaking, listening, and writing (Karimi & Dehghani, 2016).

SAMR model: A method that allows educators to permeate instruction with technology and categorizes this type of instruction into four levels of use (i.e., substitution, augmentation, modification, and redefinition; Hamilton et al., 2016).

Upper elementary: Typically identified as third through fifth grades in the primary school setting (Toste & Ciullo, 2016).

Significance of the Study

Reports on reading proficiency in U.S. educational organizations confirmed that the proportion of ELL students unable to reach proficiency levels was too high (National Assessment of Educational Progress, 2015). Researchers have expressed that in addition

to continuous professional development, teacher preparation programs inclusive of researched best practices in instructional technology use could otherwise address the proficiency concerns (Quintana & Zelaya, 2015). As such, a review of school data, stakeholder surveys, and the MSDSUS's current technology plan, which specifies digital learning targets to "prepare educators to maximize technology in ways that transform learning," provided evidence of shared concerns about instructional technology best practices in the classroom. Although there has been a shift toward including instructional technologies in reading, according to the MSDSUS's student proficiency scores that were posted in 2017, there continued to be little significant change in the number of ELLs who can read with proficiency. It is possible that these ELL students might not have been receiving the 21st-century instruction that became commonplace in schools of non-ELLs, which may have helped improve the latter subgroup's reading achievement.

In this project study, I explored how reading teachers of ELL majority classrooms used technology in their instructional best practices for teaching and learning. The findings of this qualitative multisite case study provide teachers with a better understanding of how instructional technologies were effectively used in reading instruction with ELL populations. Administrators could also possibly use the results of this study to gauge the extent to which instructional technologies, as mandated, were implemented at their schools. The results could benefit ELLs by addressing the instructional processes that influence their learning during reading instruction. The comprehensive data collected in this study provide clarity on the uses of instructional technology in the MSDSUS through the lens of the SAMR model.

Research Questions

Many ELLs continue to struggle in achieving reading proficiency and often receive instruction that is not suited to meet their needs (O'Connor et al. 2019). Although the MSDSUS promoted the use of technology as an instructional strategy to support reading instruction that could have led to proficiency in reading, it was unknown how teachers were using technology in their reading instruction to ELLs. In this study, I explored teachers' perceptions of and experiences using technology for Grades 3-5 ELL reading instruction. The following research questions guided this study:

RQ1: What are elementary teachers' perceptions about their use of technology to teach reading to ELL students?

RQ2: What are elementary teachers' experiences using instructional technology to differentiate reading for ELLs?

RQ3: What are elementary teacher experiences using instructional technology to teach reading for ELLs in ways that exemplify the SAMR model?

Review of the Literature

In this section, I provide a review of literature on the topics of the SAMR model, reading instruction, technology utilization, and ELLs. Furthermore, themes including the role of professional development on technology use in all aspects of education, the importance of IDT, the effect of teachers' use of instructional technology on reading instruction, optimal classroom conditions for instructional technology use, collaborative work, and the impact of infrastructure on instructional technology use, are discussed. The following databases were searched to identify relevant, current, and thorough

information: Educational Resource Information Center, ProQuest Central, Education Research Complete, and Dissertation Abstracts International. I also made traditional library inquiries using published books for primary sources. In my searches, articles published in the last 5 years were prioritized, except for primary sources. I used the following search terms: *computers, Chromebooks, instructional technology, pedagogy, technology in urban schools, instructional design and technology, instructional design systems, reading instruction, literacy, language acquisition, elementary education, primary education, school-age education, technology integration, English language learners, English as a second language, teachers' perceptions, teachers' attitudes* and *substitution, augmentation, modification, redefinition (SAMR) model*.

Conceptual Framework

The conceptual framework that guided this exploration of teachers' perceptions and experiences of instructional technology use during reading instruction for ELLs was Puentedura's SAMR model. I chose this model as the framework because it allowed me to describe how instructional tasks and assignments were used to transform learning through the integration of technology (see Hamilton et al., 2016; Marlatt, 2019). The parameters of the model allowed for the categorization of the technology used during content instruction. This model informs the perspective that instruction in any discipline can be viewed along a spectrum determined by the extent technology is used (Anderson, 2016; Warsen & Vandermolen, 2020).

Bober (2016) and Djiwandono (2020) explained that the SAMR model offers a framework for observing the instructional technology used in tasks and activities within a

classroom setting. The spectrum of this model includes two primary benchmarks, with *enhancement* on one end of the spectrum and *transformative* on the other end (Bober, 2016). Within the enhancement benchmark are substitution and augmentation, and the transformative aspect of the continuum includes modification and redefinition (Bober, 2016). Instructional technologies merely replace traditional tools with no significant change of tasks at substitution. At augmentation, instructional technologies replace basic instructional tools with slight changes being observed. Modification of tasks includes instructional technologies replacing traditional instructional tools resulting in significant, evidence-based instructional changes. Redefinition utilizes instructional technologies in a way that produces new tasks that were impossible using basic instructional tools (Handoko, 2020: Sweeney et al., 2017).

The spectrum of the SAMR model formed the foundation of the conceptual framework for this project study and helped capture the necessary data on technology utilization during reading instruction. I explored teachers' perceptions of and their experiences with instructional technology use in the classroom by collecting data from observations, interviews, and documents. Then I processed the data through the lens of the SAMR model to sort instructional technology use during reading instruction. The analyzed data revealed differing and different uses of instructional technology at the research sites for ELLs. Teacher use of technology in this model refers to how the teachers understand and use various technologies for instruction in and outside of classroom teaching (Bober, 2016; Handoko, 2020). I also used several specific aspects of the framework to code the data collected in this study.

Bober (2016) and Lyddon (2019) confirmed that the observation of learning activities within instructional parameters is supported through the SAMR model. Because the purpose of the current study was to explore Grades 3–5 teachers' perceptions and use of instructional technology during reading instruction of ELLs, the framework provided a spectrum of categories with which to identify learning activities as being either enhancement or transformative. Furthermore, Kumar and Louise (2018) and Luo and Yang (2016) argued for the use of the SAMR model to specifically assess instructional technology use within the context of English language teaching. As such, I used the SAMR model to explore teachers' utilization of instructional technology for the reading instruction of ELLs in this study.

Review of the Broader Problem

To review the broader problem, I analyzed and synthesized the previous research conducted by researchers in recent studies that focused on reading instruction, instructional design, technology utilization in reading instruction, ELLs, and technology infusion.

Reading Instruction

Reading instruction in classrooms has steadily increased in rigor, and emphasis continues to be placed on students' ability to enhance their literacy skills (Snow & O'Conner, 2016; Welsch et al., 2019). This focus on reading improvement has been examined in the numerous research studies that have contributed to the knowledge of literacy. Johnson (2017) conducted a case study of four elementary reading teachers and their instructional practices utilizing text discussions, a reading practice that connects

students and teachers cognitively to make meaning of the reading content. The practice involved more student-centered dialogue about the text under study while the teacher took on a joint role in the flow of the meaning and comprehension of the text (Johnson, 2017). The researcher confirmed that this method of reading instruction benefited all students, especially ELLs, because it provided a means for the teacher to engage in authentic conversations with the students. Johnson reaffirmed that developing trust during instruction is essential because it provides both the teacher and student the opportunity to talk openly to one another while making meaning of the content being learned. However, in as much as Johnson could see the benefits of this reading method, the researcher concluded there were different challenges that limited teachers from implementing it with fidelity. Educational leaders needed to implement more meaningful professional development and increase the time allocated for teachers to master the comprehensive system of text discussions (Johnson, 2017).

Likewise, Johnson (2017) and researchers, such as Connor et al. (2019) and Muijselaar et al. (2018), reached the same conclusion about the importance of implementing an instructional strategy and to what extent it must be developed for significant gains to occur in reading. Johnson determined that teachers could not implement the reading method with fidelity until adequate training occurred on all aspects of it. Similarly, Muijelaar et al. (2018), in their controlled study of the strategy intervention Nieuwsbegrip, a Dutch daily news reading comprehension technique, noted the effects of teachers utilizing the specific reading program over the course of 18 weeks resulted in students making notable increases in reading. Teachers in the study modeled

reading strategies and used those strategies when interacting with texts. Students in the control group who used the program with fidelity and received teacher modeled strategies made gains in their knowledge of reading strategies but revealed only minor increases to their reading comprehension scores.

In a causal-comparative study of third graders, Smith (2018) focused on teachers applying guided reading and whole group reading instruction to gauge student improvements in reading achievement scores. The teachers in the study worked with students in either whole group reading instruction, which focused mostly on teaching explicit context, or used guided reading instruction, which focused instruction using leveled reading texts. During the guided reading instruction, teachers worked with students on reading skills, including comprehension, vocabulary, phonics, and fluency. Smith found that increased improvements in reading proficiency were noted in students in the controlled guided reading groups because of the schools adopting the guided reading instruction.

There are two crucial aspects of success in teaching reading. One is teacher fidelity in executing each component of the reading program in its entirety, and the other is proper training to ensure the desired outcomes are achieved (Sanden et al., 2022). Reading instruction is multifaceted because it requires the teacher to consider the various aspects required to fully engage a student in the reading process (Dorsey, 2015; Smith, 2018). The importance of implementing an instructional strategy extensively should not be disregarded (Droop et al., 2016; Muijselaar et al., 2018) because it is beneficial to students learning to read (Pretorius & Spaull, 2016; Spaull & Pretorius, 2019). Teachers

of reading must wholly understand the method of reading instruction they have chosen to use (Johnson, 2017) because students typically require varying methods of instruction to understand the content being delivered (Mannon, 2021; Young et al., 2015). In the reviewed studies above on reading instruction, an emphasis on proper training for program use and fidelity to meaningful implementation of reading programs was a common element in the findings.

Other studies, such as those of Bakhshandeh, and Jafari (2018) and Chaochang (2016) have stressed that reading skills are a vital component of academic success and that the influence of teaching reading cannot be underestimated. In making this comment, the researchers noted that a student's inability to master reading during primary education spirals into an increased deficit in reading beyond the elementary school setting, where more complex reading skills are required for comprehension.

A multitude of studies have been conducted to examine reading instruction. In a mixed-method study of secondary school teachers' viewpoints on implementing reading instruction, Jafari et al. (2015) provided insight into teachers' concerns with the amount of time used for reading instruction. The researchers highlighted teachers' approaches toward reading instruction and problems they encounter while citing excessive administrative directives deviating from the instructional teaching and learning processes. Subsequently, school mandates reduced the amount of time teachers devoted to reading instruction. As an example, participants cited the examination process as an unrelated component to instruction that is overemphasized. The time allocated for examinations could be used to provide additional reading instruction to students needing more practice

with reading strategies. In making this comment, Jafari et al. substantiated that teachers' lack of instructional autonomy during reading often creates hindrances in addressing reading challenges as they arise. While specific instruction serves to address many components of reading, the researchers pointed out that teachers needed more time to teach specific reading skills; however, mandated directives often impeded additional or even allotted instructional time. As such, reading instructional strategies that could richly develop the comprehension of all students, particularly ELLs, through relatable connections by bridging language barriers are occasionally abandoned, thereby interrupting potential improvements in reading (Jafari et al., 2015).

Tavakoli et al.'s (2015) study of teachers' views concerning their reading instruction revealed that participant teachers were more successful when the levels of instructional autonomy were higher, but outcomes were more successful when students collaborated on reading skills. Multiple researchers (i.e., De Oliveira, 2016; Karatas & Arpaci, 2021; Ngoc & Iwashita, 2012; Tavakoli et al.; 2015) have provided similar information validating the need to address the reading instruction of students through various techniques by incorporating new strategies to nurture the academic needs of students. Furthermore, researchers have agreed that 21st-century students are in a continuous cycle of collaborating both in and beyond the classroom setting to connect their understanding of phenomena relevant to them (Vasileiadou & Makrina, 2017; Xu et al., 2020). All students, especially ELLs, acquire reading skills more consistently when language teachers allow them an opportunity to collaborate with each other, fostering the connection students have with mediums they utilize daily for communication (De

Oliveira, 2016; De Oliveira & Westerlund, 2021). The emphasis on reading instruction in the reviewed studies supports a critical point: Student success in reading is not just dependent on successful teaching but also requires meaningful student collaboration (De Oliveira, 2016; De Oliveira & Westerlund, 2021; Ngoc & Iwashita, 2012).

In a mixed-methods study, Eustic (2018) examined the benefits of ELL student self-selected versus teacher-selected books for fluency and reading comprehension and found differing results. The teachers in the study taught third-grade students through whole group instruction, small group instruction, or students were engaged in independent reading activities. The findings from the study supported teachers' use of best practices during reading instruction and indicated students' reading fluency increased with independent reading activities; contrastingly, their fluency was not their best during cooperative, small group, teacher-selected reading activities. The researcher concluded that when best practices were used, intermediate-grade students were better able to self-monitor their reading for understanding (Eustic, 2018).

Whereas Eustic (2018) provided ample evidence that third-grade students showed greater reading fluency through independent reading, the research of De Oliveira, (2016), De Oliveira and Westerlund (2021), and Ngoc and Iwashita (2012) showing the importance of meaningful student collaboration spanned multiple years and was supported by numerous researchers. The findings of the latter researchers, like many other researchers, indicated that student collaboration during reading was valuable for all students.

Other researchers have investigated programs directly linked to reading instruction. Penland (2019) found that reading skills improved through the implementation of Scientifically Based Reading programs, including but not limited to Daily 5. The author indicated that many components of reading, such as listening to reading, reading to someone, working on writing, grammar assignments, and teacher-led small groups, are comprehensively addressed through the structured instructional components of the program (Penland, 2019). In a like manner, Rasinski et al. (2017) conducted a quantitative study of Fluency Development Lessons to assess increases in the reading performances of 37 third graders. According to the results, based on posttests, the lessons led to increases in the reading scores of all but one of the students. Both studies indicated that the targeted reading programs consisted of different components that, when implemented with fidelity, were shown to increase the desired results. Namely, fluency as a component of reading is linked with substantial gains when students are provided instruction to address gaps associated with this segment of reading (Penland, 2019). Rasinski et al. explained that Fluency Development Lessons provided instructors with a viable research-based program and, when used with fidelity, increased reading fluency in the elementary and middle school grades. Moreover, teachers' use of knowledge and desire to incorporate a comprehensive reading strategy should be considered when addressing the fluency needs of subgroups such as ELLs. Penland and Rasinski et al. provided similar information about educators who implemented reading programs with fidelity and found that students' comprehension increased, fluency rates improved, and overall communication advanced upon prolonged exposure to the program.

These research studies indicated that as the language learning paradigm shifts to include more nontraditional modalities, educators must be cognizant that the concepts involving language learning and reading programs are no longer mutually exclusive. The research review indicated that effective reading across all grade-bands was a result of explicit instruction, the fidelity with reading programs, instructional autonomy, and often-times collaborative, student-centered learning.

IDT Use in Reading Instruction

IDT is a process in which the use of educational technology is analyzed, designed, implemented, and assessed for the benefit of the learner (Bodily et al., 2019). As such, IDT serves as an essential catalyst during reading instruction. When IDT is implemented during reading instruction in conjunction with instructional best practices, reading tasks can be created and viewed along a spectrum of complexity (Falloon, 2020). The SAMR model's spectrum could afford teachers opportunities to create and assess reading tasks at the current instructional level of the learner.

The use of instructional technology in the classroom is suggested to have a positive influence on ELLs of all ages and grade levels (Al-Seghayer, 2015; Dwaik et al., 2016; Jones, 2020). The extent of this influence has been researched in various capacities, including studies of technology perception and ability among high schoolers (DeBacco, 2020; Owens-Hartman, 2015), mobile technology in the K–12 classrooms (Boyd, 2020; Liu et al., 2014; Parenti & Chen, 2015), and technology proficiency through professional development in rural classrooms (Dieker et al., 2018). However, these studies represent only a fraction of the extensive research done on technology integration and ELLs.

More frequently, researchers have examined different facets of technology integration in the learning context. In their study, Walker (2021) examined teachers' perceptions of integrating technology in an elementary setting. The researchers investigated the conditions teachers felt improved the learning dynamic within their classrooms through technology use. These conditions included student engagement, some preexisting technology knowledge, and integration within instruction when the technology worked as planned (Walker, 2021). The research findings also revealed the factors that jeopardized the integration of instructional practices through technology. In terms of educating 21st-century students, the research sites prioritized instructional technology use across all content areas to assist teachers in undertaking the vast challenges associated with teaching in a technological age. Walker found that inexperience with technology, lack of school commitment to integrating technology, ineffective implementation of technology, and insufficient, proper professional development could lead to poor classroom learning conditions (Walker, 2021).

Like Walker (2021), Luo et al. (2017) found that teachers revealed that technology use was beneficial; however, the amount of training they received was inadequate to utilize the technology thoroughly. Through a mixed-method research design, the researchers investigated if IStation, an adaptive reading program, improved student's reading scores. The researchers employed surveys and conducted interviews aimed at collecting teachers' feelings, both positive and negative, toward instructional technology integration. The feelings noted in the study included concerns with the amount of training they received and the accuracy of the program's adaptive features

(Luo et al., 2018). In the study, teachers used the reading intervention lessons provided by the program as well as supplemental resources to individualize student reading instruction further. Teachers were found to have a positive outlook on technology integration when using certain components of the program. However, the researchers found that due to the duration required for the intervention lessons, teachers were less likely to implement these lessons into their 15-minute reading block. The researchers of the study found that the amount of instructional technology used directly influenced the major feelings teachers reported.

Comparatively, the study district, through mandatory teacher development of instructional technology use for students, continued to address the concerns teachers described related to effectively utilizing instructional technology within content areas for student academic growth and achievement. Subsequently, the study district explored all aspects of instructional technology use within the schools to create a comprehensive plan aimed at presenting teachers with concrete programs, lessons, and procedures embedded in content areas. Correspondingly, at the research sites, instructional technology was deemed a necessary resource inclusive in instructional plans. In both Luo et al. (2017) and Walker's (2021) studies, the researchers indicated that teachers showed the importance of instructional technology use, but also the downsides associated with their lack of training.

Moreover, Lamb and Weiner (2018), in an examination on teacher's technology use in the classroom, focused on the specific impacts of integration and found various themes that permeate this topic in the literature. The researchers analyzed how intuitional

expectations impacted 1:1 technology use within school classroom settings. The researchers' findings highlighted the following themes: the effects of school interaction with the environment, understanding the values of individuals using the technology, and the institute's system of design. Similarly, Wesely and Plummer's (2017) study on technology use, specifically for language learning, highlighted critical components of successful implementation of technology. Their qualitative study of four rural schools' use of Computer-Assisted Language Learning (CALL) in classrooms and teacher experience with technology highlighted two implications. The first was that learning opportunities for teachers to use the CALL system were limited and insufficient, forcing teachers to familiarize themselves with the technology independently. As a result, teacher implementation did not occur with fidelity. The second implication that Wesely and Plummer found was closely associated with the latter point in that professional development was not structured to provide the appropriate in-service training for teachers to learn the CALL system effectively (Wesely & Plummer, 2017).

Furthermore, the researchers found that with new instructional technologies, staff development needed to shift from more traditional formats to be more inclusive of modern tools, study-specific course work, and utilization of instructors with familiarity regarding the content (Wesely & Plummer, 2017). Lamb and Weiner and Wesely and Plummer argued the same point concerning the role of professional development in teachers' effective use of instructional technology (Lamb & Weiner, 2018; Wesley & Plummer, 2017). Perhaps more importantly, the research sites identified a need to ground instructional technology as part of the curriculum to address the gaps in practice

occurring with ELLs. Equally important, the study district includes professional development as part of the initiative within the curriculum, which is aimed at addressing gaps in practice. Sharpton (2021) confirmed that school-wide technology use has become commonplace practice for institutions that aim to enhance learning through pervasive incorporation. The studies reviewed regarding instructional technology use in the classroom highlight the necessity for teachers to incorporate technology into their instruction and, more importantly, to avoid underuse of these technologies.

Reading, ELLs, and Technology Infusion

Researchers continue to explore the convergence of reading instruction with instructional technology and the influence this has on the achievement of ELLs. Specifically, researchers have found varying levels of interconnectedness between instructional technology, reading instruction, and ELLs. For instance, Vasileiadou and Makrina's (2017) action research case study explored how ELLs performed in reading in the absence of technology and when technology was incorporated into the learning environment. Thirty-three fourth grade students participated in the study which consisted of one experimental group utilizing technology enhanced game style vocabulary lessons, and one control group receiving the standard course book instruction. The results of the study showed that experimental group of ELL students reported a higher level of motivation to read when instructional technology was implemented in their learning as well as an increase in vocabulary scores. The researchers concluded that technology use was a valuable tool for the reading instruction of ELLs and the measures of efficacy in the study supported improvement of ELL reading proficiency.

To respond to the challenge of improving reading among ELLs through the utilization of instructional technology, education researchers have considered different dynamics that could identify the practices necessary to achieve improvement in reading (Park & Kim, 2017). Current research suggests that instructional technology is not implemented as expected (Evmenova et al., 2020) and with the rise of the ELL population, an emphasis on technology use in reading classes has continued to expand (Vasileiadou & Makrina, 2017). In this growing research on technology use for ELLs, researchers have focused on instructional practices and their influence on reading performance. Researchers have explored reading and technology use for ELLs across primary and secondary grade level bands and have reported similar findings.

Most recently, Shaban (2018) explored the use of technology tools in an English language classroom at the university level. The researcher examined how 14 international students' perception of technology and reading skills improved using a student response system that was integrated alongside active learning tasks. In the study, students were given problem-solving tasks based on cultural contextualization and were allowed to submit assignments anonymously which led to instant feedback from teacher. The results of the study included data supporting reading practices that increased student engagement, the students' utilization of critical thinking and encouraging student collaboration. While the researcher did not specifically investigate reading achievement, the findings support other researchers' work investigating achievement in reading with technology use.

Similarly, Ghorbani and Golparvar (2020) and Huang and Hong (2016) confirmed that the findings of Shaban in that reading instruction delivered through technology have a measurable influence on student academic performance. Huang and Hong descriptive methods study of fifth-grade students, the researchers used the Educational Performance Test to determine the motivation of students (Huang & Hong, 2016). The researchers used e-learning instructional method in the experiment group while the control group received conventional instructional delivery. The researchers found that students who used e-learning instruction exhibited better academic motivation and achievement than students who received conventional education. In short, the conclusions from the researchers supported and added weight for the use of instructional technology for positive academic gains during instruction.

Likewise, studies have been conducted at the elementary level for a similar scope. One such study is the mixed-method case study of Darling-Aduana and Heinrich (2018), where the researchers examined how elementary teachers used 1:1 instructional technology with Grades 3-5 ELLs to gauge the increases of students' academic achievement. The study consisted of ELL students assigned to classrooms of either bilingual or English only instruction. Some of the reading instructional strategies consisted of utilizing interactive sites, electronic reading materials, and audio-visual interfacing. The researchers observed how the use of instructional technology during reading for students resulted in increases in both the bilingual and traditional instruction classrooms. Specifically, when the students receiving bilingual instruction increased the duration and frequency of technology use during the week to more than 40 minutes, their

scores continued to increase whereas the students receiving traditional instruction reached a plateau with continued use. The researchers concluded that blended learning with the inclusion of technology contributed to the creation of new learning pathways for this group, and they observed measurable growth. The researchers suggested that the use of 1:1 technology use with blended best practices is desirable for ELLs to meet language goals (Darling-Aduana & Heinrich, 2018). I agree with the researcher in that technology use in reading instruction for ELLs yields positive gains and argue that further studies should explore different settings and technologies.

Similarly, the findings of Darling-Aduana and Heinrich (2018), and Vasileiadou and Makrina (2017) suggest that technology use in reading instruction for ELLs encourages students, enhances learning, utilizes authentic context, and promotes student collaboration. In a mixed-method study conducted by Huang et al. (2017), the researchers investigated 42 students' use of iPads during collaborative storytelling lessons. The students were assigned a partner based on language proficiency and collaboratively worked together throughout 17 months. The pairs were provided with exemplars to reference which included the use of e-books with oral components after which, the pairs shared their stories both online and in front of the class. The researchers analyzed and triangulated data collected from surveys, interviews, and student work samples. Regarding creating a multimedia story, the researchers found that low and mid-proficient students flow perceptions (i.e., control, attention, curiosity, and intrinsic interest) increased while high-proficient students flow perceptions decreased because of being the peer leader. Like Vasileiadou and Makrina, Huang et al. concluded technology as a

curriculum supplement leads to improvements in the reading processes (Vasileiadou & Makrina, 2017; Huang et al., 2017). A common finding of the studies above is that technology has a positive influence on the reading performance of ELLs.

Likewise, Lange (2019) conducted a pretest, intervention, posttest design study with 98 third-grade students in 6 elementary classrooms that included various demographic characteristics, achievement levels, and learning abilities. The study contained two groups, of which one was experimental groups receiving instruction using Fluency Tutor, MobyMax, and Readingeggs in addition to the teacher's traditional method of delivering reading content. The other groups received only the teacher's formal instruction; both included teacher-led, small group instruction. The researchers examined reading instructional practices through three different delivery systems. The researchers' findings supported the positive benefits of using Fluency Tutor, MobyMax, and Readingeggs as reading instructional practices benefiting students in the experimental groups. Students in these groups were given supports in audible modeling of texts, word recognition, pace and emphasis placed on words, comprehending the text being read, and individualized teacher support to address issues surrounding student voice recordings of text. The outcomes from the study provided significant increases in scores on post reading assessments. In other words, like the findings of Huang et al. (2017), Lange affirmed teachers' use of instructional technology during reading instruction as a beneficial practice for students (Lange, 2019).

Equally important, when best practices and effective plans are used to guide reading instruction, technology becomes a necessary component Petersen (2018) to

support the diverse academic demands of students. Yamaç et al. (2020) study on writing instruction with tablets for fourth-grade students was supported by similar studies conducted by Boeglin-Quintana and Donovan (2013) and DeBacco (2020). The 2013 researchers conducted a mixed-method study in an elementary school setting with a predominantly ELL population to investigate the connection between technology and reading instruction of ELLs. The researchers used a control group and an experimental group with iPods to assist in their language learning. The purpose of the study was to discover whether adding technology influenced student achievement. The findings of the study showed that there was no significant improvement among the groups. However, the findings from the study indicted student engagement increased with the introduction of technology during reading time. Additionally, the researchers found that more time was necessary to analyze the data correctly, but that potential existed in employing instructional technology for ELLs.

Still, other research on instructional technology utilization in the classroom has found different revelations. In the qualitative exploratory multi-case study of Prince (2018), teachers' perceptions exposed the significance of the level of technology implementation but indicated that it is dependent on optimum school culture conditions. The researcher examined teachers' digital pedagogy using a 1:1 iPad initiative and how different aspects constructed a learning environment in which instructional technology was a vital component to learning. In the study, participants of revealed supportive factors such as the students' ability to utilize apps, interactive language features, and numerous online platforms used during reading instruction that influenced the successful

application of technology integration for ELLs. The researchers found that the conditions required for successful technology use included collaborative models for students, teacher commitment to technology use, systematic introduction of technology integration, functional school infrastructure, leadership with the integration of technology, and teacher collaboration on pedagogical practices involving technology (Prince, 2018).

Furthermore, the researcher found that the two principal inhibiting factors were teacher background about to technology use and inadequate professional development regarding available technologies. Prince's (2018) research points out that instructional technology, although a necessary component of instruction, must have parameters and supports in place for productive use to occur. As an example, at the proposed research site, administrators agree and have stressed the importance of instructional technology use for all learners, especially ELLs, as a necessary reading component to instruction as a viable means to accomplish the school's Comprehensive School Improvement Plan. They have acknowledged that utilizing instructional technology serves as a vital part of the district's curriculum for increasing academic achievement.

Researchers, like Boeglin-Quintana and Donovan (2013), Prince (2018), and Sessions et al. (2016) found that varying effective strategies are required to support the language instructional practices of students and how those practices influenced language learners of various performance levels. Outcomes from the current researched studies related to ELLs include components that linked experience and professional development, effective best practice strategies, implementation of programs with fidelity,

and differentiation of instruction to increased reading achievement; all of which must be planned and conducted with intentionality (Kelly, 2015).

Implications

As the need for effective reading practices continues to rise, research that focuses on those practices through teachers' perceptions will be paramount (Mayfield, 2016). The possible implications that resulted from the proposed project provided stakeholders with research to better understand how teachers' instructional technology use during reading instruction for ELLs could have supported an improvement in reading achievement for these learners. In essence, a professional development approach could have helped reading teachers of ELL students utilize instructional technologies at higher levels and begin addressing the reading performance of these students. The potential changes to professional development could have ensured that schools are incorporating instructional technologies into their instruction, and teachers could have begun to receive continuous support to develop their strategies within the SAMR model, leading to enhanced reading instruction and transformative instructional practices. One result of this shift in professional development could have been an increase in the reading achievement of the ELL population.

Summary

In this section, I provided a thorough review of research about to the elements of the problem. While education reformers have continued to offer a myriad of recommendations on how to improve the reading achievement of ELLs, results vary and are dependent on other factors (Pretorius & Spaull, 2016). Some recently published

studies on ELLs and reading have suggested that the utilization of instructional technology can be beneficial in aiding in the desired learning outcomes for this population of learners (Herraiz-Martinez, 2018 & Prince, 2018). Four main points emerged in the analysis of the literature review. The first was that teacher instruction, and the use of instructional practices in different classroom populations led to gaps that included students' performance in reading being influenced by the method of instructional delivery, and the level of student-centered learning altering reading performance among subgroups within various classrooms. Second, instructional technologies served as an integral component of the teaching of reading for students. Third, ELLs' diverse reading needs were adequately addressed when instructional technologies were combined with opportunities for collaboration. Fourth, technology-infused reading instruction for ELLs had long-term effects on their instructional performance in modern classrooms.

The literature review presented important findings that reflect how the researcher will address the purpose and questions of this study. These four findings supported the purpose of this study because of gaps in practice, such as some teachers' reading instructional practices for ELLs, conflict with what we know about the value of integrated technologies for teaching reading in ELL populations. The findings within the literature review highlighted four points that aligned with the proposed research project. These pertained to (a) the influence of instructional practices on the achievement of subgroups, (b) the importance of instructional technology within reading, (c) the comprehensive learning needs of ELLs, and (d) the reading instructional best practices

for ELLs in contemporary reading classrooms. Also, teachers may have benefitted from professional development related to the diverse needs of ELL learners to improve their reading proficiencies. Exploring teacher's perceptions and their experiences of technology use during reading instruction for ELLs provided insight into teachers' perceptions of instructional technology use while working with this diverse population.

The purpose of this project study was to explore teachers' perceptions of and experiences using instructional technology during reading instruction of Grades 3-5 ELLs. By addressing the first research question about teachers' description of instructional technology use in reading for ELLs, parallels were drawn with the first three findings of the literature review. Mostly, the literature review findings supported the notion that instructional practices influenced achievement in reading when instructional technology was applied to the learning needs of ELLs. Likewise, the second research question, which pertained to how teachers utilized instructional technology in the reading classroom for ELLs, mirrors the fourth finding in the literature review, which indicated that performance and development were observable when instructional technology was embedded in instructional practices. The findings from the reviewed studies supported the idea that in teaching of reading, instructional technology use and fidelity of instructional technology use could hinder or improve overall instruction of ELLs.

In the subsequent section, I will provide a description of the design and approach to be applied in the project study. Section 2 will include a description of participant selection and sampling procedures, the data collection steps, an overview of instruments, a preview of the data analysis, and limitations associated with the project study. In

Section 2, the connection between the project and the research questions will be made to offer a new dynamic on how instructional technologies in reading instruction could potentially advance the achievement of ELLs in reading.

Section 2: The Methodology

Research Design and Approach

In this study, I employed a qualitative, multisite case study design (see Creswell, 2012). A case study is a research strategy that is used to look at contextual conditions through data collection and analysis (Yin, 2014). Merriam and Tisdell (2016) specified that "qualitative case studies can be characterized as being particularistic, descriptive, and heuristic" (p. 43). The case study is heuristic in the sense that new meanings and understandings about the phenomenon under study cause the reader to discover new discoveries about the phenomenon (Merriam & Tisdell, 2016). Distinctly, the current study was particularistic because I sought to explore the phenomenon of instructional technology used during reading instruction with a specific student population. The case study was descriptive in that the results provided a rich description of a phenomenon (i.e., instructional technology use) not quantifiable with numerical data. This case study was heuristic in that the understanding of instructional technology used during reading instruction for ELLs could change or expand further with the development and subsequent incorporation of new technologies. Hancock and Algozzine (2013) described the qualitative, exploratory, case study design as an approach used when a researcher sought to determine how events and outcomes influence each other.

Use of a case study approach in the current study allowed for meaningful information to expand into a comprehensive description that encompassed the full understanding of teachers' perceptions of instructional technology use in the context of reading instruction with ELL students (Mayer, 2015). I did not use a mixed-methods

approach for this study because I did not collect quantitative data; instead, the qualitative data were used to understand how teachers used technology during reading instruction of ELLs.

I selected a qualitative case study as the research design for this study based on the context of the problem and the nature of the research questions. Specifically, I sought to explore teachers' perceptions to find meaning about instructional technology as well as the depth and extent of its use. These latter points reflected the comprehensive nature of qualitative research. Yin (2003) indicated that case studies should be used to explore "how," "what," and "why" research questions when the behavior cannot be altered among the participants and the context of the condition is related to the phenomenon to be explored. In this project study, I explored how teachers were using technology in their instructional best practices for teaching and learning in their classroom while seeking to understand teachers' perceptions and experiences of using technology during reading instruction of ELLs. The research questions were the following:

RQ1: What are elementary teachers' perceptions about their use of technology to teach reading to ELL students?

RQ2: What are elementary teachers' experiences using instructional technology to differentiate reading for ELLs?

RQ3: What are elementary teacher experiences using instructional technology to teach reading for ELLs in ways that exemplify the SAMR model?

Teachers were not being asked to learn a new method of teaching using the framework to be researched, as the role of instructional technology use being researched in reading instruction was complementary to the daily classroom reading instruction.

Setting and Sample Participants

Setting of the Study

I selected the participants for this study from three elementary schools within the MSDSUS with ELL populations over 50%. The participants consisted of upper elementary teachers of Grades 3–5, and most ELL students received English for speakers of other languages (ESOL) services as either a pull-out program or within the regular education classroom with the classroom teacher, classroom and ESOL teacher, or an ESOL teacher. School districts in the metro area of the southeastern state where MSDSUS is located have high student populations of ELLs. The selected county had a total student enrollment of 98,511, of whom 16,747 are ELLs. The demographics of MSDSUS were as follows: 11% European American, 63% African American, 17% Hispanic, 7% Asian, and 2% Multiracial.

Furthermore, the MSDSUS comprised 137 schools and centers and was sectioned into five regions. Of these, I targeted Region 1 in this study for its high number of schools with ELL students. Each prospective study site in this region had 42%, 46%, and 82% of the total student population as ELL students, respectively, and Region 1 was one of the first regions within the district that received technology upgrades. Additionally, the schools in this region received the SIOP training because the districts were early

adopters. Due to these characteristics, the district was appropriate for this research project.

Participants for the Study

In this study, I adhered to Yin's (2014) recommendations for purposeful sampling and participant selection in qualitative case studies. The purposeful sample was selected from the MSDSUS, and 30 participants were solicited for participation, with 12 targeted participants sought for the study. A low number of participants was critical to the study because this allowed for a more in-depth understanding of the phenomenon/topic to be captured in the analysis (see Creswell, 2012). I used purposeful sampling as the sampling strategy because its principles allowed me to recruit both general education and ELL participants familiar with instructional technology, reading instruction, and working with ELLs. According to Creswell and Plano Clark (2011), purposeful sampling is vital in selecting participants who are particularly knowledgeable about a phenomenon. This approach to selecting participants was critical in this case study because it allowed me to collect data centered on addressing the study's problem and research questions.

Criteria for Participant Selection

To ensure that the selected participants yielded comprehensive data, potential participants had to meet the following qualifying parameters: (a) be an upper elementary (defined as Grades 3–5) teacher, (b) provide a majority of reading instruction to ELLs(defined as receiving 50% of reading instruction from teacher during the reading instruction block), (c) have a majority of ELLs in reading block (defined as 50.1% of ELLs students), (d) use some form of instructional technology during reading instruction

for ELLs (defined as hardware, software, online internet programs, laptops, iPads, or Chromebooks), and (e) have a class constructed of at least 50.1% of students identified as ELLs by the World-Class Instructional Design and Assessment (WIDA).

Access to Participants

To solicit potential participants, I initially communicated with the *gatekeeper,* the district coordinator for research, assessments, and grants. I filled out the official online application the district required and submitted it to the coordinator of research, assessments, and grants indicating my intent to conduct research. Once I received a letter of cooperation, I emailed the principal of each study site a copy of the Approved Letter of Cooperation from MSDSUS granting me permission to conduct the study. I also provided the principals with an email that contained the Invitation to Participate in Study with Consent Parameters to forward to potential participants. This email included a note to the principal and the actual teacher invitation, an attachment with the formal invitation to participate that detailed the study parameters, details of consent, and a link to a prescreening survey to qualified participants. The principal forwarded the contents of the email, as directed, to potential study participants (i.e., third-, fourth-, and fifth-grade teachers) in the school. Upon receipt, interested teachers responded to the prescreening survey, which included instructions that informed them that submitting the survey was providing their consent to participate if selected.

After receiving and examining the prescreening surveys, I emailed each qualified participant a request to schedule an interview and submit documents to me, which included instructions for scheduling an observation and interview time as well as for

submitting lesson plans at least 1 week prior to the observation. For example, I personally hand collected participants' lesson plans or they emailed me digital copies—whichever was most convenient for the participant. Although the invitation to participate included instructions to print a copy of the invitation/consent form if desired, I brought a paper copy of the consent form to each qualified participant when picking up their lesson plans in case they wanted a copy provided for their records.

As requested in the email to participants to schedule an interview and submit documents, I received each participant's lesson plans at least 1 week or earlier than their scheduled observation. I analyzed each of the participant's lesson plans within the same week I received them. This gave me a preview of the expected lesson to be taught.

Next, I conducted the observation of each participant's instructional reading block. I used the observational protocol document (see Appendix B) to record my observations of teacher and student activity during the reading block. Descriptive words were used to record the work area of the teacher and students, the type of technology I observed being used, and the actions of the teacher during the reading block.

Finally, after the commencement of their observation, I conducted a 45–60-minute semistructured interview (see Appendix C) with each participant during the agreed upon time. In the interviews, I asked questions to gain an understanding of the teacher's background with reading and instructional technology use as well as their perspectives of instructional technology use with their ELLs during reading instruction.

Researcher–Participant Working Relationship

To gather the comprehensive data found through qualitative research, it is essential to establish a functional relationship with the participants to ensure that the risk or threat of vulnerability is reduced (Watkinson & Gallo-Fox, 2015). During each of the face-to-face interviews, I explained to the participants that all data gathered would be kept confidential and secured and would not be used in any aspect of a professional evaluation.

Protecting Participant Rights

In the informed consent form, IRB number 11-13-19-0071506, I outlined the nature and benefits of the study as well as provided information regarding how participants' identities would remain confidential. Specifically, confidentiality, participant rights, and protection from harm were ensured through the following steps: (a) I explained to participants in detail how data would be electronically collected on a digital recording device and my personal, password-protected computer, then stored in my password-protected computer in my home office; (b) data would not be identifiable to any one participant; (c) using a color-coded system, pseudonyms would be used instead of the participants' actual names; (d) participants were informed that the project was entirely voluntary and that they could opt out at any time with any data they provided being destroyed; and (e) participants also had the option to stop at any time and discontinue if they felt uncomfortable or if their well-being was compromised. If a participant chose to drop out of the study, I solicited participation from another teacher meeting the required criteria for the study. I will store all data on my password-protected

computer for 5 years after the conclusion of the study and that data will be destroyed after that period expired by deleting all data from the computer and destroying all paper documents by putting them through a document shredder.

Data Collection

In this qualitative multisite case study, I collected data through lesson plans, observations, and semistructured interviews to explore teachers' perspectives and experiences of their technology use during reading instruction for ELLs. Creswell (2014) asserted that by using various data collection approaches, the study results would hold more credibility. I collected data in February and March 2020. At the time of data collection, the teachers at the study sites had been actively using instructional technology during their reading blocks with their ELLs students for at least 6 months of the school year.

Procedures to Assure Accuracy, Credibility, and Evidence of Quality

I followed a data collection plan to ensure the accuracy and credibility of the information gathered. First, all participants emailed their lesson plans to my secure email address before the observations and interviews took place. I conducted observations in as nonintrusive a manner as possible. Interviews took place during noninstructional hours in a private, locked room that was previously agreed upon as a meeting place by the participant. I audio recorded the interviews on two devices, thereby offering a layer of protection to the research by ensuring I had an unbiased and credible account of the interview from the participant's perspective. I emailed each participant their corresponding transcript for member checking to confirm credibility and trustworthiness

(see Creswell, 2012). This practice demonstrated that the findings of this study are honest and appropriate.

Effective data collection, as noted by Creswell (2014), emphasizes the importance of selecting a good place to study and establishing good rapport with the participants so they will provide good data. I anticipated that collecting quality data through interviewing would be possible in the study. After receiving approval from the study site and all participants, I began the face-to-face data collection process. The series of face-to-face interviews began with the participants and were focused on their use of instructional technology for ELLs during the reading block. The interviews took place at the participant's respective school and lasted approximately 45 minutes. I told participants the interview would take no longer than 1 hour, and all interviews were completed in 35–45 minutes. The interviews included open-ended questions about the use of instructional technology and provided time for participants to reflect on their responses. Yin (2014) noted the jobs of the researcher during the interview were: "(a) to follow your own line of inquiry, as reflected by your case study protocol, and (b) to ask your actual (conversational) questions in an unbiased manner that also serves the needs of your line of inquiry" (p. 110). The open-ended interview questions also allowed for teachers to discuss any additional thoughts that came to mind as the interview progressed.

Interview Process

The participant interview responses provided specific insights about their use of instructional technology for teaching ELLs during their reading block. Throughout the study, I respected the opinions and concerns of the participants through active listening.

During the interviews, I made every effort to create a safe and comfortable environment for the participants; this was accomplished by using a predetermined location for the interview as requested by the participant. All interviews took place in a locked room with no other individuals present to increase confidentiality. Remaining professional, friendly, and respective of each participant's time was of highest importance to me throughout the process. I asked the interview questions in a conversational manner and gave the participants ample time to consider the question before responding. Use of this strategy allowed for participants to answer and reflect on the questions to provide data-rich responses.

At the beginning of the interview, I asked warm-up questions and provided other related information to help make the participants feel relaxed and calm. Warm-up questions and conversation starters are also listed with the interview questions in Appendix C. All interviews were recorded on my voice recorder and my cell phone as a backup device, so I could focus on the conversation during the interview and not take detailed, handwritten notes. I followed Yin's (2014) interview protocol and asked conversational questions in an unbiased manner. I ensured I had a printed copy of the questions to reference throughout the interview. At the end of each interview, participants were asked if they would like to make any additional comments or statements. Each interview concluded with me reassuring the participants of their confidentiality and thanking them for taking time to participate in my study (Creswell, 2012).

Lesson Plans

Yin (2014) asserted that rich data offers an in-depth examination of the central phenomenon and adds validity to the overall study. Teacher participants sent 1 week reading lesson plans covering 1 week's reading block and assignments to me via email. The lesson plans revealed how each teacher participant plans their reading block, which instructional technology software was being used, and which instructional technology activities students were engaging. This information was pivotal during the analysis phase when comparing the data collected from the other two sources. Each teacher emailed their selected sample of lesson plans to me. The lesson plans were reviewed, and these data sources were used for triangulation.

The teacher participants shared 5 days of lesson plans for the upcoming week. The teachers were instructed to send their lesson plans without making any modifications to them based on my upcoming observation. There were few consistencies in lesson plan templates, and the format varied for some of the teacher participants. Some of the teachers used the lesson plan template provided by the study district which included a section for instructional technology use. Other teachers used lesson plan templates created by themselves with simple rows that labeled student groups and columns that labeled student assignments for reading centers and student group rotations. The lesson plans I received varied in the depth of details for each teachers English language arts reading block. Some lesson plans outlined the daily literacy routine, the technology used for the day, the student groups, and any other literacy activities. Some of the lesson plans were detailed and contained specific information about reading activities and how the

teacher would use different mentor texts or passages to differentiate and scaffold instruction.

The teachers who used the lesson plans provided by the study district provided a three-part plan. The mini lesson section of the plan included a review of the standard to be taught for the day and the text or passage used. The next section of the lesson plan had the specific text or passage to be used with each group and the skill the teacher would teach the students in each group. Independent student practice assignments were included in this section which included the technology to be used for the day. The type of instructional software used from group to group varied from teacher to teacher but provided an activity each group should complete for the day. The last section of this lesson plan included a closing for the class. The lesson plans with less detail did not yield as much data to support the interview transcripts. Of the lesson plans I collected, six were detailed enough for me to analyze.

Observations

Through observing my participants, I gathered firsthand data of the participants authentic teaching in the research site. I completed one observation for each of the study participants. Each event was approximately 90 minutes and occurred in each participants' classroom. I used my planned observational protocol to record the observational data and my thoughts regarding the observations. Furthermore, I reviewed the observational field notes within 24 hours to ensure the accuracy of the content.

Summary

Interviews, lesson plans, and observations were appropriate instruments in gathering data to answer RQs 1-3. The interviews provided study participants the opportunity to expand upon their perspectives on the instructional technology practices taking place in their classroom. The data collected from this study provided me with an in-depth understanding of the use of instructional technology used during reading instruction for ELLs in the selected classrooms within the study district.

Role of the Researcher

My role was an instructional support specialist within the study district. In previous years, I served as a kindergarten paraprofessional and a third-grade classroom teacher in a different school within the same district. I did not have a professional working relationship with any of the potential participants in the schools. I never supervised colleagues nor had the authority to evaluate teachers in any of the potential study schools. My professional role and relationships did not affect how the potential study participants instructed their students, so data collection was not affected. Participants were assured that their identity was fully concealed and protected by pseudonyms for each school and participant. I also reminded them that only aggregated data of the study findings would be shared and reported.

I have taught all third-grade content areas; however, I have exclusively taught mathematics and science for the past 9 years. Given my use of technology in the classroom for mathematics and science, my biases included my perspectives on best practices of technology use for ELLs. I also received the same SIOP training as many of

the participants in the study. My biases included my knowledge of best practices from the SIOP training (Creswell, 2012). I addressed my biases by using the SAMR model framework for observations and member checks for the accuracy of their data in the findings.

Data Analysis

I gathered qualitative data for this multisite case study from teacher lesson plans, observations, and semistructured interviews. I began data analysis after all data were collected. Yin (2014) affirmed the importance of case study databases as a method of organization and documentation of the data collected. In addition to organizing the collected data, I took notes throughout the data collection and analysis processed in a researcher's journal. This journal was organized by each study participants' pseudonym which allowed me to add notes quickly and efficiently throughout the process. Taking notes throughout the data collection and analysis process created a roadmap for organizing and understanding my thoughts as I analyzed the data. The data analysis included a thematic analysis, using a priori, open, and axial coding procedures to develop themes. In this section, I provide the systematic process and summary of the coding, categorizing, and development of themes from the findings. I used the analysis to better understand elementary teachers' use of instructional technology for ELLs during the reading instruction block.

Preparing the Data for Analysis

To prepare the data for analysis, I transcribed audio recordings from the individual interviews. I labeled individual transcriptions with the pseudonym assigned to

each participant and saved them in a Word document. These steps were helpful for me to easily retrieve the data when necessary. The next step was to ensure accuracy of each transcript, which I compared to the original recordings. Additionally, I removed filler words, such *as*, *uh*, *um* and repetitions, such as repeated consecutive words or phrases. I recorded observation and lesson plan data on the observation and lesson plan protocols. These were scanned and saved to Word documents for the respective participants.

Once these data sets were saved and stored, I read all the documents for each participant to establish an overall sense of the data and potential themes for each person. I then reorganized the data sets by type—interview, observation, or lesson plan data—to establish an overview of the data and potential themes embedded in each data type. During each of these steps, I made margin notes on transcripts and protocols to remind me of concepts to consider during analysis. These notes were beneficial as I returned to the raw data multiple times in the final analysis.

A Priori Coding

I began the coding process using a priori coding based on this study's framework and the following terms: substitution, augmentation, modification, redefinition, enhancement, and transformative. I searched all interview data for evidence of these elements, and I highlighted word/phrases/sentences that contained descriptions specific to each term. This same process was repeated for the observation and lesson plan data were evident. In a separate Word document, I created a table like Table 2 when reviewing the coded data, data sources, participant, and data excerpts.

Table 2 contains examples of each code, participant, and excerpts from the three data sources. Where no a priori code had corresponding data, I omitted codes from the table. For example, there was no evidence of redefinition in any of the data sets. Any omitted codes are important to the findings and will be part of the project.

Table 2

A Priori Codes (SAMR Model) by Data Source With Examples

Enhancement			
A priori code	Source	Participant	Excerpt
Substitution	I	Mr. Brown	I feel ReadWorks allows students to work on more individualized assignments.
Substitution	O	Ms. Blue	The teacher projected images on the Promethean board to connect the reading vocabulary to the class lesson
Substitution	LP	Ms. Teal	The teacher listed ReadWorks, LightSailed, and Chromebooks as technology in the weekly reading lesson plans
Augmentation	I	Ms. Teal	I feel that some of these reading technology programs like IReady are so individualized and so specific for each student.
Augmentation	O	Mr. Gray	The teacher assigned a ReadWorks passage to students with the audible feature turned on. I observed students using headphones to listen to the passages being read to them through the software program.
Augmentation	LP	Ms. Violet	The teacher listed promethean board, Epic, Pebble Go, and Starfall as technology in the weekly reading lesson plans
Transformative			
A priori code	Source	Participant	Excerpt
Modification	I	Ms. Magneta	I feel the benefits of students using the software Imagine Learning it "kind of put things together when they're reading" and that "they'll see something in the reading passage, and it's explained to them, or when they are reading they're given words to incorporate into language."
Modification	O	Mr. Brown	The teacher participant projected an example on the board and modeled during her reading mini-lesson how the students should access and use some of the audible features of Imagine Learning Reading such as text speech and showing students how to access word meanings in the passage once they were in independent reading centers.
Modification	LP	Ms. Blue	The teacher listed Imagine Learning and Google docs as technology in the weekly reading lesson plans
Redefinition	I, O, LP		No evidence

Note. I = interview, O = observation, LP = lesson plan.

Open Coding

The a priori coding process resulted in numerous codes, which I reduced by applying open coding to the a priori codes. I also returned to the raw data from each data source to ensure I had not missed any repetitions. I searched these data for similarities and labeled groups of words with a term that gave meaning to word group. For example, I labeled one group as student engagement because teachers sometimes selected technology for students based on how it captured the students' engagement during the lesson. I labeled another group as Assessing Comprehension and Communication in English State-to-State for ELLs (ACCESS) tiers because teachers mostly assigned technology based on student's language levels. Another group was labeled as years of teaching because some teachers—digital natives—tended use technology more frequently than other teachers--digital immigrants (Kesharwani, 2020). Open coding resulted in a total of 35 codes. Table 3 contains examples of open codes and participant excerpts from the three data sources.

Table 3

Open Codes by Source With Examples

Open codes	Source	Participant	Excerpt
Student engagement	I	Mr. Gold	If they are not really engaged in the software for reading, they just click to be done.
Audible	O	Mr. Brown	I observed students using headphones to hear the reading passages or reading lessons being read to them during the reading block.
Achievement	LP	Mr. Gray	ReadWorks and Imagine Learning Reading were listed in the lesson plans which had audible features for students to access when using the technology to assist in their reading achievement.

Note. I = interview, O = observation, LP = lesson plan

Axial Coding

During the last coding stage—axial coding, I searched the open codes and corresponding excerpts from interviews, observations, and lesson plans to identify the relationships among the open codes. I grouped similar open codes and assigned a code to each category. For example, I grouped the codes student engagement, student behavior, audible, personalized, instant feedback, adaptability, and achievement (success) to form the category technology features for students for enhancement (i.e., substitution or augmentation) or for transformation (i.e., modification or redefinition). I also grouped years of teaching, veteran teacher, novice teacher, teacher knowledge of technology, teacher expectations, frequency, and technology savvy to form the category years spent teaching with technology-digital native/digital immigrant. The category using technology was created when I grouped the codes technology-driven lessons, teacher beliefs, and

teacher understanding of technology. Table 4 contains 3 examples of the axial codes from the 9 categories.

Table 4

Axial Codes

Open codes	Source	Participant	Excerpt
Lack of support at-home	I	Mr. Gray	It's hard for parents to help the students with reading when they cannot speak English themselves.
Technology features for students	O	Ms. Magenta	I observed students using the audible and word meaning features on the reading software.
Using technology	LP	Ms. Teal	ReadWorks, Light Sailed, and Chromebook were listed as reading technology in the lesson plans.

Note. I = interview, O = observation, LP = lesson plan

To create themes, I resumed searching among the categories and raw data for additional patterns These patterns were the key concepts I used to explain the analyzed data. Three themes emerged from my search for patterns across categories:

Theme 1: Elementary teachers believed that using technology to differentiate instruction helped them teach reading to ELL students.

Theme 2: Elementary teachers understood that knowledge of software programs, types of technology, and their use for instruction and learning depend on current and ongoing training.

Theme 3: Elementary teachers identified ELL student proficiency in English and parental support at home as barriers to technology integration.

Discrepant Cases

No discrepant cases emerged from the data. Had these emerged, I would have examined the data sources for evidence of conflicting data and conducted further analysis. Since none emerged, further analysis was not required.

Trustworthiness

In qualitative research, trustworthiness counters quantitative validity (Merriam & Tisdell, 2016). Although I proposed triangulation and member checks, only member checking was feasible based on the data. For this study, I also employed rich, thick description of the problem, participants, and the research site. This type of description (transferability) is achieved when the researcher describes the sample, situation, and site in detail so readers can determine whether the findings apply to their settings (Creswell, 2012; Yin, 2014).

Transcript review is the first step of the two-step process of member checking (Creswell, 2012). I sent participants a copy of their interview transcripts to confirm accuracy of their statements. As recommended by Creswell (2012), each participant was given the opportunity to check the accuracy and ask additional questions relating to the transcription of their interview to establish credibility and validity.

Additionally, during the second step, I provided participants with a summary of the aggregated findings of the study. The purpose of this check was to determine if participants agreed with the accuracy of the aggregated findings. I was available to meet with any participant virtually, by phone, or by email within 48 hours. Affording

opportunity to communicate with me was a best practice to confirm the findings of the study.

I provided 2 days for participants to respond by email with any questions, changes, or concerns. According to Merriam (2009), providing participants with adequate time to respond to the email is important to avoid any possibly of misinterpretation of participants' perspectives. The teacher perspectives needed to be a true reflection of each participant without any misrepresentation. All but one interviewee responded to my email and follow-up phone call. As I completed data collection and analysis during the COVID-19 pandemic, many educators were abnormally stressed with the demands of teaching virtually. To respect their time, I did not send additional reminders for follow-up. None of the responding participants requested any changes be made to their transcripts or to the aggregated findings.

Data Analysis Results

The purpose of this project study was to explore teachers' perceptions of and experiences using instructional technology during reading instruction of Grades 3-5 ELLs.

In the following discussion, I narrate how the theme statements for the findings address each of the RQs in this study. Additionally, I provide evidence by data source to support my conclusions. Table 5 shows the alignment of the RQs to the themes from the data analysis.

Table 5

Alignment of RQ Content to Theme and Data Source

RQ		Theme			
		1	2	3	
Item	Teacher data on using technology to teach reading	Differentiation	Training	Barriers	Source
1	Perceptions about teaching reading	X	X	X	I
2	Experiences for differentiating learning	X	X	X	I, O, LP
3	Experiences that exemplify the SAMR model	X	X		I, O, LP

Note. I = interview, O = observation, LP = lesson plan

RQ1

Based upon the data analysis, RQ1 was addressed and aligned with Themes 1, 2, and 3. The interview data informed this RQ as only participant discourse could provide perceptions—teacher beliefs and attitudes about their use of technology to teach reading to ELL students.

Theme 1: Differentiation

Based upon the data analysis, elementary teachers believed that using technology to differentiate instruction helped them teach reading to ELL students. Of the nine participants, nine made remarks in the interviews about differentiating with technology. All teacher responses indicated that they felt instructional technology could be used to

differentiate instruction for students. Four categories—technology features for teachers, technology features for students, options to create and level student reading groups lessons/assignments, and data analysis to inform instructional decisions—were used to support Theme 1.

Technology Features for Students and Teachers. Teachers felt the various features embedded in the technology differentiated the ways students gained accessed to their reading assignments. All participants expressed that some form of reading technology was needed to teach reading and differentiate that instruction; but for ELLs who often struggled with language barriers or proficiency levels, teachers indicated that technology with an audible feature was most effective for differentiating. They felt the audible features helped differentiate the students' access to understanding the directions and content of the reading assignment when used during instruction. Ms. Green mentioned that technology features differentiated how students accessed what they needed during instruction. The audible feature gave students access to hearing the reading assignment being read to them. This feature helped them to understand what they should be doing with the software so that they would not "just click and go forward and wouldn't even read the explanation" needed to be successful.

Adaptability Features. Teachers also believed that the technology's adaptability features, such as providing increasingly complex reading material and reteaching student lessons, were an important way to differentiate student reading assignments. The teachers expressed how much they valued teaching reading using instructional technology for their ELLs; however, only six teachers referenced using Imagine Learning software to

teach reading in their classrooms. According to the SAMR model, Imagine Learning software had the aspects of modification due to the adaptative features of the program. For example, Mr. Brown described Imagine Learning as an adaptative audible software program used "specifically for ELLs" to support their reading and language acquisition. Similarly, Ms. Magenta expressed that when teaching ELL students in the reading classroom, she liked the audible and adaptative benefits of the Imagine Learning software to "kind of put things together when they're reading" in independent groups and that "they'll see something, and it's explained to them, or they're given words to incorporate into language" to better understand what they are reading.

Further, teachers expressed the importance of reading instructional technology to differentiate and provide students with individualized support during reading. Mr. Gold felt IReady was an adaptative reading program that differentiated his student's reading data, did not require much time to use, and monitored student reading progress for him to use for classroom instruction. He felt that he could use the program to differentiate how he accessed and used student data for student lessons. He believed:

> I can go on there to see what they've worked on; I can look at their lesson score, I can reassign that if I think that they did not do their best, I can actually look at the different videos that they got in the reading assignment that they received and reassign that to them. I can assign them reading lessons based on what they are learning in class and see how they are doing with that.

Many teachers felt they could quickly assign differentiated student assignments due to the instant reading feedback provided through the technology. Ms. Teal expressed

that she felt technology use during reading for the students was a great asset for them. She shared that "some of these reading technology programs are so individualized and so specific for each student." The adaptative features were an essential component of the technology chosen and used for instruction. These components allowed for more differentiation of student's assignments during the reading block. Specifically, many teachers liked ReadWorks because they felt they could use the software to differentiate students' work during their teacher center; and students could work on differentiated ReadWorks assignments during independent centers. They felt the adaptative features of the program would provide students in real-time with assignments to assist them in their reading growth. Mr. Brown shared that he enjoyed ReadWorks because he could differentiate and individualize student's reading assignments based on his students' individual growth.

Using Visuals. All participants spoke of the importance of having access to and using technology to access visuals during reading lessons to differentiate reading instruction. They expressed that the reading software programs needed to be engaging for students. Mr. Maroon communicated the beneficial use of technology for vocabulary during reading and that "it also provides games for the students with the vocabulary cards" to reinforce the reading lesson or skill.

Creating/Leveling Reading Lessons. Finally, teachers believed technology should be selected and used to create and differentiate student reading lessons and assignments. Some teachers believed technology options could be used to create and level student reading groups, lessons, or reading assignments based on student's

performance. They felt the selection should be based on a student's language proficiency in their second language and their ACCESS tier. Teachers felt that they should differentiate the type of technology used during reading based on a student's language proficiency and ACCESS tier to further reading achievement. Some teachers felt that to differentiate reading levels and instructional supports provided for newcomers, students with less than a year of residence in the United States, they should spend more time on programs like Imagine Learning than they spend on Google docs. They believed Google Docs was not good to use for their ELLs in Tier A and B because it required student reading skills to access, share, and edit the Google Doc.

Summary. The findings from the interviews confirmed that teachers used instructional technology to differentiate instruction during reading for their ELLs. Teachers stated that student reading levels were the building blocks for the types of instructional technology used to differentiate ELLs reading instruction. Some teachers shared that they used specific software, Imagine Learning and ReadWorks, for their ELLs, whereas others used various software programs to differentiate reading and meet the instructional needs of their ELLs. Teachers shared that reading instructional technology that did not provide differentiation features such as audible options or listening features were not usually selected for most ELLs to use.

Theme 2: Training

Through the data analysis, elementary teachers understood that teaching reading to ELLs with technology was dependent upon current and ongoing training on using software and different types of technology designed to teach reading. All teacher

participants reported using various types of reading instructional technology with their students during the past 5 years. The teachers spoke of how they felt using EPIC, Freckle, Starfall, Google, Learning A-Z, PebbleGo, PowerPoint, Promethean board, Sway, Imagine Learning, Step Reading, Easy CBM, IReady, IStation, ReadWorks, Light Sailed, BrainPop, Learning Farm, Chromebook, Teach A Monster to Read, YouTube videos, Turtle Diary, Class Dojo, Illustrator, AR, KidPix, and Britannica Kids for reading instruction.

Using Technology. All participants indicated a desire for reading technology training specific to instructing ELL students. Three categories emerged that informed Theme 2. The first category, years spent teaching with technology—indicated two groups of technology-users: the digital native who has always taught with technology compared to the digital immigrant, a teacher adapting to technology at some point in the teaching career. The second category was about how a digital native or immigrant used technology during instruction or classroom procedures, and the third category—technology training, a category developed from teacher data indicating the type and format of instructional training they needed to support ELL readers.

Years of Experience Using Tech. Of the nine participants, three were digital natives, and six were digital immigrants. Throughout the interview data, it was clear that there were different needs and expectations for training based on years of experience and comfort using technology. The digital natives had been taught using instructional technology and were more inclined to use various types of technology during for reading instruction. They were accustomed to using technology both inside and outside of the

school setting which helped them to quickly understand and use various types of technology. They were also willing to self-train themselves on instructional technology to understand how to better use it during the reading block. Digital immigrants tended to use instructional software during the reading block to have students simply complete an assignment. These teachers used the basics of software programs because they did not have time or the desire to learn the components of the technology outside of work hours. The data indicated that is important to assess the teacher experience using technology when supporting ELL readers with instructional technology.

Teacher Use. Each participant stated they were provided Chromebooks by the study district to use with their students during instruction. Every participant revealed they felt comfortable using some of the instructional technology programs with students such as Google and PowerPoint to teach reading lessons. Ms. Violet shared, "We actually just got Chromebooks this year to as a part of delivering reading instruction." She stated she not only used the devices with her students for reading but also for other instructional purposes like Response to Intervention.

Teachers listed various reading software programs in their lesson plans to be used during a given reading block. Ms. Maroon's use of reading instructional technology such as Imagine Learning and ReadWorks was listed in her reading lesson plans. The lesson plans included multiple opportunities for students to work with various reading programs throughout the week. All participants' lesson plans showed that reading instructional technology should be used with the students each day.

Ms. Teal was a relatively new teacher. She shared that her beliefs of technology use and frequency of use stemmed from the expectations she received during college. She explained that:

> I mean I graduated in 2017, so in college, it was heavily pushed that this was the world we were moving into so kids had to be able to do that. It was never presented to me that I would be working in a classroom with no technology. It was always presented to me that there would be some sort of technology in the classroom for students to use and if there wasn't, then you needed to get it. Whether that was trying to fund raise to get iPads for the classroom or tablets or have a couple of computers, but ever since undergrad school I was told that's what the expectation was and then coming here and starting, the principal always said it's expected that you use technology in the reading classroom. So, I've never known anything different.

Teacher Technology Training. All teacher participants shared their need for additional training with reading instructional technology. Most participants expressed a desire to have more professional development that often extended beyond what was offered by the school or study district.

Mr. Maroon, a digital native, expressed that he was motivated to self-training outside of work hours to stay updated on with reading instructional technology. He stated that, "I am constantly learning outside of school hours about new technology that I can use in my reading classroom to help my students." He preferred training to be provided during work hours. Similarly, Mr. Gold indicated that because he had more time to

research and practice better ways to use technology outside of his work hours, he was more comfortable using it. His self-training of the reading technology helped him to feel more comfortable with his students creating PowerPoints.

In contrast, when asked about technology proficiency, Ms. Violet referenced the need for training because she did not use technology much outside of school. She felt when she needed help with a reading software or program that she "would often need someone to help me" with instructional technology. Mr. Gold said that he would benefit from more training on new reading software purchased by the school's leadership team and the district. He indicated that the training would save time on trying to figure the program out on his own. Similarly, Ms. Blue shared her feelings with the expectations of using reading instructional technology with her ELLs. She felt that the expectations of reading and instructional technology were different when she started teaching. She commented: "I feel like there are so many technologies to use and they change from year to year so fast that I'm always playing catch up." All teachers expressed the importance of instructional technology use during the reading block but felt that training was required and necessary for successful use during reading instruction.

The findings confirmed that teachers desired time for training with software programs without spending additional time self-training outside of school hours. Some teachers voiced that while in their teacher program, the expectation was to use instructional technology daily with students and were trained to use it in college, and others mentioned they had to figure out programs on their own. A few teacher participants shared that they did not use instructional technology much outside the

classroom. All teachers reported they felt comfortable using specific aspects of instructional technology but expressed concern with the number of programs available to them and would like more consistent training on technology software. The participants acknowledged instructional technology was essential for ELLs but that it took time to figure out which ones were best for students at different language levels.

Theme 3: Barriers

Based upon the data analysis, elementary teachers identified ELL student proficiency in English and parental support at home as barriers to technology integration. Of the nine participants, all made remarks in the interviews about English proficiency and parental support as barriers with technology integration. All teacher responses indicated that they felt instructional technology could be used to support reading instruction for students. Two categories, student proficiency and lack of support at home, were used to support Theme 3.

Parents. Elementary teachers identified ELL student proficiency in English and parental support at home as barriers to technology integration. Teachers believed that students' proficiency in English was a barrier to technology integration because students at different language levels struggled with understanding and using the reading instructional technology independently when guidance was not available. Teachers also believed parental support at home was a barrier to students having access to and using the reading instructional technology. One teacher commented that she saw a big difference and her students were able to catch on more quickly with reading if "the children have had school or reading in their native language." Similarly, Ms. Blue conveyed her

concern with students using instructional technology outside of the classroom. She stated, “Not all of our kids have access to it at home and so we’re presuming that kids have this technology at home, and they don’t always.” Some teachers felt that parents did not understand how to help with using the instructional technology because they were not native English speakers and did not speak English in the home. The lack of student instructional technology outside of school and parents’ native language presented a barrier to teachers assigning instructional technology for home reading practice.

Language Proficiency. Each study participant shared that their ELLs accessed technology according to their proficiency with the English language. These language proficiencies were often barriers to students using instructional technology for reading instruction. One participant felt that students new to the country with no English language would not be benefit from reading software like ReadWorks that required reading and responding by typing. Another participant felt that her students in higher ACCESS language levels would be able to use reading instructional technology like Google docs because they could understand and navigate the software when given audible options to have the lesson read to them. When asked about using instructional technology for reading assignments with the students, Mr. Gold believed that one lesson did not go well with students because of different student language proficiencies. He felt that reading lesson did not allow all students to succeed, considering "my higher students took the lead instead, and I wanted all the students to use it." Not all students were able to access, understand, and participate in the lesson because their lack of English created a barrier.

Technology Features for Language Barriers. Every teacher participant felt concerned about using instructional technology without audible features during the reading block with their ELLs. They felt that barriers were present for students if the software or programs did not include an audible option for the students to use during the independent work center. Mr. Maroon felt that he could support his student's language proficiency by demonstrating how the audible option could be used for reading during his mini-lesson instruction before expecting his students to use it independently. He stressed the need for reading software to include an audible option for the students on reading vocabulary because "they have access to click any word and it allows them direct access to the meaning." One teacher participant had ELL students working independently on instructional technology but had to stop her teacher reading center instruction to help the students navigate the software. She later shared that she felt the reading technology was a barrier because many of the students in that group were new to the country and some "did not even know letters" so it was very difficult for them to use it without her. Mr. Brown emphasized the significance of students having the option to have the reading passages read to them to support their language proficiency. He shared that not only could students hear the passages read to them but also, they could "listen to footnotes and captions." Ms. Green supported the audible option to support reading instruction and address student language barriers. She shared that if the option was unavailable, there was no way to know if "they fully understand or if they pronounced the word correctly" while reading independently.

Every participant preferred instructional technology that would allow the students to use an audible feature to hear reading of the lessons. Participants mentioned that to address students' language proficiencies, the audible option was essential because many ELLs were still developing their vocabulary, which directly influenced their reading fluency. The audible feature helped to partially remove the barrier created by the students' language proficiencies.

Summary

The findings from the interviews validated that instructional technology that included audible options was an essential feature for ELLs language barriers. Student barriers were more obvious if they did not have the type of support needed for individualized independent reading instruction or if the audible options were unavailable to them. All teacher participants recognized the need for instructional technology to include an audible option, especially for students still learning English. All teacher participants also used some form of instructional technology with an audible option for some of their ELLs during each reading block. Additionally, each participant referenced the different language levels of their ELLs when choosing which technology to use. Further, the findings from the interview data also validated that parents and students home language was a barrier to students using instructional technology for reading outside of school.

RQ2

Based upon the data analysis, RQ2 was addressed and aligned with Themes 1, 2, and 3. The interview data, observations, and lesson plan analysis informed this RQ to

provide experiences—teacher experiences about their use of technology to differentiate reading for ELL students.

Theme 1: Differentiation

Based upon the data analysis, elementary teachers' experiences using technology to differentiate instruction helped them teach reading to ELL students. All participants remarked that they included multiple types of technology in their lesson plans or used technology to differentiate reading for ELLs reading. Teacher responses indicated that they had used instructional technology to differentiate instruction for students by giving students access to audible features, images for vocabulary words, and reteach lessons. These statements were supported by lesson plan data as the documents included instructional reading technology such as Imagine Learning, IStation, IReady, ReadWorks, Epic, and Google docs. Theme 1 was informed by four categories—technology features for teachers, technology features for students, options to create and level student reading groups lessons/assignments, and data analysis to inform instructional decisions.

Teacher and Student Use. All teacher participants demonstrated use of instructional technology during their reading blocks with their ELLs to differentiate their instruction and expressed their expectation of student technology use each day. There were 27 types of technology used between all nine teachers. Teachers reflected on using various software programs during a given reading block to help differentiate reading lessons.

One teacher participant used multiple types of software during small group reading instruction. A small group of students worked with the teacher using ReadWorks on their Chromebooks, while other student groups worked on either IStation, Google assignments, or LightSailed. Most teachers used the programs provided by the school, Imagine Learning, IStation, IReady, and LightSailed, while a few used software reading programs the school did not purchase. All participants shared that instructional technology was used with the students each day. Mr. Gold reported that students used the iReady program purchased by the school each morning and he used the Promethean board with the students during the reading instructional block.

One teacher participant's reading classroom consisted of the teacher working with a group of six students. The teacher had the students log-in to ReadWorks to access the differentiated reading passages assigned to them. The teacher accessed the group's passage from her computer and followed along with the students as they worked. Some students in the group read the passage without the audible support while others listened as the words were highlighted as the passage was read to them. Ms. Magenta felt that the audio component of the reading software helped differentiated the students' assignments to help them better understand the lesson. Similarly, Mr. Gray modeled a whole group reading lesson on his Promethean board with the students. He highlighted several features in the software, then had a student come to the board to practice to practice turning the audible feature off and on. Mr. Gray liked using Imagine Learning because it gave students access to the audible options and provided him with student progress data.

Leveling Student Lessons. All teacher participants reported using instructional technology with their students during the week for teacher led reading instruction and for student independent reading practice. Instructional technology such as PowerPoint, Promethean Board, and Sway were used to display teacher's lessons or to project an activity on the board. Teachers modeled how students could use Google, Britannica Kids and YouTube videos to conduct research during a reading activity. They showed videos pertaining to the reading lesson and modeled how students could access images through Google images. Teachers used Turtle Diary, Illustrator, and KidPik to engage students in differentiated written responses based on the reading lesson. Each participant stated they were provided Chromebooks by the study district to use with their students during reading instruction. The Chromebook was used by students during reading to gain access to the different types of instructional technology assigned by the teacher. Every participant revealed they felt comfortable using at least one instructional technology program, such as ReadWorks, Epic, or PebbleGo.

One teacher used her Promethean board to display the group assignments for the day, while another teacher modeled her teacher center lesson on it. Mr. Gold, who used instructional technology for a reading mini-lesson showed videos on the Promethean board and modeled how students could use different aspects of the software during independent small groups. He shared that his students worked on IReady assignments at the start of class and he expected students to be able to "type and show their responses and send them to me." Mr. Brown shared that he modeled the previous day how students should use a new feature in ReadWorks. The finished assignment was to be shared

electrically with him once the students completed the work. Ms. Green shared that "technology is also a teacher to them." Ms. Green indicated that the software could model proper pronunciation and provide independent instruction even when she was with another group. Ms. Blue, however, expressed her concerns when students were working independently. She shared she did not like using technology for more than having students conduct research or she liked to "use it as a visual aid, but I wanna see more of what they're actually doing."

Using Data to Differentiate Instruction. Although all participants indicated experiences using data to differentiate instruction to support ELL readers, the methods of data collection and application differed. The reading instruction block varied from teacher-to-teacher classroom. Some teachers used instructional technology for independent small group assignments, while others used it for data collection. Ms. Violet shared, "We actually just got Chromebooks this year." She stated she not only used the devices for her students' assignments but also for collecting Response to Intervention data that informed her of student needs and progress on specific reading content and objectives.

In my observation, Ms. Green modeled using ReadWorks with a small group. In a similar way to Ms. Violet's students, Ms. Green's students used their Chromebooks to log-into their accounts and pull up the reading passage assigned to them. Later, Ms. Green shared the value of ReadWorks in that "it's reading passages online and that's beneficial because it's going to help them with our end of year assessments … which is the state mandated test." She used the data from the program to monitor her students'

proficiency in the reading content. Mr. Maroon's use of instructional technology use reflected his value of choosing instructional technology that would "monitor comprehension, fluency, and vocabulary without overwhelming the students." He adjusted student work and quickly reassigned reading work based on student performance data.

Additionally, Mr. Maroon shared during his interview that he used instructional technology to collaborate with his coteacher, gifted teacher, and ESOL teacher to create reading lessons for student groups and review student data. He shared the importance of this collaboration to "ensure the technology I will be using during reading will provide the additional support to my students need." The team of teachers collaborated by using student reading data to create assignments that would be used during independent, small, and whole instruction. He felt collaboration was important because it gave the teachers an opportunity to discuss student data and decide what type and how students would use instructional technology for reading instruction.

Summary. The findings from the interviews, observations, and lesson plans confirmed that teachers used instructional technology to differentiate instruction during reading for their ELLs. Some teachers used specific software, IStation and IReady, for their ELLs, whereas others used various software programs to differentiate reading and meet the instructional needs of their ELLs. Teachers used reading instructional technology that provided differentiation features such as audible options or listening features to support their ELLs reading instruction.

Theme 2: Training

Through the data analysis, I found that elementary teachers understood that their teaching reading to ELLs with technology was dependent upon current and ongoing training on using software and different types of technology designed to teach reading. All teacher participants shared their need for additional professional development with instructional technology. Most participants expressed a desire to have more professional development that often extended beyond what was offered by the school or study district.

Although some teachers communicated more confidence with using instructional technology than others because they self-trained outside of school hours, these same teachers indicated a need for more professional development that was provided and during work hours. Mr. Maroon shared the need to stay up to date with instructional technology to use with the students during the reading block. He stated that, "I am constantly having to learn outside of school hours about new technology that I can use in my classroom to help my students." Similarly, Mr. Gold shared that because he learned about better ways to use technology outside of his work hours, he was more comfortable using it. His self-training of the technology helped him to feel more comfortable with his students creating PowerPoints. On the other hand, when asked about technology proficiency, Ms. Violet referenced the need for training because she did not use technology much outside of school. She shared that she "would often need someone to help me" with instructional technology. All teachers stated they were required to use instructional technology during their reading block. Mr. Brown shared that during a staff meeting, teachers were asked to look at data, then assign students work on IStation. He

felt the program was good for students but would have liked follow up training on the program. Teachers expressed they used the instructional technology more if they understood it. Ms. Magenta shared that "we use it more because we know how to navigate some of the issues students may have." Only 3 of the 9 participants—all digital natives—expressed their confidence in using the technology for reading. Six of the 9 felt they would benefit from more frequent training.

Theme 3: Barriers

Based upon the data analysis, elementary teachers identified ELL student proficiency in English and parental support at home as barriers to technology integration. All teacher participants made remarks in the interviews about English proficiency and parental support as barriers with technology integration. All teacher responses indicated that they felt instructional technology could be used to support reading instruction for students. Two categories, student proficiency and lack of support at home, were used to support Theme 3.

Ms. Violet's students worked in small groups of five or six students. While her students were working to complete a part of the assignment, she moved from her small group to one student to helped him find the book she wanted him to read in Epic. She later shared during her interview that the student was new to the country and "did not know how to use the program because he did not have it in his old country." Student language proficiency was a barrier many teachers addressed by choosing technology with features that would read the passage to students, highlight the words as the passages were read, and permit the students to listen to the passage multiple times. Most teachers had

students use only one type of technology for reading the entire week. They shared that students who were new to the country or one of their students reading below grade level were mostly on Imagine Learning because they did not understand English. Other teachers had students use multiple types of reading technology based on their reading levels and English proficiency. Teachers indicated that students would quickly click through reading technology assignments if they could not read and understand the passage.

Summary

In summary, the findings support that all teachers are using instructional technology in various ways to enhance or transform ELLs reading. All teachers demonstrated their use of instructional technology to differentiate reading for their ELLs by including technology in their lesson plans, modeling lessons during whole group instruction, and using an array of technology for mini-lessons, small group teacher and independent student instruction. Further, some teachers used technology to monitor the progress of their students and their levels of growth. Teachers had different experiences using instructional technology during reading for their ELLs. Despite their experiences with technology, they spoke of the necessity for professional development with technology specific for ELLs reading instruction.

RQ3

Based upon the data analysis, RQ3 was addressed and aligned with Themes 1 and 2. The interview data, observations, and lesson plans informed this RQ to provide

experiences—teacher experiences about their use of technology to teach reading to ELL students.

All the instructional technology discussed by the teachers was for reading instruction. The teachers felt software like EPIC, Light Sailed, Teach a Monster to Read, Step Reading, PebbleGo, Starfall, Learning A-Z, ReadWorks, Learning Farm, AR, and Freckle were beneficial for students to read passages, listen to ebooks or to have online reading passages read to them during reading instruction. Instructional technology such as PowerPoint, Promethean Board, and Sway were used to display teacher's reading lessons or to project a reading activity on the board. Google, Britannica Kids and YouTube videos were used to conduct research during a reading activity or show videos pertaining to the reading lesson. Teachers used Turtle Diary, Illustrator, and KidPik to engage students in written responses based on the reading lesson. The Chromebook was used by students to gain access to the different types of reading instructional technology assigned by the teacher or the teacher used it create or assign student reading lessons or to review student reading data.

RQ3 was addressed and aligned with Themes 1 and 2. Interview, observation, and lesson plan data were used to inform the findings. All teacher participants had various experiences using instructional technology during their reading blocks with their ELLs. Across all grade levels, each teacher's experiences with technology use changed based on the needs of the students as a whole and student levels. The types and uses of instructional technology either exemplified the augmentation of instruction or replaced traditional classroom tools with no major changes to assignments, exemplified the

modification of instruction or replaced traditional tools with significant redesign of the project or lesson or task, or exemplified redefinition of the SAMR model to create new assignments not thought of with the use of traditional classroom tools.

Substitution

Relative to Theme 1, using technology to differentiate instruction to support ELL readers, all teacher participants used instructional technology in ways that exemplified the substitution of the SAMR model. Substitution includes simply trading a nondigital classroom activity or experience and choosing a digital one instead. An example would be using a Google document instead of notebook paper. However, none of these teachers discussed or indicated a need for training to substitute technology during instructional situations. The native and immigrant teachers demonstrated competency through observation and communicated efficacy in substituting technology. Therefore, only Theme 1 was demonstrated in this element of the SAMR model.

Most teachers used Google docs to have students simply type responses electronically instead of using pencil and paper. Students were not required to submit the document to the teacher electronically once completed. One teacher participant used LightSailed was in a way that exemplified substitution by having the students read an e-book without the audible features turned on. Once the students finished reading the book, they did not take an online comprehension test nor use the instant feedback feature provided through the software.

Augmentation

All the teacher participants modeled using instructional technology in ways that exemplified augmentation of the SAMR model. Evidence of augmentation includes any instance that teachers used a digital tool to share images, inform instruction, or submit assignments. Teacher interview and observation data did not indicate a need for additional training in augmenting technological instruction. Therefore, only Theme 1 was evidenced in the augmentation part of the SAMR model.

Three of the teacher participants used their Promethean boards to show lessons, have students watch videos, show images, or engage students in whole group instruction. Some teachers used Google docs instructional technology during small group instruction to have students type answers to questions in assignments. Several teachers had student groups use ReadWorks to type answers to comprehension questions after students finished reading passages.

All nine teachers included instructional technology to be used for student reading in their lesson plans. Teacher participants listed various types of instructional technology in their plans such as PowerPoint, Easy CBM, and ReadWorks which exemplified the augmentation of the SAMR model.

Modification

The three digital natives and one of the digital immigrants modeled using instructional technology in ways that exemplified modification of the SAMR model. Modification includes replacing traditional classroom tools with digital tools to offer audible options, chat features, or online collaborative feedback. There was evidence of

modification for differentiating instruction for ELL readers in lesson plan and observation data. Participants also discussed modification in the interviews thus providing evidence for Theme 1. However, only interview data indicated a need for additional training on modifying technology for supporting ELL readers—the lesson plans and observation data did not inform Theme 2 on this construct. Therefore, Theme 1 and 2 were evidenced in the modification part of the SAMR model.

Most teachers use of instructional technology showed modification of the SAMR model. Teachers assigned technology use for students based on their reading levels by selecting software with audible features to support student understanding during the reading block. Often, the technology used during instruction for ELLs offered access to audible features to have the passage or assignment read to the student or students had access to features that revealed definitions of unknown words. Technology programs such as Epic, Freckle, IReady, IStation, and ReadWorks were used to support ELLs at different reading levels. IReady, Imagine Learning, and IStation were included as exemplifying modification of the SAMR model because of the adaptative features of the technology such as the audible features and the program selecting reading passages based on the student's performance.

How teachers used instructional technology for student groups also depicted the inclusion into modification of the SAMR model. Some teachers had students use Google docs to type and complete assignments, then email the assignments to the teachers The assignment required one student to save and share (via email) their document to a peer. The peer then opened the email, read the students work, and provided feedback by

inserting comments to parts of the shared document. Mr. Brown used Google Docs daily because he felt comfortable navigating it for reading instruction and could easily teach it to the students. Google documents, as used during the lesson, was considered as Modification on the SAMR model given that the students were reading, typing answers, and sharing the document with the teacher for feedback.

The more teachers understood about using a specific type of technology, they would use it more often for their ELLs during reading instruction. Other technology, such as Epic, offered audible features and students had the autonomy to choose from hundreds of electronic books. The program also offered teachers the opportunity to select and assign books for students to read instead of teachers and students losing instruction time to visit the media center to check out new books during the week. Students' instruction was modified when they used audible features to have the books read to them.

Although teacher participants referenced multiple types of instructional technology used during reading, specific technology was desired for their ELLs. Teachers assigned technology programs to students based on performance or reading levels, technology that included audible features that are not available in bond books or hard copies of documents and teachers used it to assist them in monitoring student progress in real time exemplified as Modification, significant redesign of the project or task in the lesson, of the SAMR model.

Redefinition

None of the teacher participants showed exemplification of the SAMR model when using technology with their ELLs. Although the interview, observation, and lesson

plan data provided evidence of substitution, augmentation, and modification, the transcriptions and instructional plans showed no evidence that these participants knew how to redefine instruction with technology to support ELL readers. The observations of classroom instruction showed many technological uses; however, redefinition was not observed. This lack of evidence indicates a gap in practice.

For example, there was a total of 27 types of technology used amongst the teacher participants; however, none of the teachers' demonstrated ways in which the technology was used to create new tasks that would have been impossible by the omission of the technology. Some teachers used Google docs to have students share completed assignments or provide feedback to peers, but student use of technology is different from redefining lessons with technology. Teacher data did not demonstrate that lessons were redefined using technology by having students create a task or product that were inconceivable and could not have been achieved using non-digital classroom tools. Although the data indicated regular use of technology, the lack of redefinition may indicate a concern for creating instruction that was dependent upon technology.

Redefinition assignments and activities provides ELLs with opportunities to engage in authentic, real life learning experiences using technology, and are provided with language and reading support (Jones et al., 2022). Teachers can expose students to experiences such as virtual pen pals or inviting an author to class through Zoom or Teams to support reading instruction. ELLs receive and make powerful connections when they can experience real-time virtual trips instead of simply watching a video. These forms of activities provide ELL students with engagement opportunities unachievable without the

technology (Siefert et al., 2019). However, the data indicated that no teachers were redefining their lessons with technology.

Summary

The findings support that teachers used instructional technology in ways that exemplified the substitution, augmentation, or modification of the SAMR model; however, they did not use it to exemplify the redefinition of the model. Many teachers chose and used technology for their ELLs based on student reading levels as well as the features provided through the technology. Teachers referenced an array of technology to use during reading for ELLs, yet none of the ways the technology was used exemplified the redefinition of the SAMR model.

Project Deliverable as an Outcome of Results

I studied the data from participants' interviews, observations, and lesson plans. Three themes emerged to answer the three research questions:

Theme 1: Elementary teachers believed that using technology to differentiate instruction helped them teach reading to ELL students.

Theme 2: Elementary teachers understood that knowledge of software programs, types of technology, and their use for instruction and learning depend on current and ongoing training.

Theme 3: Elementary teachers identified ELL student proficiency in English and parental support at home as barriers to technology integration.

The teachers said that using technology to differentiate instruction helped them teach reading to ELL students. Based on their beliefs, teachers used programs/software

such as Imagine Learning, Google docs, Light Sailed to differentiate instruction for students by using replay options, the audible and definitions features embedded in the programs, the student's autonomy to select books presented through the program or ones assigned by the teacher. This was to enhance literacy and language skills, adapt or modify reading assignments, personalizing student learning, and/or accommodate students' language proficiency levels (Ding et al., 2019).

Teachers' knowledge of software programs, types of technology, and their use for instruction and learning were critical to their reading instruction (Ding et al., 2019). Technology was useful for working with small and large groups of students. Teachers modeled how to use different programs and technologies so students could demonstrate what they had learned and teach their peers, plus teachers created assignments that compelled them to provide oral and written feedback to students about their work (Gonzalez, 2020). Regardless of their expertise with the technology and software programs they currently used, they did express a desire to learn more about new technologies and programs that could extend the students' reading performance.

Elementary teachers were concerned with ELL students' proficiency in English and parental support at home. In many instances, teachers were unsure what school experiences their ELL students had as well as their level of English competence. When ELL students have not attended formal education in previous years or communities, they may not understand school expectations and/or school routines. Minimal school experiences coupled with poor reading comprehension are hurdles teachers must overcome, which technology use may not overcome (Abdullah et al. 2021). Classroom

teachers are expected to prepare students with on grade level instruction for reading and across the curriculum and to prepare them for the following grades. This expectation is added responsibility for teachers as well as ELL students who are learning to read and reading to learn (Kalinowski et al., 2020). Selecting appropriate the technologies and software programs to assist the teaching and learning processes is essential (Bower, 2019).

Support at home is the second barrier teachers identified. They realized that parents of ELLs often did not speak, read, or write English, and did not support English spoken in the home. This was compounded by no incentive to use a secondary language or the necessity to have or use technology or the internet. These restrictions decrease student progress in reading, because without opportunities to practice reading skills in the home, ELL students reading experiences are confined to the school classroom (Luo et al., 2021).

Despite the various types of technology used during reading for ELLs, such as Google docs, Istation, IReady, Epic, Imagine Learning, and PowerPoint, they did exemplify augmentation and modification of the SAMR model in the classroom. However, redefinition was not evident. Teachers of ELLs need to know how to use instructional technology for students' specific language levels to enhance (substitution or augmentation) or transform (modification or redefinition) students' reading according to the SAMR model (Li, 2020). The findings showed that ELL teachers need professional development on instructional technology use, specifically for (a) reading differentiation, (b) training on instructional technology for reading, and (c) overcoming barriers to using

instructional technology. As such, I propose a series of professional development sessions for ELL teachers on using the SAMR model to move their use of instructional technology along the spectrum of enhancement-substitution and augmentation towards the spectrum of transformative-modification and redefinition of the SAMR model.

Summary

A qualitative multisite case study was used as the methodology for this project study. A purposeful sample of 3-5 Grade elementary school reading and ESOL teachers were selected from multiple schools in the local district to be participants in the study. The data collected from observations, lesson plans, and semistructured interviews revealed teacher participants used various types of instructional technology during reading for their ELLs. All participants shared how they chose instructional technology to use for their ELLs depending on the student's reading level and English language proficiency. Participants placed an emphasis on knowing which technology to use for students' specific language and reading levels; oftentimes they mentioned instructional technology with features that included audible options, animation, and were easy to use for both students and teachers. Participants also revealed how students' primary language influenced their use of instructional technology for reading at home.

The data did not show one exclusive type of instructional technology to use for students at specific reading levels, but there were various types of instructional technology used during reading instruction for their ELLs. Teachers reported being overwhelmed with the amount of available instructional technology but would often select instructional technology with audible features or visuals. They also voiced

frustration with the amount of time it took to learn some of the instructional technology that could be better suited for their students use during reading instruction. They also voiced concerns with the using off-contract work hours to self-train on using instructional technology. During the reading block observations, teachers used different types of instructional technology for student reading instruction; however, they did not select technology that required students to transform or move beyond the assigned lesson. Teachers need support in knowing which the better researched instructional technology is to use for ELLs specific language and reading levels to further enhance and transform student reading instruction.

In the subsequent section, I will provide a description of the professional development project. Section 4 encompasses reflections and conclusions of the project's strengths and limitations, recommendations for alternative approaches, scholarship, project development and evaluation, and leadership and change, reflection on importance of the work, implications, applications, and directions for future research, and the conclusion.

Section 3: The Project

Introduction

In this multisite qualitative case study, I explored teachers' perceptions of their use of instructional technology and their demonstration of it during reading instruction of ELLs in Grades 3–5. Based on the findings of the study, I designed a project to offer support for Grade 3–5 ELL teachers who use instructional technology during reading instruction for students at various language and reading levels. The findings showed that ELL teachers need professional development on instructional technology use, specifically for (a) reading differentiation, (b) implementing appropriate instructional technology, and (c) overcoming barriers to implementing instructional technology. These themes indicate that teachers need professional development in using instructional technology with game-like, audible features based on ELL student's reading levels; selecting instructional technology with adaptative features; and using/organizing instructional technology for reading instruction that parents can implement at home to assist students.

Rationale

The most appropriate project study deliverable was a set of professional development sessions involving the best practices for instructional technology use for ELLs' reading growth based on their ACCESS language tiers, reading levels, and the SAMR model. I selected professional development as the project based on the themes found in the study. The professional development sessions will allow for the progressive implementation of "deeper thinking and learning, authentic work, student agency and personalization, and technology infusion" based on teacher and student needs (McLeod &

Graber, 2019, pp. 12-13). The sessions also will provide teachers with continuous, appropriate support throughout the school year. Numerous studies have been conducted in support of professional development; however, for professional development to be effective, it must be content focused, have participant collaborative engagement, allow for active learning, allow for opportunities of modeling, include feedback and participant reflection, and be sustainable over a period (Codding et al., 2021).

I considered a self-paced virtual workshop as the format for the professional development sessions. Although some teachers would benefit from the format, I did not choose this format because teachers must show competency in computer technologies, including software programs, and be self-motivated to engage in learning virtually to successfully navigate online learning independently (Karatas & Arpaci, 2021). A self-paced virtual workshop could provide teachers with knowledge while removing the presence of live human collaboration, infallible shared experiences, and dialogue found in face-to-face professional development.

Review of the Literature

Elementary school ELLs within the same grade level have varying reading levels, and this diversity could stem from a myriad of reasons, such as a student's lack of proficiency in their native spoken language, language spoken at home, or a combination of both (Codding et al., 2021). These reading levels directly impact student learning, reading comprehension, and scholastic success. Teachers must have a strong foundation of content knowledge to successfully support student achievement and be provided with effective professional development (Codding et al., 2021). Therefore, providing teachers

with opportunities and supports to build knowledge of using appropriate technology during instructional delivery, methods to address technology integration barriers, and differentiating student instruction technology can be addressed through professional development.

Conducting the Search

To complete this review of literature on how to address teacher concerns with using technology in the classroom to support ELL students, I used the following databases and search engines: Academic Search Complete, Dissertations & Theses @ Walden University, Education Research Starters, Education Source, ERIC, Google Scholar, LearnTechLib—The Learning and Technology Library, ProQuest Central, ProQuest Dissertations and Theses Global, Sage Journals, ScholarWorks, Taylor and Francis Online, Teacher Reference Center, and Thoreau Multi-Database Search. I used a combination of search terms and phrases to conduct the literature review on the project genre, including *differentiation, instructional technology, technology in the classroom, technology in education, instructional technology use, elementary, elementary schools, elementary students, primary students, elementary English Language Learners, ESOL, ELLs, English as a Second Language, reading, reading instruction, reading comprehension, instructional software, adaptative, adaptative instructional technology, instructional technology in the classroom, instructional technology for differentiation, student engagement, student instructional technology engagement, student reading levels, student reading abilities, barriers, barriers using instructional technology, parent concerns with technology, instructional technology and homework, home-language,*

parent communication barriers and homework, student home language, professional development, professional development and instructional technology, professional development for teachers, and *professional development for teachers and instructional technology.* The resulting sources were verified as peer reviewed using Ulrichweb via the Walden University Library.

Saturation of the Literature

This literature review includes 28 peer-reviewed articles that were published in 2018 or later. These articles include studies of reading, instructional technology, barriers of implementing instruction technology, and teacher professional development for instructional technology. I also reviewed articles identifying the most appropriate instructional technology for student instruction and using instructional technology to address the barriers of implementation for instruction.

Professional Development for Identifying and Using Instructional Technology

Student reading levels influence the type of instructional technology they can independently use with success. The most impactful styles of instructional technology to address student reading levels and comprehension include those with speech-to-text, digital-game-based learning, multimedia learning and socialization, text-to-speech recognition, and those with mobile technology learning (Zhang & Zou, 2022). Researchers have found that gaming formats had an overall positive influence on student learning, knowledge, and engagement with technology-assisted language knowledge (Zhang & Hou, 2022). Digital platforms, multimedia, and interactive software can enhance and support student reading achievement.

Instructional Technology Differentiation

Teachers who have received varying degrees of instructional technology professional development may have contributed to increases in student achievement. Most teachers have found engaging in professional development programs necessary to counter their lack of knowledge with websites and applications (Taghizadeh & Yourdshasi, 2020). Kolobe and Mihai (2021) found that the reading development of ELLs was supported when teachers use instructional technology with students during instruction. Teachers need professional development on selecting the most beneficial instructional technology for student use and how to use it for classroom instruction (Alghasab et al., 2020). Teachers were successful with addressing student's various reading levels when exciting and interactive instructional technology, such as YouTube, videos, games, simulations, digital story-reading, and Smart Boards, were used for student engagement during reading instruction (Kolobe & Mihai, 2021). These types of instructional technology include engaging multimedia images and audio for students at various reading levels. Likewise, researchers such as Mudra (2020) have agreed that instructional technology is beneficial when used during reading for students. Since ELLs can often enter a grade level reading several grades below proficiency, instructional technology with interactive, adaptative, animated, or game-like features have proved to be of value (Kolobe & Mihai, 2021). Hou (2019) found that students' reading comprehension improved when using interactive response systems, explaining that students enjoyed using technology systems, such as Kahoot and Socrative, because of the appealing game-like features embedded in the systems. Furthermore, despite their reading

levels, students showed improvement in their reading comprehension when they engaged in group discussions and student group collaboration using instructional technology (Hou, 2019).

Professional development on the specific unfamiliar aspects of instructional technology build more teacher confidence when implementing it during instruction (Ottenbreit-Leftwich et al., 2018). Furthermore, when provided with intentional professional development, teachers are better able to select the appropriate technology to impact students' learning (Liman & Karadeniz, 2021). Professional development is important because it may contribute to the student's academic success or their failure of content mastery when using the technology selected by the teacher. Teachers are better able to implement instructional technology and support students when they are provided with professional development.

Teachers have voiced concerns when placing their ELLs on instructional technology to complete assignments that require them to read independently (Ahmadi, 2018). Joswik and Mustian (2020) reported that both teachers and students need consistent support to ensure instructional technology is being used effectively. They found that when the teachers were provided with professional development both before and throughout the study, they reported they were motivated to continue using the instructional technology. In sum, teacher confidence with using the technology was supported by the professional development provided to them.

Teachers that have been provided with professional development on using mobile application rubrics were able to identify students' strengths and areas of growth when

using instructional technology (Mize et al., 2020). The researchers indicated that supporting students in successfully using instructional technology based on their reading levels involves teachers identifying the reader's independent strengths and their needs. Mize et al. (2020) stated that teacher knowledge and the interactive technology's multifaceted features supported students' Lexile levels, progress, and achievement.

Taylor et al. (2020) explained that teachers should consider student's specific reading deficiencies when selecting and assigning apps. Teachers can fully utilize most aspects of instructional technology for student instruction when they are provided with adequate professional development. Technology programs should be chosen that can address individual skills, such as letter patterns, and offer visuals for students during instructional use (Mize et al., 2020). In other words, the authors suggested that teachers receive explicit professional development on these types of features when selecting technology for reading instruction.

Teachers that used instructional technology during reading helped increase student achievement and engagement during reading lessons. Mudra (2019) found that young ELLs showed improvement when using digital technology during reading. Students' instructional technology knowledge banks often extend far beyond the instructor because they understand the value and implied importance of instructional technology use (Meirovitz & Aran, 2020). Mudra determined that students were more motivated to be engaged in the reading assignments when technology was used for instruction (Mudra, 2019). Teachers need professional development to extend their pedagogical and technological knowledge because school-aged children are digital

natives who are comfortable using various types of technology (Liman & Karadeniz, 2021). Mudra also found that students showed more interest, eagerness, and willingness to participate in the assignment when it was animated, exciting, and had interactive texts. Moreover, it has been found that students should have access to technology with visuals that are engaging and motivate them to participate in the reading lessons being taught (Conn et al., 2019). Conn et al. (2019) suggested that students' reading levels are supported when technology features integrate the use of visuals and helping students understand the meaning of words. For teachers to introduce and implement engaging, interactive instructional technology in the classroom, they must be afforded professional development opportunities to venture beyond traditional use.

Choosing and Implementing Instructional Technology

Professional development aids teachers in understanding the nuances of implementing instructional technology in the classroom (Kolobe & Mihai, 2021). In a study of primary school ESL students, Teng (2019) found that students' reading comprehension improved when the use of captioned and audible videos were included in the reading lessons. The combination of pictures and words, audible stimuli, and readable captions appeared to help ESL primary students reading levels by helping students develop and understand the connections between spoken and printed words. Furthermore, the use of captions impacted student comprehension by connecting background knowledge and previous comprehension strategies taught (Teng, 2019). Despite the technology selected and used to support student reading levels, teachers should first determine whether children have English skills to ensure they are successful to

comprehend Language 2 video input (Teng, 2019). Teng emphasized that teachers' participation in technology professional development and student English proficiency should be some of the main factors when selecting student instructional technology.

Rombot et al. (2019) discovered that through blended learning, more students demonstrated greater improvement in reading levels when they could read and hear the reading texts presented over and over. Their findings showed that blended learning gives them more time to review, interpret, and comprehend sentences that are more challenging to understand in print. Student accessibility to appealing, eye-catching, and interactive digital comic reading texts can also increase student reading levels and promote their interest in reading (Rombot et al., 2019). These authors illustrated how the inclusion of questioning strategies and features in programs, such as Kahoot! and Socrative, can be a pedagogical activity in English First other Language reading courses and how it enhanced students' learning, which could contribute to increases in students' reading levels. The researchers found that students were excited and looked forward to game-like lessons like Kahoot! Moreover, students were deeply engaged when the system was used and found the game-like system to be particularly appealing. As a result of the interaction with the program, students displayed better mastery of the material being taught (Hou, 2019). In other words, teacher instructional technology professional development on the uses of interactive engagement with their students appeared to improve student comprehension of the lesson content.

Samat and Aziz (2020) found that the school community should embrace a culture of incorporating multimedia, visuals, and auditory features in their lessons. They

discovered that this practice might help students understand visually what is difficult to understand abstractly. Teachers should also deliberately prepare lesson materials that have interactive features and include appealing multimedia videos (Samat & Aziz, 2020).

Considering teachers' beliefs on using instructional technology in the classroom, professional development creates opportunities for teachers to become innovators with technology or cause teachers to defy change while viewing it as a waste of time (McGinn & Song, 2018). As with any classroom, teachers will need to choose technology that is as student individualized as possible, offer student-specific adaptations for student reading levels, and address the skills where students need more support to see growth (Van Allen & Zygouris-Coe, 2019). Instructional technology can be used to differentiate reading lessons to address each student's reading level and increase their overall reading achievement.

Professional Development to Address Implementation Barriers

Technology use does not come without perceived challenges from the users. Teachers are constantly being presented with new initiatives and requirements to address student learning, and there are no exclusions when using instructional technology in the classroom (Van Allen & Zygouris-Coe, 2019). Teachers have expressed frustration using instructional technology within the time constraints allotted in a school day (Hamutoglu & Basarmak, 2020). School districts' expectation of schoolteachers is that the full curriculum provided be taught during the instructional day, which often includes using instructional technology in the content area. Teachers have cited multiple barriers that often prevent them from wholly using instructional technology while also adhering to the

curriculum (Van Allen & Zygouris-Coe, 2019). Some teachers have acknowledged that their competency in using instructional technology has hindered them from using instructional technology as much as they would like. Teachers who engage in technology professional development increase their competence for using technological tools to support student academic growth and achievement (Taghizadeh & Yourdshahi, 2020).

Alsuhaibani (2019) discovered that teachers need training in how to switch from using instructional technology that is teacher-centered to using instructional technology that is more student-centered. Younger teachers were more inclined to use instructional technology in their classroom than teachers with more years of experience (Kolobe & Mihai, 2021). They were more willing to use instructional technology in innovative ways that allowed students more creative freedom using instructional technology (McGinn & Song, 2018). Offering professional development that encourages teachers to use opportunities to collaborate with colleagues increased dialogue, which in turn increased teachers' willingness to use instructional technology during instruction (Alghasab et al., 2020; Ottenbreit-Leftwich et al., 2018).

Teachers have also cited a barrier as the additional time it takes to effectively research instructional technology to use during instruction. Teachers have expressed their resistance to spend time learning new software and technology programs unless they see how it might directly impact their students (Alghasab et al., 2020). They have stated that they want options when professional development is concerned with technology. Some teachers have voiced they would like to have professional development that allows them to work collaboratively with colleagues, offer self-paced modules, or offer some hybrid

model. Professional development pertaining to instructional technology use should be engaging, offer choice, and stress the importance of the unified belief in the potential of technology use during instruction (Chen et al., 2020; Codding et al., 2021). To put it another way, teachers' participation in professional development that is supportive in using instructional technology can see the benefits of using it more in their classroom.

Instructional technology use outside the school and classroom has been shown to benefit scholars. Yet, teachers sometimes opt against having students use instructional technology outside of school. Teachers have stated various reasons against mandating the use of instructional technology outside of the classroom. Levinson (2018) stated that inequitable internet availability, student access to appropriate devices, spoken home language, and cultural practices were barriers inhibiting families from using instructional technology outside the school. Schools that provide professional development for teachers can support parents' use of instructional technology engagement with their child to assist in their child's achievement growth (Duraku & Hoxha, 2020; Kryeziu et al., 2021). Parents can support their child academically by using curated technology devices, provided with digital resource options in the parents spoken language, and increasing parents' knowledge of student eBooks available (Levinson, 2018). Providing teachers with professional development to navigate the obstacles that arise with instructional technology use outside school helps to convey to parents the importance of student engagement in digital learning activities (Ozturk & Ohi, 2018).

Project Description

The professional development series was designed to provide teachers with strategies for best practices for selecting appropriate instructional technology for students based on their reading levels. The need for professional development was discovered through the participants' perceptions and uses of instructional technology for their ELLs. This professional development will use the word participant to refer to teacher participants within the K-5 grade band located in the southeastern region of the United States. The intent of the project was to provide support for ELL teachers who use instructional technology during reading for students at various language and reading levels. The goal of this professional development is to provide teachers with exposure to techniques, experiences, and increased instructional technology knowledge to support the educational success of ELL students. The project study's success will be measured by problem-solving unanticipated obstacles, accessing, and using resources, and the teachers' completion of the 3-day professional development.

Resources, Existing Supports, Potential Barriers, and Solutions

There are various resources that will be needed to guarantee the success of the professional development. One resource will be the time teachers need to participate in the 3-day training during the summer months at the end of the school year. A potential barrier could be teachers' unwillingness to commit to using 3 days of summer break to attend and participate in the professional development. A solution to this barrier may be to provide participants with a stipend for attendance. Another potential barrier could be participant's employment as summer school instructors when the professional

development is offered. A solution to this barrier may be offering a survey with multiple dates to gauge the most promising days to conduct professional development for most participants.

Another resource required for the success of the professional development is funding. It will be necessary for the local school district to purchase anchor text for each participant for this professional development as it is a crucial part for success. A potential barrier to the success of the professional development series could be minimal to no funding available. Funds would be needed to compensate the presenters as well as the participants. One solution to the funding barrier could be to offer the training to schools chosen as pilot schools for implementation, target schools that receive federal title one funds for professional development or submit a proposal to the local school's Parent Teacher Organization or the Parent Teacher Association for funding participants within the school.

Lastly, a location for meeting will be necessary. This project study is written for face-to-face meetings. A potential barrier could be lack of space for a group of participants as participants will need a location that has amble space for the resources needed such as their computer, mentor text, notepads and to have collaborative, group discussions. A solution to this barrier could be contacting personnel in the district office to inquire about free spaces available to accommodate the group or reaching out directly to the school to ensure adequate space is available.

Implementation and Timeline

The goal of the professional development series is to provide teachers with content and best practices for implementation of specific instructional technology to use with their ELLs during reading. Teachers will be active learners as they work collaboratively to discuss instructional technology programs to use during reading instruction to support ELLs at given ACCESS tiers. The timeline will be a 3-day professional development during the summer school months. Teachers will be provided with bi-monthly, hourly coaching sessions, and supports. Phase 1 of the professional development will be held 3 days during the month of June while teachers are off contractual hours. Phase 2 will begin the first month teachers return for the new school year and end with their last monthly meeting of the academic school year.

Participants

Participants for this professional development series will include all kindergarten through fifth-grade content area teachers, instructional and academic coach leaders, teacher leaders, and English support teachers who sign up for the professional development. Instructional coaches, academic coaches or teacher leaders will serve as supports for teachers to answer questions or address concerns during the weeks teachers do not have a professional development support session. The professional development will be offered to all K-5 grade teachers within the school district with the school district serving as the final decision maker of expectations of teacher participation. Social change will be more likely if all K-5 teachers participate in the professional development.

Phase 1: PreImplementation Sessions

The professional development will occur in two phases. The goal of the first phase is to provide teachers will instructional technology strategies using software or websites to support ELLs ACCESS and reading levels. The sessions are based on sample student data from the school district, the mentor text, SAMR model, and various forms of instructional technology. The instructional coach, academic coach, or teacher leaders will serve as facilitators for the collaborative sessions. Each session will follow a daily agenda (see Appendix A, Day one, two, & three Agenda) during the 3 days of collaborative work. Participants will be expected to bring a computer, the mentor text, and have access to a way of saving collaborative work from each session.

First, participants will be provided with background information on WIDA, ACCESS, student ACCESS scores, and student ACCESS band movement, proficiency standards. Participants will be provided with sample students' ACCESS data to analyze and discuss collaboratively with participants in the group. Participants will be provided with student grade-level reading standards based on the sample student data. The participants will identify types of instructional technology they would use to support specific student scores, then respond to question prompt on Padlet. Professional development for Day 2 will have participants gain knowledge about the SAMR model and the use of the Padagogy Wheel. Participants will then read and collaboratively discuss mentor text Chapters 1 and 2. Participants will take notes and journal their learning electronically using the platform of their chose. Participants groups will respond to question prompts based on Chapters 1 and 2 on Padlet. Participants will practice using

various platforms and software discussed in their collaborative groups. Participants will review the components of the SAMR model and Padagogy Wheel, read Chapters 3 and 5 of the mentor text, and engage in collaborative discourse with the group. Participants will select the instructional technology of their choice to create a reading assignment for the sample student, then use the information found in the mentor text to support the substitution, augmentation, modification, or redefinition the SAMR model. Participants will post completed collaborative group work on Padlet. Participants will complete a formative exit ticket at the conclusion of each daily session. The assessments will be used as an assessment of participant learning at the conclusion of all sessions.

Phase 2: Coaching and Feedback Sessions

The goal of Phase 2 of the professional development series is to support implementation and best practices. Once participants have had an opportunity to participate in collaborative work sessions with peers, they will use the new knowledge gained to implement the strategies learned. The second phase of the professional development will offer bimonthly virtual or face-to-face coaching sessions based on the availability of meeting spaces. Participants will only need to attend one of the two sessions offered. The sessions will provide participants with opportunities to share the strategies they have used, share evidence of implementation, and discuss challenges. The instructional coach, academic coach, or teacher leader will facilitate and provide feedback and support for participants. Prescheduled, focused observations will be conducted during classroom instruction to provide participants with real time coaching if desired.

The professional development coaching begins with more facilitator support with a gradual release to complete participant control. Participants will present instructional technology student work samples and discuss the technology infusion questions from the mentor text. Participants will then use the mentor text to redesign the lesson based on collaborative group feedback, then present the redesign during the next coaching session. The professional development will actively engage participants over an academic school year which provides participants with opportunities to collaborate with peers, apply new strategies and discuss how the implementation learned have impacted students' learning.

Roles and Responsibilities

K-5 grade teachers are integral in the project study. The role of teachers is to serve as an instructor for students, communicate effectively with parents, and teach the curriculum provided by the district. Instructional coaches, academic coaches, and teacher leaders are often the liaisons that redeliver the training from the school district. One of their responsibilities is to support K-5 teachers in implementation of district driven trainings, provide feedback, and support teachers through modeling best practices.

The professional development project sessions may contribute to social change by providing teachers with best practices to support ELLs technology use during reading. The implementation of best practices described in the professional development sessions help teachers develop greater instructional technology competency for classroom instruction, thereby contributing to an increase student's academic achievement. District and school leaders may adopt and implement this professional development to ensure K-5

teachers have knowledge in best practices of instructional technology use to increase ELLs reading growth and academic success.

Project Evaluation Plan

Evaluation is vital to ensure that participants are gaining new knowledge, the project maximizes time and efficiency, and the objectives are achieved. Effective evaluations should determine participants' overall satisfaction with the process and information delivered during the project study. The evaluations will be used to modify the current professional development sessions and provide feedback for future professional development sessions. The value of the project is confirmed when teachers, administrators, and district leaders can see improved effective changes to instruction and student achievement.

Goals of Evaluation

The goal of the professional development sessions will be to encourage more intentional use of instructional technology in the classroom to ensure best practices are used for ELLs to have equitable access to instruction. The effectiveness of the professional development series will be assessed through both formative and summative evaluations; The evaluations will occur throughout the professional development sessions to gage the project study's effectiveness.

Formative Assessments

A preassessment (see Appendix A) will be administered to each participant on the first day of the 3-day professional development sessions. The purpose of the assessment will be to assess participant's prior knowledge of ACCESS data and the SAMR model.

Additionally, teachers will complete formative assessment exit tickets at the conclusion of each daily session. The formative assessments will provide a snapshot into each participant's knowledge of the day's sessions. The question posed on the exit tickets will be reflective of the daily session objective. Teachers will complete the daily formative assessments by responding to a written prompt in Padlet. Padlet provides a format for responses to be viewed and saved after each session. The formative assessments will also capture if the daily objectives are being met.

Summative Evaluation

A summative evaluation will occur once during the project study to gather feedback from the participants. The first summative evaluation (see Appendix A) will be administered at the culmination of the Day 3. The post assessment will mirror the pre-assessment given at the beginning of 3-day sessions. The final evaluation will be completed by the participants, instructional coach, academic coach, and teacher leader at the end of the school year. Open-ended questions included in the summative assessment will help to determine new strategies learned by the participants, the comprehensive effectiveness of the professional development, and recommendations for refinement. The open-ended questions will allow for participants to expand their responses and pose questions for future professional development sessions. K-5 grade participants, teacher leaders, instructional coaches, and academic coaches' completion of the summative evaluation will inform and guide future professional development and serve to aid in the improvement of current sessions to maximize student's instructional equity.

Project Implications

The professional development sessions provide participants with knowledge and researched best practices for using instructional technology during reading for ELLs. The participants' perspectives of their use of instructional technology during reading for ELLs suggested the need for professional development with selection and use to increase teacher instructional technology competency, specifically for ELLS. The observation data collected could indicate that teachers were not using the most appropriate instructional technology during reading for ELLs. These observations suggested the need for professional development. The goal of the professional development sessions is to contribute to ELL students' reading achievement and success by providing participants with strategies and resources to better serve their students. Monitoring and responsive support will provide participants with critical feedback and support that leads to improved instructional practices and student learning.

For Social Change

This project has multiple implications for social change. The contribution to positive social change may occur through the professional development sessions by enhancing participant's competency with instructional technology use for ELLs. The best practices delivered in the professional development sessions will potentially increase participants instructional delivery to meet the academic needs of K-5 grade ELL students. Districts may be provided with additional knowledge to expand their awareness of best practices of instructional technology use for ELLs during reading for academic growth. Second, the local schools and school district adhere to the mandates given by the state to

provide access and equity for all students. The professional development sessions will provide teacher leaders, instructional and academic coaches with a strong foundation for leading and conducting sessions to ensure equity for all students. Lastly, district leaders and administrators may see the professional development sessions to ensure all K-5 teachers have access to understanding and implementing the sessions to improve student success.

For Stakeholders

The potential for positive social change of all stakeholders is understanding the guiding principles and institutional practices that school districts implement to enhance student learning. Social change for stakeholders suggests the importance of including stakeholder's ownership to help the community participate in these initiatives. Teachers' implementation of best practices from the professional development sessions may contribute to stakeholders' involvement with addressing the community needs and issues when collaborating with school districts. The involvement of all stakeholders is crucial for building community support, developing and maintaining good relationships, and demonstrating the value of stakeholder's input towards initiatives that may affect student's academic success.

Summary

In Section 3, the specific parts of the project deliverable were described and discussed. The professional development series is a 3-day collaborative learning experience grounded in the WIDA language standards and a book study about implementing instructional technology strategies to support the SAMR model framework

with ELLs. I included a rationale that justified the need for teachers to develop effective professional development and understand how to use instructional technology with more intentionality during and for instruction. I also included a literature review from the most recent 5 years, through which I examined professional development for reading instruction and overcoming barriers to implementing instructional technology. Section 3 also includes a summary of potential challenges and solutions that may arise, the plans for implementation, the method of assessment for effectiveness, and the implication for social change. In the next section, I will provide the limitations and strengths of my project and my reflections on the practical and scholarly aspects of this study.

Section 4: Reflections and Conclusions

In this section, I summarize the strengths and limitations of the project and discuss my recommendations for alternative approaches to the problem. Additionally, a reflective analysis of my personal journey and growth throughout the doctoral program is provided in which I reflect on what I have learned as a scholar, practitioner, and program developer and describe the new knowledge I acquired from conducting this study and the emphasis on positive social change in relation to my work. The section also includes a discussion of the implications, applications, and directions for future research before a conclusion for the study is provided.

Project Strengths

I created the professional development sessions to provide teachers with the knowledge and best practices for implementing instructional technology during reading instruction for ELLs. One of the project's strengths is that it could provide districts with professional development sessions to improve teachers' use of instructional technology as they design instruction for student learning to improve achievement. The intent of the project is to provide support for ELL teachers who use instructional technology during reading for students at various language and reading levels. Another strength of the project study is the continuous access to support. The implementation of the professional development is streamlined and practical for the school districts and local schools to allow for consistent support throughout the school year to implement the best practices from each session.

Project Limitations

In this project, I identified limitations in addressing the problem. The first limitation was the research study was based on specifically using the SAMR model as the framework and the mentor text, the 4-Shifts Protocol, to support how the framework could be used during content instruction.

Another limitation of planning the 3-day professional development was maintaining teacher commitment and engagement. Teacher participants will need to volunteer their personal time during the summer months to attend the professional development sessions. The results from the project study's findings suggested teachers need professional development to understand how the SAMR model framework could assist teachers in (a) reading differentiation, (b) implementing appropriate instructional technology, and (c) overcoming barriers to implementing instructional technology for ELLs during reading. These themes indicated that teachers often selected, valued, and used instructional technology with game-like features, audible features, and adaptative features for student's reading levels. These themes further indicated that language and parental support were barriers to using technology for reading assignments outside of school. The professional development would potentially increase participants instructional delivery to meet the academic needs of K-5 grade ELL students and provide districts with additional knowledge of best instructional technology reading practices for K-5 ELL students.

Recommendations for Alternative Approaches

One alternative approach for implementing this project to address the problem would be offering each professional development session during the school year. The coaching and feedback could be offered throughout the school year during weekly school and district collaborative planning meetings. Conducting the professional development sessions during the day and during the school year would allow for maximum teacher participation within MSDSUS. The local school and district vision of instructional technology use would be strengthened with the increase in teacher participants.

Another alternative approach for the project of this study would be to write a white paper. The white paper report would contain an explanation of the specific local problem and provide research-based recommendations for implementation. The white paper would also provide a detailed summary of the case studies and offer next steps for the study district.

An alternative definition of the problem could have been that it is unknown how local elementary school building leaders expect instructional technology to be used during reading for ELLs. A solution to this alternative definition of the local problem would be to provide the local school district's ELL department leaders with an opportunity to engage in collaborative discussions about using instructional technology in alignment with ELLs' ACCESS scores and the SAMR model. School building leaders would engage in collaborative discussions about best practices to look for in the classroom. It would be beneficial for the school district if school level leaders were part of the collaborative process because these leaders could then provide teachers with

guidance on how to integrate best practices into the classroom and into the local school's curriculum.

Reflective Self-Analysis

Scholarship

My journey as a scholar was one that required perseverance, desire, and commitment. The process of research is arduous and based on a system of detailed checkpoints to address one problem. I found it difficult to identify one research focus to address the local problem. There were so many microproblems that drew my attention away from the one main research question that could address the local problem. I was frustrated with the setbacks I encountered, but my desire to contribute to teacher knowledge and student achievement helped me see the bigger picture. My convictions towards promoting student achievement helped me to tenaciously continue the path to accomplishing my goals. I have learned much from this process and have increased my competency to become an expert in this education discipline. The path towards earning my doctoral degree has been one that has pushed me beyond the limits I thought possible. It was an emotional roller coaster that helped me to value and have greater respect for the pursuit and completion of a doctoral degree.

Growth as a Practitioner

The amount of growth I have achieved is a direct reflection of knowledge I have gained throughout this process. My desire to constantly refine my thoughts and clarify my ideas makes me an expert scholar. I have a greater understanding of American Psychological Association style. I have also enhanced my knowledge of the doctoral

research process regarding data analysis, frameworks, and data collection methods. I have learned to ask important questions pertaining to data and research and am now able to identify peer-reviewed studies and primary and secondary sources. Through gaining knowledge of the current qualitative literature and how it is relevant to addressing the local problem I have grown as an educator, scholar, and leader in my field.

Project Development

Growth as a Project Developer

I learned that the process of project development is based on data provided from the study. This process caused me to realize that the findings from the study would drive my decision to choose professional development as a project. Before I began my project study, I did not have a deep understanding of the research project and all it would entail. There were several parts of the project to consider when I was in the beginning stages. As the developer, I used the data collection processes to substantiate the problem of the local school district. I used the SAMR model framework to help develop of the project to address the local problem. The SAMR model framework had not been used as frequently in the field of elementary school research but was appropriate for my study. I had to consider and manage the amount of time needed to complete each activity. From there, I created the agenda, PowerPoint presentation, and speaker notes as well as gathered the resources needed for the daily sessions. Through data analysis, I concluded that professional development would address the needs identified by the themes discussed.

I am proud of the professional development sessions I created that will allow teachers the opportunity to improve their pedagogical understanding of instructional

technology use for ELLs. My research has helped me to continue learning and developing as a scholar and share my practices with school leaders, teachers, parents, and students.

Leadership and Change

I have learned that effective leaders are agents of change. I am a passionate educator and have convictions of being a lifelong learner and leader in my field. As an instructional leader, I am charged to serve as an educational support for our leadership team, teachers, parents, and students. As a mother of a child facing the challenges of learning disabilities, I am invested in helping students become the best versions of themselves throughout their elementary school education. My desire to bring positive social change at the local school district gave me the desire to complete this project study.

I have had many leadership roles in my career. From grade team teacher leader to academic support coach, being a leader has presented me with opportunities for growth in my career. My leadership role as a classroom teacher was limited to the teachers, parents, and students on my team. Once my position changed and I moved beyond the classroom, I witnessed the influence I could have on sharing, modeling, and supporting best practices with every teacher, parent, student, and member of the school's administrative leadership team.

I try to lead by example each day I enter the school building. A good leader always starts with questioning why things are being done. As a leader, I try to inspire and help others grow as educators, challenge them to reach each student, and embrace the leaders within themselves. I am an agent for change, and as such, I have learned how to examine a problem, conduct quality research directly related to the problem, collect data,

analyze and interpret data, and allow the data to guide the direction for change. These skills have strengthened me as an agent for change and allowed me to contribute to change in education.

Reflection on Importance of the Work

It is rewarding to know that my work could affect student success, teachers' depth of knowledge, and my profession. In the professional development project, I provided the recommendations of the classroom teachers based on the needs identified from the themes. The professional development sessions can support and enhance the instruction provided in the local elementary ELL classrooms. This project is significant in ensuring that effective professional development is provided to support the needs of the teachers and diverse students at the local school and local school district. I learned that the importance of this study is in the positive social change it may provide the teachers and ELLs as new expectations and practices are used for instruction in the classrooms.

Implications, Applications, and Directions for Future Research

Social Change

This project has the potential to result in positive social change for the organizations, schools, and the classroom level for the ELLs within the MSDSUS. The study findings indicated a need for instructional support for implementing instructional technology in the classroom for ELLs. Sharing the best practices for using instructional technology for ELLs is the aim of the professional development project. This project could influence the district's ELL department by directly addressing the specific use of

instructional technology for ELLs in alignment to their ACCESS scores and the WIDA standards during classroom instruction.

Implications and Applications

The results of this project study can result in teachers' effective use of instructional technology during reading instruction for their ELL students. I created this project study to improve teacher practice and knowledge of instructional technology use for ELLs in the classroom through professional development. In the professional development sessions, teachers are taught to select and use instructional technology best suited for ELLs' language and reading levels. Teachers, students, and schools will benefit from the knowledge acquired from the professional development project. This addresses the problem under study to better align how teachers might use instructional technology during reading instruction for ELLs. A result of this shift in professional development could be an increase in the reading achievement of the ELL population. The potential changes that result from this professional development could ensure that schools incorporate instructional technologies into their instruction and teachers receive continuous support to develop their strategies within the SAMR model, leading to enhanced reading instruction and transformative instructional practices.

The recommendations in the project were based on the boundaries of this study. The first recommendation was ongoing professional development training for K–5 teachers regarding the best practices for implementing instructional technology during ELLs' classroom reading instruction. The implementation and continued use of the best practices gained from the professional development sessions would allow teachers to

incorporate the most beneficial instructional technology into their lesson plans. Their instructional technology selection will be based on ELLs' ACCESS data and WIDA standards for small group and independent student reading instruction. My second recommendation was that teachers be provided with timely and consistent coaching and feedback to reinforce the practices taught in the professional development sessions.

Direction for Future Research

The directions for future research are multifaceted. Future research may be conducted to determine the effects of professional development on the SAMR model's concept of redefinition. This project was limited to the responses of K–5 ELL teachers; however, valuable data may be gained by replicating this study for middle and high school teachers. Future studies may also be conducted to gain teachers' perspectives and understandings of instructional technology use in content areas other than reading.

Conclusion

This study shed light on the instructional technology use taking place during instruction for Grades 3–5 ELLs. The findings of this study could be used to positively impact change within the MSDSUS to improve instructional technology use for the reading instruction of ELLs in the classroom. I created a project with the goal of enhancing teachers' instructional technology use competency for reading through data analysis and collaborative practice. Education practitioners who employ the best practices from the professional development sessions and make efforts to continuously refine their use of instructional technology in the classroom may find some fulfillment in the growth and achievement their ELLs. Education practitioners who have strong knowledge and

understanding of reading instructional technology may find it possible to better close students' reading gaps. If K–5 teachers would effectively adopt and implement instructional technology in their classrooms, then they could assign lessons more specific to the needs of each student and see more student reading growth, more English language development, and more overall student reading content mastery. If Grade K–5 students demonstrate content mastery and show reading growth, then the school will have more students proficient at their grade-level reading. As a result, the more reading proficient students there are in Grade K–5 schools, the better students are prepared for reading content mastery in middle and high school.

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Appendix A: The Project

The objective of this professional development project is to provide participants with opportunities to increase their instructional technology pedagogy. The participants will work collaboratively to create grade-level appropriate ELL reading lessons based on the knowledge acquired from ACCESS scores, WIDA Standards, the SAMR Model, the Padagogy Wheel, and the mentor text.

Alignment of Project Objectives to Research Findings

PD Day	Objectives	Findings Addressed
1	• understand ACCESS scores and WIDA standards • create grade level appropriate independent, partner, and small group student assignments	(a) reading differentiation
2	• understand SAMR model and the big four shifts • revise or create grade level appropriate independent, partner, or small group student assignments using the SAMR model and mentor text	(b) implementing appropriate instructional technology
3	• understand SAMR model and The Pedagogy Wheel • create a grade level appropriate lesson and independent student reading assignments using the SAMR model and The Pedagogy Wheel	(c) overcoming barriers to implementing instructional technology

DAY 1

Day 1: Agenda

Session Title	**ACCESS Scores and WIDA Standards for Classroom Technology Integration**			
Session Date	**TBD**		**Session Time**	**8:00 a.m.- 4:00 p.m.**
Day 1 Objectives	By the end of this session, participants will: • understand ACCESS scores and WIDA standards • create grade level appropriate independent, partner, and small group student assignments			
Findings addressed	**(a) reading differentiation**			
Time:	**Process:** **As relevant, include guiding questions, activities, transitions, informal check for understanding, etc.**	**Materials:**	**Facilitator:**	**Procedures/Strategies:** **What instructional strategies and procedures will be used and followed?**
8:00-8:30	• Arrival, participant sign in, welcome, review of agenda/expectations/norms/ and the objective for the day • Pre-assessment	Sign in sheet	Instructional coach, Academic coach, or teacher leader	
8:30-8:35	Session 1: Video Introduction to WIDA	WIDA model YouTube video	Instructional coach, Academic coach, or teacher leader	
8:35-9:35	ACCESS for ELLS Interpretive Guide for Score reports	PowerPoint presentation	Instructional coach, Academic coach, or teacher leader	1. Introduce ACCESS • score reports • individual student scores • Context Matters! • Ways to Use Student Roster Reports
9:35-10:35	ACCESS for ELLS Interpretive Guide for Score reports	Activity Sort, tape, chart	Participants	1. Participants will work collaboratively to complete ACCESS

		paper, markers		proficiency level descriptor activity sort 2. Participants will collaborate to correctly sort either kindergarten or 1-12 grade standards in order using chart paper to display their groups' work 3. Each group will discuss with the whole group the decisions in selecting the order of standards
10:35-11:05	ACCESS for ELLS Interpretive Guide for Score reports	Sort, tape, laptop, internet access, chart paper, markers	Instructional coach, Academic coach, or teacher leader	1. The group will engage in discussion the correct order of the proficiency standards displayed on the facilitators' chart
11:05-11:20	Restroom Break		Participants	
11:20-12:00	Padlet Prompt	Padlet, computer	Participants	1. Participants will respond to Padlet prompt: What might be some obstacles to using a student's ACCESS scores for instruction? In what ways would you address those obstacles?
12:00-1:00	Lunch Break			
1:00-2:00	Teacher Work Period-Using WIDA standards and ACCESS scores for instruction	Sample student data, laptop, internet access, Microsof	Participants	1. Participants will work collaboratively to choose a grade-level reading standard based

		t Word, or Google Docs		on the sample student's data 2. Participants will create an independent student work, partner work, and small group pencil/paper reading assignments based on the sample students' ACCESS score and CAN Dos.
2:00-2:15	Restroom Break		Participants	
2:15-3:15	Session 2: Teacher Work Period- Using WIDA standards and ACCESS scores for instruction		Participants	**Continued** 1. Participants will work collaboratively to choose a grade-level reading standard based on the sample student's data 2. Participants will create an independent student work, partner work, and small group pencil/paper reading assignments based on the sample students' ACCESS score and CAN Dos. 3. Each group will present completed assignment to whole group for feedback.

3:15-3:35	Show Your Learning	Blooket, laptop, internet access	Instructional coach, Academic coach, or teacher leader	1. Participants will use game-like technology, Blooket, to answer questions pertaining to ACCESS and WIDA
3:35-4:00	Closing		Participants	Padlet Response 1. Participants will respond to the prompt posted: From your perspective, what is the one most important take away from today's session?

Next Session:

- Read anchor text chapters 1 and 2

Facilitator Prep:

- Check attendance roster
- Review participant responses on Padlet
- Review next day's PowerPoint presentation

Day 1: Materials

Time	Session	Materials	URLs
8:00-8:30	Arrival	• Sign in sheet	
8:30-8:35	Session 1	• YouTube video	https://youtu.be/IqXJbLNfAQ0
8:35-9:35	Session 1	• ACCESS for ELLS Interpretive Guide for Score reports • Pre-assessment	https://docs.google.com/forms/d/e/1FAIpQLSd6apfR_fWSd6h9z5Y85uZv5jxJ-ftHCuRpTC_V7Dm1E6ENpA/viewform?usp=sharing
9:35-11:05	Session 1	• ACCESS for ELLS Interpretive Guide for Score reports • Laptop • Activity sort • Tape, chart paper, markers	
11:20-12:00	Session 1	• Laptop • Padlet	https://padlet.com/ingrampollack/e6shsl3g9mlcgp1i
1:00-3:15	Session 2	• Sample student data • laptop, internet access • Microsoft Word, or Google Docs	
3:15-3:35	Session 2	• Blooket • Laptop • Internet Access	https://play.blooket.com/play
3:35-4:00	Session 2	• Padlet	https://padlet.com/ingrampollack/e6shsl3g9mlcgp1i

Day 1: Speaker Notes	
Day 1	**Key message**
slide 1	In this presentation, we will cover more in-depth, how ACCESS scores are derived and used for ELLs in content areas, and how the WIDA standards can be used to guide instruction.
slide 2	Review the agenda for the day and point of the scheduled break. Let participants know where they can locate restrooms in the building. • Ensure that participants have access to WIFI
slide 3	Introduce the norms. Depending on size of the crowd, select a few participants to respond. **Question**- Which of these norms do you value the most and why?
slide 4	Review the learning objectives for the day.
slide 5	Participants will need to access to WIFI to complete pre-assessment. • Participants will complete a similar post assessment during the last session.
slide 6	Click link in image to play video.
slide 7	Introduce the slide and pass out copies of guide to participants or participants can use the hyperlink to access the electronic interpretive guide. Read and lead a discussion over: • Understanding Scores (pg. 2) • Can Do Descriptors (pg. 2) • WIDA English Language Development Standards (pg. 2)
slide 8	Introduce the slide, read, and lead a discussion on: • Student Score Reports (pg. 4) • List of the Proficiency Level Descriptors (pg. 4) Participants should contribute heavily to the discussion.
slide 9	Introduce the slide, read, and lead a discussion on: • Context Matters! (5) • Scale Scores (pg. 5) Participants should contribute heavily to the discussion.
slide 10	Introduce the slide, read, and lead a discussion on Group Scores: • Student Roster Reports (pg. 10) • Uses for Roster Reports (pg. 10) Participants should contribute heavily to the discussion.
slide 11	Prepare participants for group sort activity by passing out the mixed sorts to groups and having the participants engage in discussion as they correctly sort the proficiency level descriptors by levels. • Encourage participants to use the verbs listed in the descriptors to help them correctly complete the sort

	• Lead each group in a discussion of how and why they selected each standard to level (pg. 12-14)
slide 12	There is a timer embedded in each restroom break slide. Click the image to begin the timer.
slide 13	There is a hyperlink embedded in the Padlet image. Click on the image to review the question response the participants will complete. The participants can use their device to type in the Padlet web address to answer the question. **Question**- What might be some obstacles to using a student's ACCESS scores for instruction? In what ways would you address those obstacles?
slide 14	Dismiss the participants for lunch. Click the image to begin the timer that is embedded in the image.
slide 15	Introduce the slide and tell the participants they will work with a partner or in a small group of three to complete the activity. Participants will be provided with the current school year reading standards by grade level, CAN DO descriptors, and sample student's data to complete the activity. Facilitate during the work period and provide support as each group engages in completing the activity. Reserve time to allow for each group to present their completed activity to the whole group and receive feedback.
slide 16	Introduce the slide and tell the participants will need either a mobile device or their computer to access Blooket. Each participant will enter the code projected on the audience screen to gain access as a player. Begin the interactive game by explaining the directions for completion. The participant who answers the most questions pertaining to ACCESS and WIDA correctly first will have their virtual vehicle progress across the screen the fastest. The vehicle that makes it across the finish line first is the winner for the session.
slide 17	Introduce the slide and tell each participant they will provide a response in Padlet. The participants are dismissed for the day they have answered the question. **Question**- From your perspective, what is the one most important take away from today's session?

Day 1: Professional Development Materials and Resources

Day 1 Materials: PowerPoint

Slide 1

WIDA

ACCESS Scores and WIDA Standards for Classroom Technology Integration

ACCESS for ELLs®

https://wida.wisc.edu/

Slide 2

Agenda

8:00-8:30- Arrival, Sign-in, Welcome, Review Agenda, Norms, Learning Objectives, pre-assessment

8:30-8:35- Introduction to WIDA

8:35-9:35- ACCESS for ELLS Interpretive Guide for Score Reports

9:35-10:35- ACCESS for ELLS group activity

10:35-11:05- ACCESS for ELLS standards

11:05-11:20- Restroom break

11:20-12:00- Padlet Response

12:00-1:00- Lunch

1:00-2:00- Teacher Collaborative Work Period (WIDA and ACCESS lesson)

2:00-2:15- Restroom break

2:15-3:15- Teacher Collaborative Work Period

3:15-3:35 Blooket Challenge Activity

3:35-4:00- Closing/Padlet Response

Slide 3

Learning Objectives

By the end of this session, participants will:

- Understand ACCESS scores and WIDA standards
- Create grade level appropriate independent, partner, and small group student assignments

Slide 4

Norms

METRO RESA
BUILDING LEADERS OF TEACHING AND LEARNING

Community
Respect each other.
Be vulnerable and authentic.
Agree or disagree openly and respectfully.

Equity
Allow equity of voice.
Engage in one conversation.
Use technology appropriately.

Service
Practice active listening.
Share your perspective.
Ask good questions.

Growth
Own your own learning.
Remain open to ideas and challenges.

Results
Honor our time.
Stay focused on task at hand.

Adapted from NCTM Affiliate Leader Meeting Norms and Expectations 2017

Slide 5

Pre-Assessment

Instructional Technology Use for English Language Learners

Pre-Assessment Survey

e20057428@dekalbschoolsga.org (not shared) Switch account

* Required

Name and position *

Your answer

How familiar are you with the ACCESS scores and the WIDA standards? *

	1	2	3	4	5	
no knowledge of them	○	○	○	○	○	very knowledgeable of the them both

How familiar are you with the SAMR model? *

	1	2	3	4	5	
no knowledge of them	○	○	○	○	○	very knowledgeable of the them both

What types of instructional technology do you use with your English Language Learners? *

Your answer

What new ideas do you hope to gain from these sessions? *

Your answer

What information will be of great value to you? *

Your answer

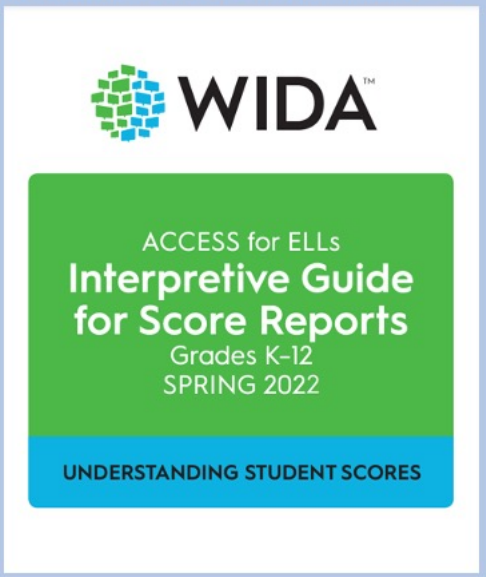
Submit Clear form

Slide 6

Introduction to WIDA

Slide 7

ACCESS for ELLS Interpretive Guide for Score reports



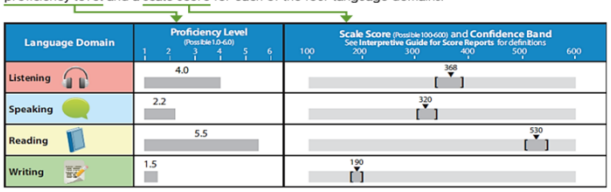
Slide 8

Student Score Reports

Individual Student Scores

Domain Scores

The Individual Student Report contains detailed information about a student's performance on each section of ACCESS for ELLs. It is primarily for students, parents or guardians, and teachers. It provides a snapshot of how well the student understands and can produce the language needed to access the academic content presented in an English-medium classroom. The Individual Student Report shows a proficiency level and a scale score for each of the four language domains.



Proficiency levels are interpretive scores. In other words, they are based on, but separate from, scale scores. The proficiency level score describes the student's performance in terms of the six WIDA English Language Proficiency Levels:

Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Entering	Emerging	Developing	Expanding	Bridging	Reaching

The proficiency level score is a whole number followed by a decimal. The whole number reflects the student's proficiency level, and the number after the decimal reflects how far the student has progressed within that level. For example, a student with a score of 3.7 is at proficiency level 3 and is over halfway toward achieving proficiency level 4. At the bottom of the Individual Student Report, each proficiency level achieved by the student is explained in terms of what they can do using English. A complete list of the proficiency level descriptors is included in this document.

Take care when comparing proficiency level scores across grades. A second grader with a 4.0 in Listening and a 3.0 in Speaking is demonstrating more developed listening skills than speaking skills. However, proficiency levels are relevant to the context of a particular grade level. A second grader with a 4.0 in Listening and an eighth grader with a 4.0 in Listening are exposed to very different, grade-level appropriate content as they test. While their score reports reflect the same proficiency level, the eighth grader is demonstrating more skill by responding to more challenging content.

It's also important to consider grade-appropriate expectations when students in different grades take the same grade-level cluster test. For example, when a sixth grader and an eighth grader take the grades 6–8 test and both earn proficiency level scores of 4.0, this is the result of the eighth grader earning a higher scale score. The eighth grader must perform better than the sixth grader to earn the same proficiency level score because the proficiency level is grade specific.

Slide 9

Student Roster Reports

Group Scores

Student Roster Report

The Student Roster Report contains information on a group of students within a single school and grade. Like the Individual Student Report, the Student Roster Report provides scale scores and proficiency levels for individual language domains and composite areas for each student, giving teachers, administrators, and program coordinators and directors an overview of their students' English language skills and a place to look for patterns in student performance.

Use the Student Roster Report...

- ... to identify patterns in student performance. Consult with colleagues about factors that might explain similarities and differences in how various groups of students perform.
- ... to verify that student scores reflect reasonable expectations. For example, you can expect that students new to an English medium school context or who have had limited or interrupted formal schooling will be at the lower end of the scale. For students with particularly high scores, consider whether their classroom engagement and schoolwork further indicate that they might be ready to exit language support programs.
- ... to group students for instructional planning or classroom support purposes.
- ... to develop school and district improvement plans or educator professional development opportunities that target the areas in which students are struggling.

ACCESS for ELLs Paper features two separate test forms for each grade-level cluster, an easier one (Tier A) and a more challenging one (Tier B/C).

ACCESS for ELLs Online features adaptive Listening and Reading tests, meaning students see easier or harder questions based on their performance. The tier shown on score reports reflects the average difficulty level of the questions the student answered.

The ACCESS for ELLs Speaking test is unique in offering a Pre-Tier A level. This test, intended specifically for newcomer students, doesn't allow students to earn a proficiency score above level 1.

WIDA | ACCESS for ELLs® English Language Proficiency Test

Torres, Carlos
Birth Date: | Grade: 04
Tier: A
District ID: WS99999 | State ID: 1

Student Roster Report

Tier	Cluster	Listening		Speaking		Reading		
		Scale Score	Prof Level	Scale Score	Prof Level	Scale Score	Prof Level	Sc Sc
A	1	352	6.0	391	5.7	352	6.0	31
A	1	228	1.9	391	5.7	273	2.4	36

Individual Student Rep

Slide 10

Context Matters!

Use proficiency levels...

- ... to make comparisons across domains but not across grades.
- ... with the WIDA Can Do Descriptors to develop a student-specific English language skill profile.
- ... as one of multiple criteria to determine a student's eligibility for English language support services.

Proficiency levels are grade specific. A fifth grader who earns a scale score of 355 is at proficiency level 4.0, while that same scale score for a third grader might generate a proficiency level score of 5.2.

Proficiency levels are domain specific. A sixth grader who earns a scale score of 370 in Listening is at proficiency level 4.3. That same student who earns a scale score of 370 in Reading has a Reading proficiency level of only 3.8.

Context matters! These three students have all earned a proficiency level score of 4 on grade-level appropriate tests. The eighth grader has demonstrated the most language skill by responding to the most challenging content.



2nd grade | 6th grade | 8th grade

demonstrated performance to earn proficiency level 4

Think of it like this: When students in different grades each receive an "A" on a math test, the equivalent grades do not reflect an equivalent knowledge of math. The student in the higher grade likely understands math concepts the student in the lower grade doesn't. Similarly, the grade 8 student in this example has shown the ability to understand and produce more language than the grade 2 student can, even though they are both at proficiency level 4.

Use scale scores...

- ... to make comparisons across grade levels but not across domains. A scale score of 355 in Listening is not the same as a 355 in Speaking!
- ... to monitor student growth over time within a domain.

Scale scores are a means of comparing equivalent knowledge across grades. However, increasing expectations at higher grades mean that scale scores do not translate to equivalent proficiency levels across grades. For example, consider how a scale score of 355 in Listening translates to a proficiency level score:

Grade 3	Grade 4	Grade 5
Proficiency level 5.2	Proficiency level 4.6	Proficiency level 4.0

Slide 11

Group Activity Sort

READING

Level	Students at this level generally can…
6	…understand written language in English from all academic classes, for example: • Evaluate written information from various sources of information • Conduct research and synthesize information from multiple sources • Distinguish various processes based on details in written texts • Recognize different ideas, claims, and evidence about a variety of issues
5	…understand written language in English from all academic classes, for example: • Summarize information on a variety of topics and for a variety of purposes • Compare ideas and information across various texts • Identify causes, effects, and consequences of events from written information • Recognize claims and supporting evidence around specific issues or concepts
4	…understand written language related to specific topics in school, for example: • Distinguish viewpoints and justifications described in editorials and other written texts • Identify main ideas and details in informational and fictional texts • Recognize biases and diverse perspectives in written text • Connect claims, evidence, and examples in a variety of written sources
3	…understand written language related to common topics in school and can participate in class discussions, for example: • Classify main ideas and examples in written information • Identify main information that tells who, what, when, or where something happened • Identify steps in written processes and procedures • Recognize language related to claims and supporting evidence
2	…understand written language related to specific familiar topics in school and can participate in class discussions, for example: • Identify main ideas in written information • Identify main actors and events in stories and simple texts with pictures or graphs • Sequence pictures, events, or steps in processes • Distinguish between claim and evidence statements
1	…understand written texts that include visuals and may contain a few words or phrases in English, for example: • Interpret information from graphs, charts, and other visual information • Comprehend short text with illustrations and simple and familiar language • Identify steps in processes presented in graphs or short texts with illustrations • Identify words and phrases that express opinions and claims

LISTENING

Level	Students at this level generally can…
6	…understand oral language in English and participate in all academic classes, for example: • Synthesize information from multiple speakers • Recognize language that conveys information with precision and accuracy • Create models or visuals to represent detailed information presented orally • Identify strengths and limitations of different points of view
5	…understand oral language in English and participate in all academic classes, for example: • Expand on others' ideas • Distinguish events, people, or situations from oral descriptions • Recall key information and details about processes or concepts discussed orally • Identify examples and reasons that support an opinion or viewpoint
4	…understand oral language in English related to specific topics in school and can participate in class discussions, for example: • Exchange information and ideas with others • Connect people and events based on oral information • Apply key information about processes or concepts presented orally • Identify positions or points of view on issues in oral discussions
3	…understand oral language related to specific common topics in school and can participate in class discussions, for example: • Connect spoken ideas to own experiences • Find, select, and order information from oral descriptions • Identify the causes and effects of events or situations discussed orally • Classify pros and cons of issues in discussions
2	…understand oral language related to specific familiar topics in school and can participate in class discussions, for example: • Identify main topics in discussions • Categorize or sequence information presented orally using pictures or objects • Follow short oral directions with the help of pictures • Sort facts and opinions stated orally
1	…understand oral messages that include visuals and gestures and may contain a few everyday words or phrases in English, for example: • Recognize familiar words and phrases in conversations • Match information from oral descriptions to objects, figures, or illustrations • Follow one-step oral directions • Show agreement or disagreement with oral statements

Slide 12

Slide 13

Padlet Response

Slide 14

Lunch

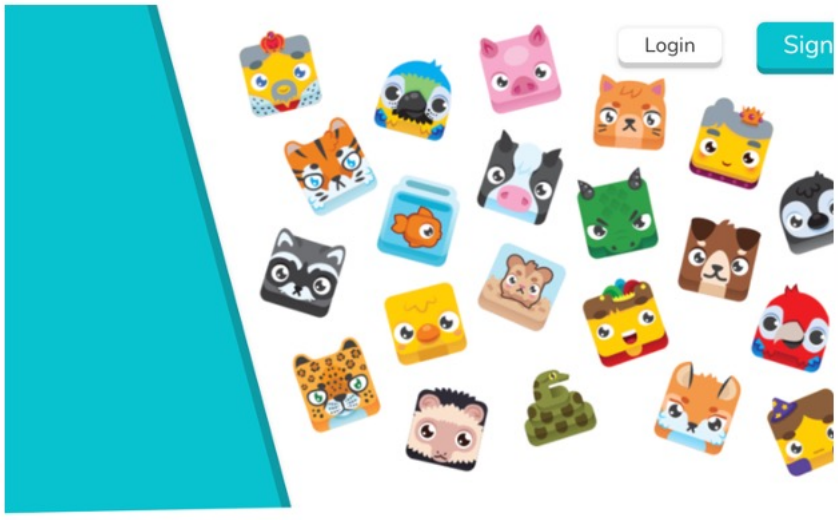
Return promptly at 1:00 p.m.

Slide 15

Teacher Work Period

1. With a partner or small group of 3, work collaboratively to choose a grade-level reading standard based on the sample student's data.
2. Create an independent student work, partner work, and small group pencil/paper reading assignments based on the sample students' ACCESS score and CAN Dos.
3. Be prepared to present each lesson to the group.

Slide 16



Slide 17

Padlet Response

DAY 2

DAY 2: AGENDA

Session Title	**Understanding the SAMR model for ELLs Classroom Technology Integration**			
Session Date	**TBD**		**Session Time**	**8:00 a.m.-4:00 p.m.**
Day 2 Objectives	By the end of this session, participants will: • understand SAMR model and the big four shifts • revise or create grade level appropriate independent, partner, or small group student assignments using the SAMR model and mentor text			
Findings addressed	**(b) implementing appropriate instructional technology**			
Time:	**Process:** **As relevant, include guiding questions, activities, transitions, informal check for understanding, etc.**	**Materials:**	**Facilitator:**	**Procedures/Strategies:** **What instructional strategies and procedures will be used and followed?**
8:00-8:30	Arrival, participant sign in, welcome, review of agenda/expectations/norms/ and the objective for the day	Sign in sheet	Instructional coach, Academic coach, or teacher leader	
8:30-9:30	Session 1: • Introduction to SAMR model article • How to Apply the SAMR Model with Ruben Puentedura • From your perspective, what parts of the SAMR model do you use the most in your practice with ELLs and why?	SAMR model YouTube video, article, PowerPoint	Instructional coach, Academic coach, or teacher leader	1. Participants will read article independently, then engage in group discourse to answer question pertaining to the SAMR model.

9:30-10:30	Harnessing Technology for Deeper Understanding Chapter 1 • What positives and benefits do you see about technology in classrooms for ELLs?	mentor text, teacher created lessons, PowerPoint presentation	Instructional coach, Academic coach, or teacher leader	1. Participants will read and discuss in small groups chapter 1 from the mentor text 2. Participants will join in the whole group discussion to answer the question presented from chapter 1.
10:30-10:45	Restroom Break			
10:45-11:45	Harnessing Technology for Deeper Understanding Chapter 2 • What do you like or dislike about each section? Why? • Which sections or items seem to be going well in your school? Provide an example.	mentor text, teacher created lessons PowerPoint presentation tape, laptop, internet access, chart paper, markers	Instructional coach, Academic coach, or teacher leader	1. Participants will work in small groups to read and discuss chapter 2 of mentor text. Each group will be assigned 1 of the 4 Big Shifts to share out with the whole group. 2. Each group will respond to the questions presented from chapter 2
11:45-12:00	Padlet Prompt • What might be some	Padlet, computer	Participants	2. Participants will respond to Padlet prompt

	obstacles to using the SAMR model to create instruction lessons for ELLs? In what ways would you address those obstacles?			
12:00-1:00	Lunch Break			
1:00-2:30	Teacher Work Period • Using student assignments created from day 1, apply the protocol from the text to analyze each student assignment	teacher created lesson, mentor text, laptop, internet access, Microsoft Word, or Google Docs	Instructional coach, Academic coach, or teacher leader	3. Participants will work with a partner and will use one of the lessons created in the previous session to apply one of the 4 Big Shifts look-fors and think - abouts from the text 4. Participants will provide examples from the lesson to each question response
2:30-2:45	Restroom Break			
2:45-3:30	Session 2: Presentations		Participants	1. Each group will present completed assignment to whole group for feedback

3:30-3:45	Show Your Learning	Blooket, laptop, internet access	Instructional coach, Academic coach, or teacher leader	2. Participants will use game-like technology, Blooket, to answer questions pertaining to SAMR model and mentor text chapter 2.
3:45-4:00	Closing • What ideas from today's sessions were novel to you and your practice?		Participants	Padlet Response 1. Participants will respond to the prompt posted
Next Session: • Read anchor text chapters 3 and 5 **Facilitator Prep:** • Check attendance roster • Review participant responses on Padlet • Review next day's PowerPoint presentation				

DAY 2: Materials & Resources

Time	Session	Materials	URLs
8:00-8:30	Arrival	• Sign in sheet	
8:30-9:30	Session 1	• YouTube video • SAMR Model article • PowerPoint	• https://youtu.be/ZQTx2UQQvbU
9:30-10:30	Session 1	• mentor text • teacher created lesson • PowerPoint	
10:45-11:45	Session 1	• mentor text	
11:45-12:00	Session 1	• Padlet	https://padlet.com/ingrampollack/e6shsl3g9mlcgp1i
1:00-2:30	Session 2	• teacher created lesson • mentor text • laptop • internet access • Microsoft Word, or Google Docs	
3:30-3:45	Session 2	• Blooket • Laptop • Internet Access	https://play.blooket.com/play
3:45-4:00	Session 2	• Padlet	https://padlet.com/ingrampollack/e6shsl3g9mlcgp1i

DAY 2: Speaker Notes

Day 2	Key message
slide 1	In this presentation, we will cover more in-depth, the SAMR model and the Big Four Shifts
slide 2	Review the agenda for the day and point of the scheduled break. Let participants know where they can locate restrooms in the building. • Ensure that participants have access to WIFI
slide 3	Introduce the norms. Depending on size of the crowd, select a few participants to respond. Question- Based on your session yesterday, which of these norms do you value the most and why?
slide 4	Review the learning objectives for the day.
slide 5	Participants will need to access to WIFI to use electronic versions of the articles. Prepare the participants by clicking the image to view the embedded video on the SAMR model. Follow up the video with a quick summary from the major points from the video.
slide 6-slide 8	Pass out copies the article "How to Use SAMR Model in Designing Instruction" or participants can view the electronic version of the article by . Allow participants time to read through the article independently, then present the following questions and facilitate participants' group discussion. **Question**: From your perspective, what parts of the SAMR model do you use the most in your practice with ELLs and why?
slide 9	Pass out the mentor text "Harnessing Technology for Deeper Learning" to each participant. Participants will work in pairs or small groups to read chapter 1 of the book. Project the question below on the screen and ask participants to keep the question in mind as they read the chapter and engage in discourse. Facilitate and provide guidance and support as needed. Reserve time for participant groups to present their responses to the whole group. **Question**: What positives and benefits do you see about technology in classrooms for ELLs?
slide 10	There is a timer embedded in each restroom break slide. Click the image to begin the timer.
slide 11	Participants will work in pairs or small groups to read chapter 2 of the book. Project the questions below on the screen and ask participants to keep the questions in mind as they read the chapter and engage in discourse. Assign one of the 4 Big Shifts to each group to share out with the whole group. Facilitate and provide guidance and support as needed. Reserve time for participant groups to present their responses to the whole group. **Questions:** What do you like or dislike about each section? Why?; Which sections or items seem to be going well in your school? Provide an example.
slide 12	There is a hyperlink embedded in the Padlet image. Click on the image to review the question response the participants will complete. The participants can use their device to type in the Padlet web address to answer the question. **Question**- What might be some obstacles to using the SAMR model to create instruction lessons for ELLs? In what ways would you address those obstacles?

slide 13	Dismiss the participants for lunch. Click the image to begin the timer that is embedded in the image.
slide 14	Participants will work with a partner to complete the activity. The participants will use the student assignments created from day one to apply one of the 4 Big Shifts protocols from the text to analyze each student assignment. Reserve time to allow for each group to present their completed activity with examples to the whole group and receive feedback.
slide 15	There is a timer embedded in each restroom break slide. Click the image to begin the timer.
slide 16	Participants will need either a mobile device or their computer to access Blooket. Each participant will enter the code projected on the audience screen to gain access as a player. Begin the interactive game by explaining the directions for completion. The participant who answers the most questions pertaining to the SAMR and chapter 2 of the mentor text correctly first will have their virtual vehicle progress across the screen the fastest. The vehicle that makes it across the finish line first is the winner for the session.
slide 17	Each participant will provide a response in Padlet. The participants are dismissed for the day they have answered the question. **Question**- What ideas from today's sessions were novel to you and your practice?

Day 2 Materials: PowerPoint

Slide 1

Understanding the SAMR model for ELLs Classroom Technology Integration

S-substitution
A-augmentation
R-redefinition
M-modification

Slide 2

Agenda

8:00-8:30- Arrival, Sign-in, Welcome, Review Agenda, Norms, Learning Objectives

8:30-9:30- Introduction to SAMR model and Application

9:30-10:30- Mentor text-chapter 1

10:30-10:45- Restroom Break

10:45-11:45- Mentor text-chapter 2

11:45-12:00- Padlet Response

12:00-1:00- Lunch

1:00-2:30- Teacher Collaborative Work Period (mentor text lesson creation)

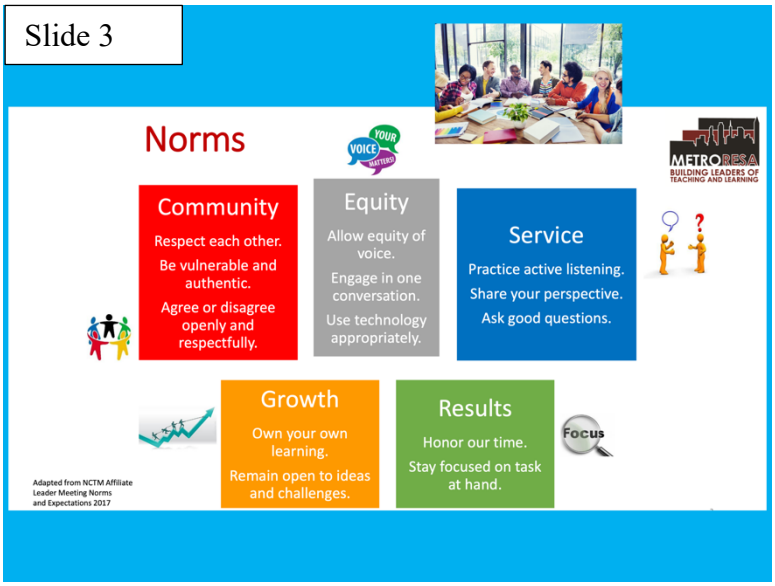
2:30-2:45- Restroom break

2:45-3:30- Teacher Collaborative Work Period (lesson presentations)

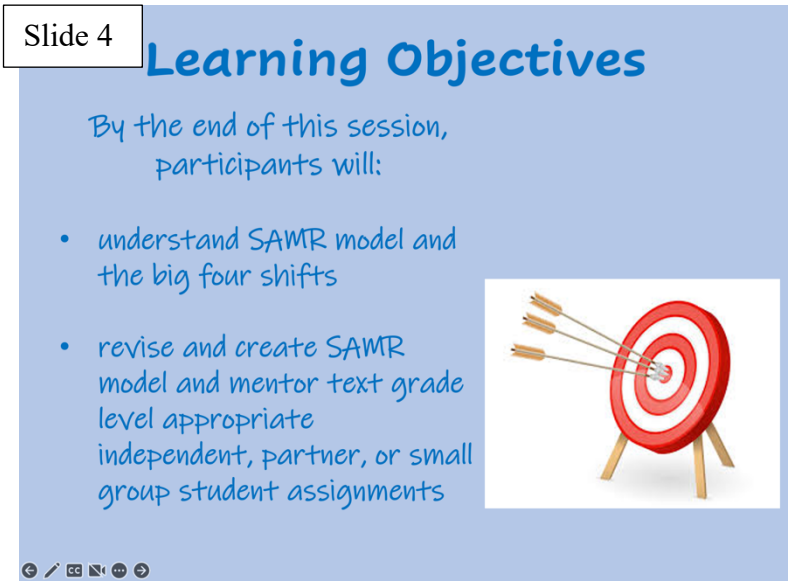
3:30-3:45- Blooket Challenge Activity

3:45-4:00- Closing/Padlet Response

Slide 3



Slide 4



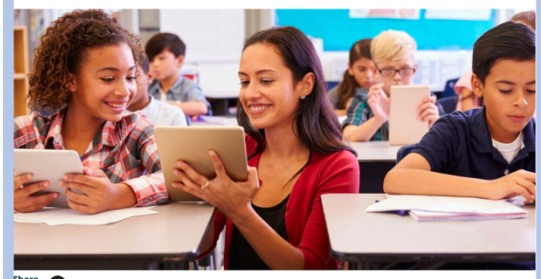
Slides 5-8

The SAMR Model

(Click for electronic article)

EDUCATION • SEP 26, 2022

How to Use SAMR Model in Designing Instruction (An EdTech Integration Guide)



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by Imed Bouchrika, Phd
Chief Data Scientist & Head of Content

At least 75% of educators perceive educational technology (EdTech) as an essential and helpful aspect of their pedagogical toolkits, according to a 2019 survey focusing on the 21st-century classroom (Vega and Robb, 2019). At its onset in early 2020, COVID-19 showed that schools cannot provide in-person education at all times. While this health crisis brought massive challenges to teachers, it also provided an opportunity to refine their craft when it comes to integrating technologies, such as LMS in education. The SAMR model, a practical guide for EdTech integration that can amplify teaching and learning, is one of the tools used by educators

It has been established that interactive EdTech tools help drive student engagement. As a planning and reflection too the SAMR model encourages educators to think of ways to promote student engagement. The various stages of the SAMR model allow each lesson to pass through a spectrum where learning and teaching are transformed while enhancing the teacher's knowledge and skills (Hamilton, Rosenberg,& Akcaoglu, 2016).

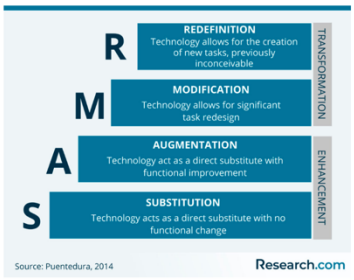
This article will discuss the SAMR model as an EdTech integration tool. The utility of the SAMR model in EdTech, the framework's benefits and drawbacks, as well as SAMR model examples are included in the discussion.

SAMR Model: A Practical Guide for EdTech Integration Table of Contents

What is the SAMR model?

As defined by its proponent Dr. Reuben Puentedura (2014), the SAMR model is a tool that helps teachers think about how and why they use technology in teaching, and how technology can help them evolve pedagogically. The SAMR model stands for substitution (S), augmentation (A), modification (M), and redefinition (R). The framework presents four ways in which technology can be integrated into teaching.

With *substitution*, technology acts as a simple substitute to classroom tools delivering no functional change. With *augmentation*, technology is used to improve learning activities. With *modification*, the use of technology brings significant redesign to instruction, while with *redefinition*, the use of technology completely alters the traditional way of instruction.



Source: Puentedura, 2014 Research.com

Substitution and augmentation are grouped as 'enhancement' tools, while modification and redefinition are considered as 'transformation' tools. Puentedura's framework has substitution at the lowest level and redefinition at the highest level. For educators that are more familiar with Bloom's Taxonomy, the substitution and augmentation methods are typically equated with the first three levels of Bloom's framework (knowledge, comprehension, and application), while modification and redefinition are perceived as on the same level as the upper three of Bloom's learning stages (analysis, synthesis, and evaluation).

With the SAMR model, Puentedura suggests that as teachers reflect on integrating technology with the learning experience, they often have questions on how they can effectively use technology. Again, Puentedura pictures these questions in levels like that of the SAMR framework.

The question at each level is typically presented as follows:

Substitution: "What will I gain by replacing the task with technology?"
Augmentation: "Does the technology add new features that improve the task?"
Modification: "Does the task significantly change with the use of technology?"
Redefinition: "Does the technology allow for the creation of a new task previously inconceivable?"

In asking these questions, the educator is able to determine how technology can enhance instructional design to increase student engagement in the teaching and learning process.

Why use the SAMR model for EdTech integration?

The SAMR Model

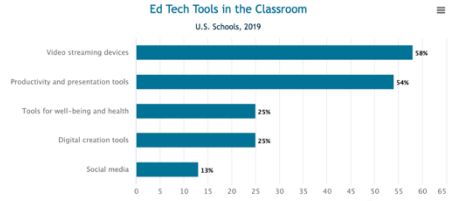
(Click for electronic article)

Advanced technology is continually transforming the future of education. EdTech tools help drive student engagement and improve the dynamics between teachers and students. EdTech also enables students to adjust their own pace of learning, and through collaboration, students are able to reflect on learning with their peers, which often leads to the creation of ne

https://www.brookings.edu/blog/education-plus-development/2018/02/27/edtech-in-the-classroom-friend-or-foe/

Technological The SAMR model can be easily adapted and interpreted in multiple ways. Rather, it outlines how technology is used to achieve specific outcomes. As a planning tool, it enables teachers to design, develop, and infuse digital learning experiences that use technology.

Using the SAMR model, however, does not guarantee effective learning. Effective instruction depends on the instructional design. The skills of the teacher will determine if technology is used in the most efficient way that maximizes its potential to contribute to deeper learning. Moreover, the SAMR model cannot be used in isolation of pedagogical theory.



Source: Common Sense Media Designed by Research.com

How to Use SAMR in Designing Instruction

Designing instruction requires a lot of reflection. In making lesson plans, teachers first define the specific learning outcomes, from which the design of instruction will be based. The concept of instructional core posits that change in learning will only occur if there are improvements in three critical, independent realms—the level of content, the teacher's knowledge and skill, and student engagement (City et al., 2011). The following SAMR lesson plan examples make use of the SAMR model template by using the guide questions as transition ladders.

Substitution

Start by asking the benefits of the technology to be adopted:

- What will my students gain by replacing the older technology with the new technology?

Activity 1: Working in groups, students will be asked to analyze the character in a text. The students will be given the option to do the analysis on paper, or use StoryboardThat, an app for making storyboards.

Activity 2: Students will be asked to write an essay on climate change. Students have the option to write the essay on paper or type it using the computer. Teachers may also ask students to submit tasks online rather than turn in a hard copy.

These examples do not change the nature of teaching or learning. The use of technology, however, facilitated differentiated instruction by enabling students to perform tasks in their preferred method. The use of technology also

made it possible for students to submit their tasks online, which also provided the teacher with a faster and more efficient way of providing timely feedback.

Augmentation

The following guide questions can be used to transition from substitution to augmentation:

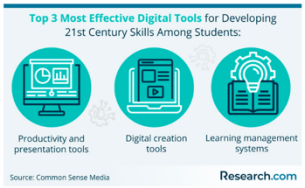
- Does this new technology add an improvement to the task process that could not have been accomplished with the older technology at a basic level?
- How does this feature contribute to the task goals/outcomes?

Activity 1: Students will be asked to illustrate a mind map of their lesson by capturing images that will represent their learnings. Applications such as Skitch or Seesaw can be used for the task. Using online tools, students will be asked to record, annotate, draw and caption anything that will represent the student's learning experience.

By giving the students a variety of ways to respond to a single question, the teacher is empowering the students and, at the same time, the teacher is also able to monitor the learning progress of each student on one platform. This method also gives the teacher an entirely different picture of each student's learning.

Activity 2: Students will be asked to submit exit tickets using Mentimeter or Kahoot. The teacher will ask a parting question, and students turn in tickets before leaving the classroom. Instead of writing their answer on a piece of paper, students can submit their exit tickets through the app.

In the Augmentation examples mentioned, technology improved the task by enabling the students to use different types of media to document their learning. This enables the teacher to assess the extent of learning, while at the same time having the ability to respond to each student and identify the particular areas that they are having difficulty. In these examples, technology offered functional improvement because the teacher is able to view learning in a different way through the use of apps and tools. Technology added new features and improved the task.



Source: Common Sense Media Research.com

Modification

The following guide questions can be used to transition from augmentation to modification:

- How is the original task being modified?
- Is the technology essential to the modification of the task?
- How does this modification contribute to the task goals/outcomes?

Activity 1: Using Google Workspace or Office 365, each group of students will be asked to perform research on a particular topic during class hours. The final output should include a research write-up, a presentation using PowerPoint and other presentation tools, and an infographic. The objective is to facilitate real-time collaboration within the group, while at the same time making each member responsible for specific requirements.

Slide 9

The SAMR Model

(Click for electronic article)

This task involves significant redesign because instead of working on tasks individually, students learn to collaborate in real-time using technology. Without technology, the task would require more time. The technology significantly changed the task by providing new features of creation.

Activity 2: Using Flipgrid, each group of students will be given topics for discussion. Students will be required to share their thoughts on the topic, and respond as well to the thoughts or ideas of their peers.

Since this app allows teachers to facilitate video discussions, facilitating this activity can improve the discourse skills of students, while at the same time teaching them to respond or give reactions in a polite and constructive manner. This practice also teaches critical thinking as students reflect on the topics and think of ways on how to respond to points raised by their peers. In the activities presented, it would be difficult to achieve the learning objectives without the use of technology.

Redefinition

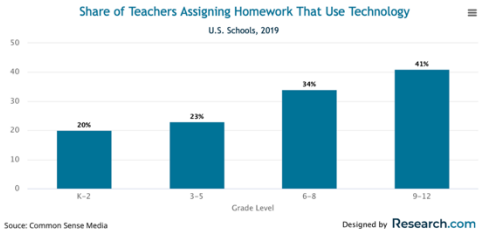
The following guide questions can be used to transition from modification to redefinition:

- What is the new task?
- Will any portion of the original task be retained?
- How is the new task uniquely made possible by the new technology?
- How does it contribute to the task goals/outcomes?

Activity 1: Using music production apps such as Bandlab and video creation tools like Quik, students will be asked to create a multimedia presentation or a short film about the lesson by integrating video and music.

Activity 2: Using Skype, the class will have a virtual field trip to a museum in Egypt. The museum curator will give the students a tour of the museum as an enhancement of the current lesson on ancient Egypt. After the tour, the students will be required to share insights on the topic.

Both examples are learning experiences that can only happen with the integration of technology. Both activities are previously inconceivable in the confines of the classroom. In using different EdTech tools, students are empowered to apply concepts learned and create something as a result of the learning experience.



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SAMR Model Benefits and Drawbacks

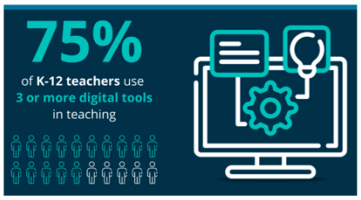
In designing instruction, it is important to carefully consider the affordances and limitations of various technologies. The SAMR model, a practical guide for EdTech integration, is both a planning tool and a reflection tool. It benefits

teachers by providing a framework from which they can assess how they are using technology in teaching, and how technology can enhance instruction.

The SAMR model also benefits students because technology drives engagement. In using technology, students are given control of their learning process while at the same time giving them the freedom to express their understanding of particular topics through creative channels. This empowerment also benefits the teacher because an entirely different perspective of learning is often presented by students that teachers might not be able to discover had it not been for the use of technology.

On the other hand, scholars in the field of education have identified three challenges of the SAMR model—the absence of context, rigid structure, and the model's focus on product over process. Context includes social economics of the school or the community, the teacher's technological knowledge, administrative support, as well as other factors that have a direct effect on technology integration in the classroom. The SAMR model is also perceived as rigid, as it does not reflect higher levels of learning outcomes as presented by Bloom's Taxonomy. Some educators also observed that the SAMR model is too focused on technological adoption.

Hamilton et al. (2016) in their work "The Substitution Augmentation Modification Redefinition (SAMR) Model: A Critical Review and Suggestions for its Use" provided a critical review of the SAMR model using theory and prior research. Published in *Tech Trends*, the authors concluded that "the SAMR model may underemphasize the multi-faceted and complex nature of teaching and learning with technology. Instead, it emphasizes the types of technology teachers should use to move themselves up the hierarchical continuum of SAMR, giving primacy to technology rather than good teaching."



Source: Common Sense Media

Research.com

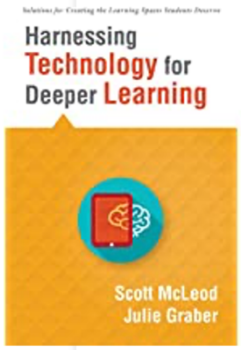
Design Effective Instruction Through EdTech Tools

The use of technology in teaching and learning has undoubtedly delivered many benefits, as with the case of the SAMR model. This framework helps teachers assess the usefulness of technology in different interactive learning contexts. As emphasized, EdTech is used to enhance the process of instruction with the objective of promoting engagement and deeper learning.

The use of EdTech, however, is not a one-size-fits-all solution. The concept of the instructional core remains, and the pedagogical skills of the teacher, as enhanced by further training on EdTech, remain the most crucial if learning is to become effective. EdTech tools, such as the SAMR model, are part of the teacher's toolbox. As every technology has affordances and limitations, it is the teacher who will decide how to use each tool to design the best learning experience.

Slide 10

Mentor Text-
Chapter 1



Slide 11

Padlet Response

Slide 12

Lunch

Return promptly at 1:00 p.m.

Slide 13

Teacher Work Period

1. With a partner or small group of 3 from the previous day, work collaboratively to apply one of the 4 Big Shifts look-fors and think about from the text.

2. Use the student assignments from day 1 to apply the protocol from the text to analyze each student assignment created.

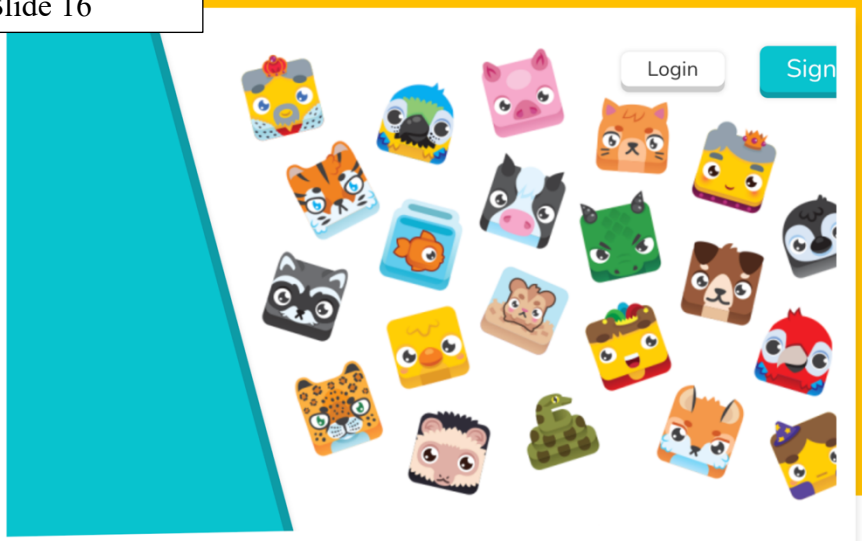
3. Be prepared to present each lesson to the group.

Slide 14

Slide 15

Group Assignment Presentations

Slide 16



Slide 17

Padlet Response

Day 3

Day 3 Agenda

Session Title	**Understanding the SAMR model and The Padagogy Wheel for ELLs Classroom Technology Integration**			
Session Date	**TBD**		**Session Time**	**8:00 a.m.- 4:00 p.m.**
Day 3 Objectives	By the end of this session, participants will: • understand SAMR model and The Padagogy Wheel • Create a grade level appropriate lesson and independent student reading assignments using the SAMR model and The Padagogy Wheel			
Findings addressed	**(c) overcoming barriers to implementing instructional technology**			
Time:	**Process:** **As relevant, include guiding questions, activities, transitions, informal check for understanding, etc.**	**Materials:**	**Facilitator:**	**Procedures/Strategies:** **What instructional strategies and procedures will be used and followed?**
8:00-8:30	Arrival, participant sign in, welcome, review of agenda/expectations/norms/ and the objective for the day	Sign in sheet	Instructional coach, Academic coach, or teacher leader	
8:30-9:30	Session 1: • Introduction to Padagogy Wheel introduction video • The Padagogy Wheel article • From your perspective, what are the advantages and disadvantages of using The Padagogy Wheel? why?	The Padagogy Wheel YouTube video, article, chart paper, markers, tape, PowerPoint	Instructional coach, Academic coach, or teacher leader	1. Participants will read the article and engage on small group discourse. Each group will write their group's answers on chart paper to answer question prompt.
9:30-10:30	Harnessing Technology for Deeper Understanding Chapter 3 • What do you think of the authors redesign? • What are some other ways to improve this activity that might	Mentor text, teacher created lessons, PowerPoint presentation	Instructional coach, Academic coach, or teacher leader	1. Small group participants will read and engage in discourse the assigned section from chapter 3 of the mentor text.

	be different from what the authors chose? Are there other areas of the protocol that could be used to shift this activity in desired directions?			2. Each group will write responses to the question prompts on chart paper to present to the group. 3. Participants will join in the whole group discussion after each group presents.
10:30-10:45	Restroom Break			
10:45-11:45	Harnessing Technology for Deeper Understanding Chapter 5 • What did you think of the authors use of the protocol to design this elementary school lesson from scratch? Elaborate on your response. • What ideas do these examples give you? What could you build that was new?	Mentor text, PowerPoint presentation, laptop, internet access, chart paper, markers	Instructional coach, Academic coach, or teacher leader	1. Participants will independently read Chapter 5 pages 41-45. 2. Each participant will respond on chart paper to one of the question prompts and discuss their responses with the group.
11:45-12:00	Padlet Prompt • What do you already do that aligns with the strategies introduced in this session? Give an example.	Padlet, computer	Participants	1. Participants will respond to Padlet prompt.
12:00-1:00	Lunch Break			
1:00-2:30	Teacher Work Period	Teacher created lesson, pedagogy	Instructional coach, Academic	1. Participants use sample student data

	• Create an instructional technology reading lesson and instructional technology independent student reading activity based on student's sample data.	wheel, SAMR model, sample student ACCESS scores, WIDA standards, grade level reading standard mentor text, laptop, internet access, Microsoft Word, or Google Docs	coach, or teacher leader	and will work with a partner to create one teacher guided reading lesson and four independent student activities referencing the SAMR model, S-substitution A-augmentation M-modification R-redefinition, the Padagogy Wheel, and the mentor text.
2:30-2:45	Restroom Break			
2:45-3:30	Session 2:		Participants	1. Each group will present completed assignment to whole group for feedback.

3:30-3:45	Show Your Learning	Blooket, laptop, internet access	Instructional coach, Academic coach, or teacher leader	1. Participants will use game-like technology, Blooket, to answer questions pertaining to WIDA standards, ACCESS scores, SAMR model and mentor text chapter 3 and 5.
3:45-4:00	Closing- Summative Assessment		Participants	Google Form 1. Participants will complete the summative assessment for the 3 day sessions.

Next Session:

- Coaching and feedback

Facilitator Prep:

- Check attendance roster
- Review resources needed for coaching and feedback throughout the school year.
- Review participants' summative assessments

Day 3: Professional Development Materials and Resources

Time	Session	Materials	URLs
8:00-8:30	Arrival	sign in sheet	
8:30-8:35	Session 1	YouTube video	https://youtu.be/2vb5DUhu7hc
8:35-9:30	Session 1	article-It's Not About Apps, It's About Pedagogy	
9:30-10:30	Session 1	mentor text-Harnessing Technology for Deeper Understanding tape, chart paper, markers teacher created lesson PowerPoint	
10:45-11:45	Session 1	mentor text-Harnessing Technology for Deeper Understanding tape, chart paper, markers teacher created lesson PowerPoint	
11:45-12:00	Session 1	Padlet laptop, internet access	https://padlet.com/ingrampollack/e6shsl3g9mlcgp1i
1:00-2:30	Session 2	• teacher created lesson • Padagogy Wheel • SAMR model • grade level reading standard • mentor text • laptop • internet access • Microsoft Word, or Google Docs	
2:45-3:30	Session 2	group created assignment	
3:30-3:45	Session 2	Blooket laptop internet access	https://play.blooket.com/play
3:45-4:00	Session 2	summative assessment-Google form	https://docs.google.com/forms/d/e/1FAIpQLSeS53T4ITH0cLX70pTkipCOTUjWe-rmRQvcQY-7l7SJLnVrog/viewform?usp=sharing

DAY 2: Speaker Notes

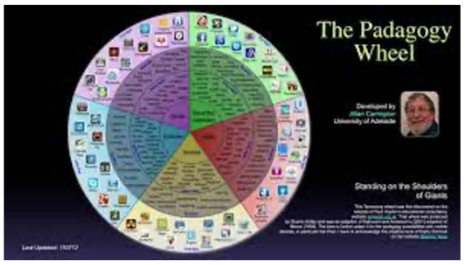
Day 3	Key message
slide 1	In this presentation, we will cover more in-depth, the SAMR model and The Padagogy Wheel.
slide 2	Review the agenda for the day and point of the scheduled break. Let participants know where they can locate restrooms in the building. • Ensure that participants have access to WIFI
slide 3	Introduce the norms. Depending on size of the crowd, select a few participants to respond. **Question**- Based on your sessions yesterday, which of these norms do you value the most and why?
slide 4	Review the learning objectives for the day.
slide 5	Participants will need to access to WIFI to use electronic versions of the articles. Prepare the participants by clicking the image to view the embedded video on The Padagogy Wheel. Follow up the video with a quick summary from the major points from the video.
slide 6-slide 8	Pass out copies the article "It's Not About the Apps, It's About Pedagogy" or participants can view the electronic version of the article by. Allow participants time to read through the article independently, then present the following questions and facilitate participants' group discussion. Explain to the whole group that each group (number the groups) will write their group's answers to the question on chart papers provided to answer question prompt. Reserve time for groups to write answers, then lead the whole group in discussion based on the responses. **Question**: From your perspective, what are the advantages and disadvantages of using The Padagogy Wheel? why?
slide 9	Participants will use the mentor text "Harnessing Technology for Deeper Learning" for the activity. Participants will work in small groups to read chapter 3 of the book. Project the questions below on the screen and ask participants to keep the questions in mind as they read the chapter and engage in discourse. Facilitate and provide guidance and support as needed. Reserve time for participant groups to write their responses on the chart paper then present their responses to the whole group. **Questions**: What did you think of the authors use of the protocol to design this elementary school lesson from scratch? Elaborate on your response; What ideas do these examples give you? What could you build that was new?
slide 10	There is a timer embedded in each restroom break slide. Click the image to begin the timer.
slide 11	Participants will work independently to read pages 41-45 of chapter 5 from the mentor text. Reserve time for each participant to write their response to one of the question prompts on the chart paper then discuss their response with the whole group. **Questions:** What did you think of the authors use of the protocol to design this elementary school lesson from scratch? Elaborate on your response; What ideas do these examples give you? What could you build that was new?

slide 12	There is a hyperlink embedded in the Padlet image. Click on the image to review the question response the participants will complete. The participants can use their device to type in the Padlet web address to answer the question. **Question**- What do you already do that aligns with the strategies introduced in this session? Give an example.
slide 13	Dismiss the participants for lunch. Click the image to begin the timer that is embedded in the image.
slide 14	Participants will work with a partner to complete the activity. Explain to the participants they will use the student assignments created from day 2 to create one guided reading teacher lesson and 4 independent student assignments while referencing the SAMR model, The Padagogy Wheel, and the mentor text as a guide. Facilitate and provide support as needed throughout the work period.
slide 15	There is a timer embedded in each restroom break slide. Click the image to begin the timer.
slide 16	Depending on group size, each group should be given an allotted amount of time to present the small group teacher lesson and two of the independent student activities the whole group and receive feedback. A handheld timing device (watch or phone) could be useful.
slide 17	Participants will need either a mobile device or their computer to access Blooket. Each participant will enter the code projected on the audience screen to gain access as a player. Begin the interactive game by explaining the directions for completion. The participant who answers the most questions pertaining to WIDA standards, ACCESS scores, the SAMR and chapters three and five of the mentor text correctly first will have their virtual vehicle progress across the screen the fastest. The vehicle that makes it across the finish line first is the winner for the session.
slide 18	Participants will need to access to WIFI to complete post-assessment (exit ticket) Goggle Form. Ensure that each participant can access and complete the form. The participants are dismissed for the day once they have completed and submitted the form, then signed out for the day.

Day 3 Materials: PowerPoint

Slide 1

Understanding the SAMR Model and Padagogy Wheel



Slide 2

Agenda

8:00-8:30- Arrival, Sign-in, Welcome, Review Agenda, Norms, Learning Objectives

8:30-9:30- Introduction to the Padagogy Wheel

9:30-10:30- Mentor text-chapter 3

10:30-10:45- Restroom Break

10:45-11:45- Mentor text-chapter 5

11:45-12:00- Padlet Response

12:00-1:00- Lunch

1:00-2:30- Teacher Collaborative Work Period (SAMR Model, Padagogy Wheel, and mentor text lesson creation)

2:30-2:45- Restroom break

2:45-3:30- Teacher Collaborative Work Period (lesson presentations)

3:30-3:45- Blooket Challenge Activity

3:45-4:00- Google Forms Exit ticket

Slide 3

Norms

Community
Respect each other.
Be vulnerable and authentic.
Agree or disagree openly and respectfully.

Equity
Allow equity of voice.
Engage in one conversation.
Use technology appropriately.

Service
Practice active listening.
Share your perspective.
Ask good questions.

Growth
Own your own learning.
Remain open to ideas and challenges.

Results
Honor our time.
Stay focused on task at hand.

Adapted from NCTM Affiliate Leader Meeting Norms and Expectations 2017

Slide 4

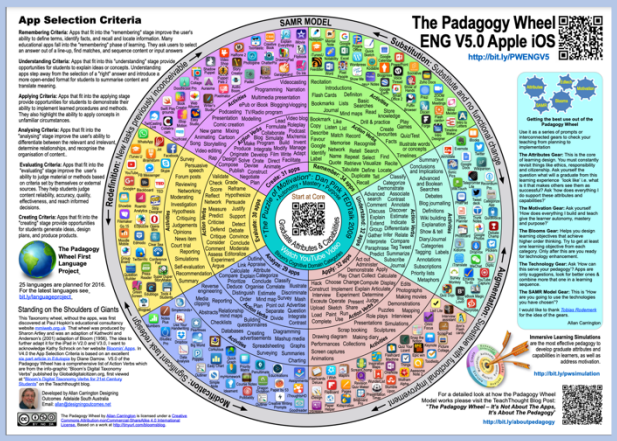
Learning Objectives

By the end of this session, participants will:

- understand SAMR model and the Padagogy Wheel
- create a grade level appropriate lesson and independent student assignments using the SAMR Model and the Padagogy Wheel

Slide 5

Introduction to Padagogy Wheel

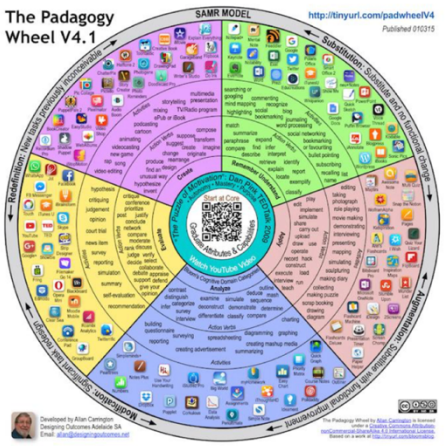


Slide 6

BUYERS GUIDE

The Padagogy Wheel

ALLAN CARRINGTON on June 20, 2016 at 11:03 pm



IT IS NOT ABOUT THE APPS, IT IS ABOUT THE PEDAGOGY

The Padagogy Wheel is designed to help educators think – systematically, coherently and with a view to long-term, big-picture outcomes – about how they use mobile apps in their teaching. The Padagogy Wheel is all about mindsets; it is a way of thinking about digital-age education that meshes together concerns about mobile app features, learning transformation, motivation, cognitive development and long-term learning objectives.

The Padagogy Wheel is not rocket science. It is an everyday device that can be readily used by everyday teachers; it can be applied to everything from curriculum planning and development, to writing learning objectives and designing student-centred activities. The idea is for the users to respond to the challenges that the wheel presents for their teaching practices, and to ask themselves the tough questions about their choices and methods.

The underlying principle of the Padagogy Wheel is that it is the pedagogy that should determine the educational use of apps. It is all very well to come across an exciting new app and to think, "That is really cool, now how can I use it in the classroom?" What teachers need to do at the same time is to think about how that app might contribute to their set of

https://educationtechnologysolutions.com/2016/06/padagogy-wheel/ 3/7

Slide 7

educational aims for the program they are teaching. It was in fact this very concern, how to make the pedagogy drive the technology and not the other way around, that led to the birth of the Padagogy Wheel.

HOW DOES THE PADAGOGY WHEEL WORK?

The Padagogy Wheel brings together in the one chart several different domains of pedagogical thinking. It situates mobile apps within this integrated framework, associating them with the educational purpose they are most likely to serve. It then enables teachers to identify the pedagogical place and purpose of their various app-based learning and teaching activities in the context of their overall objectives for the course and with reference to the wider developmental needs of their students.

It is useful to see the wheel as providing a series of challenges and questions, a structured set of prompts asking teachers to reflect on their teaching, from planning to implementation. These prompts are interconnected like mechanical gears, where a decision in one area often affects decisions in other areas. Teachers should consider each area as a grid through which they filter what they are doing. There are five of these grids, as detailed below.

THE FIVE GRIDS

1. *Graduate attributes and capabilities*

Graduate attributes are at the core of learning design. Graduate attributes address the long-term, enduring aims of the educational activity. They involve thinking about the type of people that emerge from educational programs – their ethics, responsibility and citizenship, for example – and their employability in the current and future society. Teachers must constantly revisit the way in which their programs are contributing to the development of these attributes. They need to do the hard yards of articulating what they expect a graduate of a program to 'look like'; that is, what is it that a graduate is and does that is regarded as successful and meets the expectations of his community as a change agent and leader. How else can teachers help students know what transformation looks like?

Many universities around the world are constantly working on their graduate attributes and mapping their programs to them. The blog post *If you exercise these capabilities. You will be employed!* is really eye-opening for college educators. These are the attributes and capabilities that CEOs in the marketplace want in graduates, the things they look for when hiring. If educational leaders do not have a clear picture of the qualities and capabilities of an excellent graduate of their program, then how can teachers help students strive for excellence and to be leaders in their worlds?

Every teacher needs to look at their courses and pedagogy and ask, "How does everything I do support these attributes? Is there any way I can build content and activities that help students become excellent?"

2. *Motivation*

Motivation is vital to achieving the most effective learning outcomes. It is valuable for teachers to regularly ask themselves, "Why am I doing this again?" That is not a joke. It refers to the choices of learning outcomes, development of activities and design of content, for example, writing text and even making videos. The wheel introduces a 21st century model of motivation that science has developed. Dan Pink presents this well in the TEDtalk *The Puzzle of Motivation*. If teachers think through the grid of Autonomy, Mastery and Purpose (AMP) and filter everything they do, from idea-creation to assessment, it will significantly help their teaching be transformational. Barbi Honeycutt on her *Flipit Blog* has some good ideas on how to implement Dan Pink's AMP principles in the flipped classroom model.

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3. *Bloom's taxonomy*

Bloom's taxonomy is really a way of helping teachers design learning objectives that require higher order thinking. Start with remembering and understanding, which is the easiest category to serve with objectives, but produces the least effective outcomes in achieving transformation. When supporting teachers, try to get at least one learning objective from each category and always push towards the domain category of creating, where higher order thinking takes place. This is the 'By the time you finish this workshop/seminar/lesson you should be able to...' type of thinking. Only after teachers have developed their learning outcomes are they ready for technology enhancement.

4. *Technology enhancement*

Technology enhancement serves pedagogy. When teachers choose any app or technology they must remember to apply the app selection criteria. The model only suggests apps that can support the learning objectives and activities at the time of publishing. The Padagogy Wheel constantly needs updating with apps as they are released. Teachers also should think customization all the time – is there a better app or tool for the job of enhancing their defined pedagogy?

5. *The SAMR model*

Developed by Ruben Puentedura, the SAMR model – standing for Substitution, Augmentation, Modification, Redefinition – is a framework that assists teachers to assess the degree to which digitally empowered learning and teaching is (or is not) moving beyond what can be taught using analogue technologies. The SAMR model is extremely useful when teachers are considering how they are going to use the technologies they have chosen.

SAMR is a widely used model with a wealth of resources online, like Kathy Schrock's excellent SAMR resources page. A very useful perspective on SAMR is through the eyes of the students, as explained in a short YouTube video.

Teachers should take each of their activities and think through how they will use the technology for each task. Ask "Does this activity just substitute (that is, students could easily achieve the tasks without this chosen technology) or can the tasks be augmented or modified to improve the activity and increase engagement?" Finally sieve the curriculum building activities and teaching practice through the SAMR grid of Redefinition. Is there any task that can be built into the activity that without the technology would not be possible?

A CHALLENGE

Teachers should spend time thinking through how they can apply all five of the grids to their curriculum design, lesson plans and teaching practice. They should learn more about each grid, take the Padagogy Wheel out for a spin and share their best practice examples.

This year, an objective is to build an online resource of how teachers have used the model, showcasing best practice and including research projects. China has over 14.5 million teachers (yes, just teachers!) and they are all extremely committed to change, hungry for professional development and collaboration. Work on the Padagogy Wheel by Australian teachers could help many thousands of educators in China, as well as others around the world. This will help students become excellent practitioners and graduates, leading their communities into transformational change and could make the world a better place. After all, that is why you became a teacher, is it not?

Bio Latest Posts

ALLAN CARRINGTON

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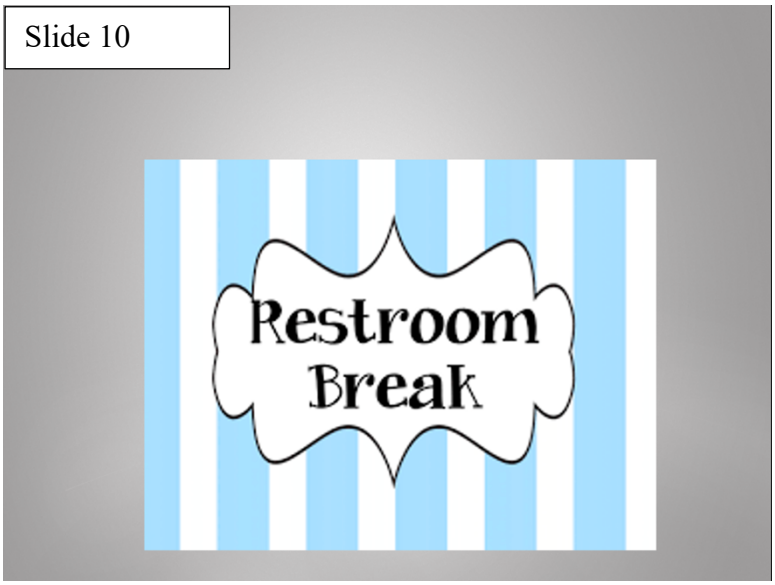
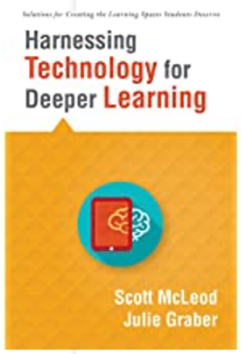
Mentor Text-
Chapter 3

Slide 10



Slide 11

Mentor Text-
Chapter 5



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Padlet
Response

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Lunch

Return promptly at
1:00 p.m.

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Teacher Work Period

1. Use sample student data and will work with a partner to create one teacher guided reading lesson and four independent student activities referencing the SAMR model, The Padagogy Wheel, and the mentor text.

2. Be prepared to present to the group.

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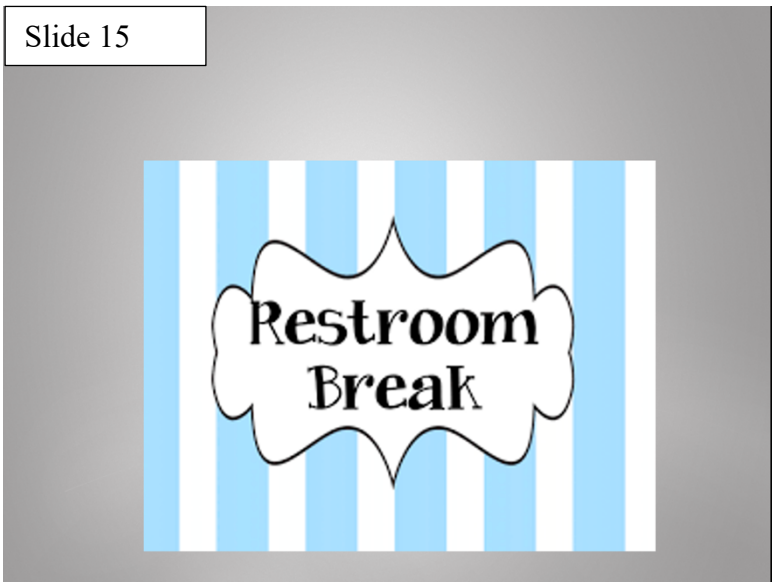

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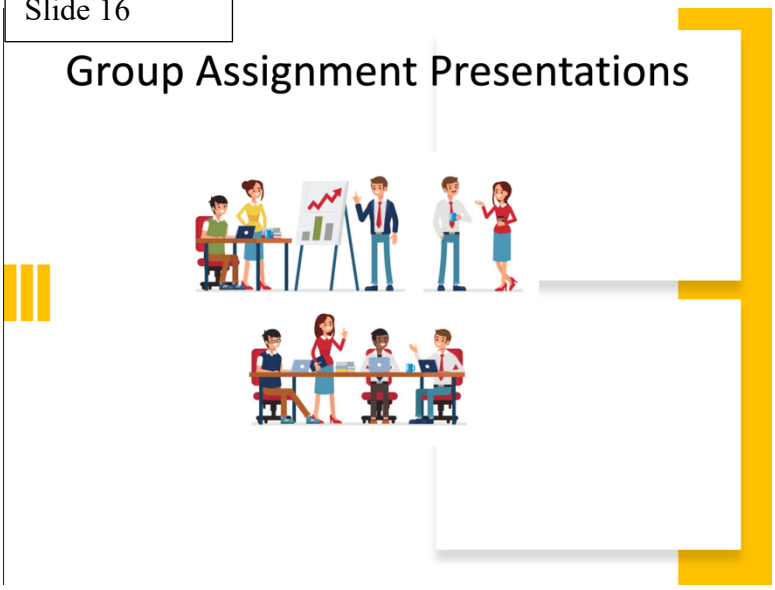

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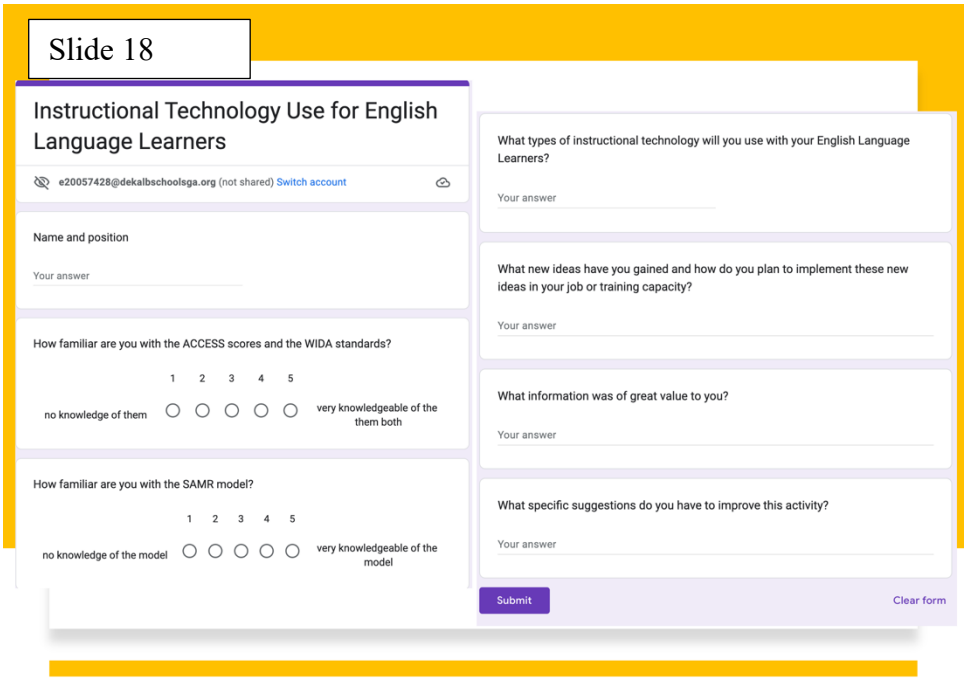
FORMATIVE ASSESSMENT

Slide 18



Appendix B: Observation Protocol

Interviewer Name: _____ Interviewee Name: _____ Date: _____/_____/_____ Location: _____ Grade: _____ Start Time: ____:____ End Time: ____:____	
Observational Descriptions	Field Notes and Reflections

Appendix C: Interview Protocol

Project: Elementary Teachers' Reaction to Implementing Technology

DATE _____ **LOCATION** _____

START/END TIME: _____ **LENGTH OF INTERVIEW** _____ (MINUTES)

INTERVIEWER _____ **INTERVIEWEE** _____

POSITION OF INTERVIEWEE _____ **PARTICIPANT'S INITIALS** _____

In this project study, instructional technology during reading in classes with high English language learner (ELL) populations is examined. The purpose of this project study was to explore teachers' perceptions of and experiences using instructional technology during reading instruction of Grades 3-5 ELLs. The participants will be teachers, and the data will be collected from interviews. This interview will take 45-60 minutes to complete. [The researcher will have a copy of the consent form for the participant to review. The consent form would have been received and reviewed by the participant before the interview takes place.]
[The recorder will be turned on as consent was given by the participant taking the pre-screening survey.]

Questions:

1. Briefly describe your experience with teaching reading and technology (building background).

2. What directives suggest you utilize instructional technology during reading in the classroom?
    a. Please provide an example of one of those directives.

3. What do you believe are your technology proficiency/competency skills for utilizing instructional technology during reading?
    a. How does this affect your use of instructional technology during reading?

4. What preparation strategies do you use when planning instructional technology lessons for ELL and non-ELL students?

5. What instructional technology strategies are used to teach reading to ELLs?
    a. Describe a lesson using instructional technology strategies to teach reading to ELLs.
    b. How have these strategies helped ELLs to learn to read?

   c. Would you recommend these strategies to other teachers? Why?

6. How do you differentiate instructional technology use specifically for ELLs?

7. Tell me about a lesson you taught when you successfully used technology during reading instruction for ELLs.

8. Tell me about a lesson you taught when you did not successfully use technology during reading.
   a. What did you do to reteach the lesson using technology?

9. How do you use technology to teach comprehension, vocabulary, or fluency to ELLs?

10. What online reading programs have you used to help ELLs learn to read?

11. What forms of practice and application do you allow your ELL students to engage in when using instructional technology throughout the lesson?

12. What are your concerns regarding the use of instructional technology for collaborative reading assignments to improve reading proficiencies for ELLs?

13. Describe a typical instructional technology reading task in your classroom.

14. Is there any additional information you would like to add regarding instructing ELL students or using technology in your reading block?

OPTIONAL PROBING QUESTIONS:

15. When you say, (example entered here), how would that look during instruction?
16. Why does that matter during reading instruction?
17. Have you always felt this way about teaching reading to ELLs?
18. We talked about a topic earlier, I would like know more about how that topic relates to using instructional technology to teach reading to ELLs.

Thank you for your participation and cooperation in this interview. A follow-up interview may be necessary if certain responses are not clearly recorded. Your responses will remain confidential for a period of 5 years from this date and will be deleted after that.

Appendix D: Document Collection Checklist

Lesson plans were requested by e-mail and submitted by teachers in person or through an e-mail at least three days before the observation process, and lesson plans were analyzed for the following:

___ Activities and instructions for technology during reading

___ Frequency of instructional technology used during the week

___ Teacher anecdotal reading notes about instruction

___ Technology-based tasks are at enhancement (at substitute level)

___ Technology-based tasks are at enhancement (at augmentation level)

___ Technology-based tasks are at transformative (modification level)

___ Technology-based tasks are at transformative (redefinition level)

Notes on Research Question 1	Notes on Research Question 2