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# Teachers' Perspectives on How One-to-One Devices Influence Their English Language Learners' Academic Experience

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# Teachers' Perspectives on How One-to-One Devices Influence Their English Language Learners' Academic Experience

by

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# APPROVAL FOR SUCCESSFUL DEFENSE

**Christine Jimenez-Johnson** has successfully defended and made the required modifications to the text of the doctoral dissertation for the **Ed.D.** during this **Fall** Semester.

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## Abstract

As the number of English Language Learners (ELLs) continues to grow in classrooms across school districts, educators continue to seek innovative instructional methods to increase ELLs' learning outcomes. Technological applications and devices are changing the way society communicates and collaborates, and school districts are incorporating different technologies to enhance teaching and learning. More so, technological devices are increasingly being used to enhance the learning experiences of ELLs and are changing the way teachers are teaching English language instruction.

The purpose of this qualitative study was to explore teachers' perspectives on how one-to-one devices influence ELLs' academic experiences. The population included in this study was 15 teachers of Grades 5, 6, 7, and 8 in a traditional public middle school located in a large urban district.

An analysis of the literature review and interviews with participants indicated that using one-to-one technological devices is an effective tool in improving ELLs' academic experience. The literature review and this study demonstrated the importance of investing in teachers' professional development to ensure they understand how to assist ELLs and use technological devices to better support students' language acquisition, engagement, motivation, and differentiated learning experiences.

This research lends significant insight into effective instructional pedagogy using technological devices. The perspectives of the educators within this study can inform new understandings of the appropriateness and utility of one-to-one device use among ELLs. The findings will be used to better understand this research phenomenon on how teachers use one-to-one devices to support teaching and learning. The results will also provide valuable

insights for educators and policymakers on how appropriate technologies, coupled with effective professional development, can enhance ELLs' academic experience.

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C. J. J.

## Dedication

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# CHAPTER 1 – INTRODUCTION

Educators in most public schools in the state of New Jersey almost exclusively teach lessons in English. Even though the state has instituted English Language Learner (ELL) programs and a World Language curriculum, we could highlight from experience that English remains the primary language of instruction in most classrooms in the state. The New Jersey Department of Education (NJDOE) promotes English as a Second Language and Bilingual programs as supplemental components of the overall educational experience for ELLs, as mandated by state code NJAC6A:15. Dual Language programs are also an alternative offered to students in some school districts in the state (NJDOE, 2019). ELL students have specific educational needs that may arise due to a language barrier, interrupted schooling, or cultural adaptation. Accordingly, many ELLs face various challenges when seeking to obtain the same level of education as their peers who are fluent in English (Wassell et al., 2017). Many researchers have sought to evaluate enhancing ELL education (Abbott et al., 2017; Blattner & Dalola, 2018). However, there has been limited research concerning how general education practices and approaches that many ELL students encounter affect their learning experiences and outcomes. Determining how educational strategies, such as using one-to-one devices in classrooms, affect the experiences of students who face language-related educational barriers may lead to new insights about ways to enhance ELL learning outcomes (Tank & Tank, 2001). The incorporation and effective use of one-to-one devices in the forms of laptops, tablets, iPads, or Chromebooks in instruction can become an asset as teachers provide ELLs with technological tools that may enhance their academic experience and assist in closing the language gap while fostering English language development. In addition to the essential aspects of teaching and learning in a classroom, it is important to implement technology into the classroom to support

student achievement and differentiation: “Technology shouldn’t replace the great things already happening in your classroom, but it can enhance, augment, and improve the teaching and learning experience when used for a specific purpose” (Nemeth & Simon, 2013, p. 52).

**Background**

The use of educational technology continues to grow in classrooms as a tool to engage students in learning (Buchanan & Friedrich, 2013). Over 23 million personal technology devices, or one-to-one devices, are purchased annually by schools in the United States as educational tools for use in classrooms (Herold, 2016). Technologies and devices are changing the way society communicates, collaborates, and learns. School districts are in a constant cycle of improvement for the betterment of their students. As the use of technology in the workforce continues to rise, there has been a corresponding increase in schools investing in one-to-one devices, as the number of devices purchased annually increases by millions each year (Herold, 2016; Stuckwisch, 2017). A growing number of English Language Learners (ELLs) entering schools experience linguistic, cultural, and cognitive shifts that can be challenging (Prince, 2017). The number of children in the nation’s public schools has increased steadily over the last 20 years and is becoming more diverse. Newcomers to the United States tend to be younger than highly assimilated traditional populations, so schools have felt the impact of population changes in the latter part of the 20th century and the beginning of the 21st more rapidly and dramatically than other social and government institutions (Lessow-Hurley, 2003). Educators continue to find ways to implement strategies and systems to create growth in language and other areas for ELL students, and technology is being used as a tool to support them (Prince, 2017).

The National Center for Education Statistics (NCES, 2018), indicated that there were approximately five million enrolled ELL students, comprising 10.1% of students, in U.S. public

schools as of 2017. In 10 states, the rate of ELL students fluent in English is at or above the national average, and the prevalence of ELL students tends to be higher in urban schools than schools in suburbs, towns, and rural areas (NCES, 2017). One of the challenges for many ELL students, as they enter the educational system in the country, is coping with being newcomers to the United States and entering the educational system. Schools must put additional supports for ELL students to acquire, practice, and apply their knowledge in meaningful ways. The use and integration of technology devices is now a critical component of instruction that can benefit ELL students in their learning process.

Students who are ELLs are found in larger numbers in the student body of the lower grade levels (NCES, 2017). The educational barriers associated with being an ELL can increase over time, particularly as students enter middle school, high school, and higher education contexts as expectations of English literacy increase (NCES, 2017). Accordingly, many ELL students participate in ESL programs and other interventions aimed at helping ELL students excel in public schools (Jiménez-Castellanos & García, 2017).

Considering that ELL students come from diverse backgrounds, cultures, and languages, schools are required to prepare the staff to meet the needs of these students to ensure their academic success. This often translates into professional development offerings to prepare teachers to address the needs presented by ELLs. Professional organizations and state licensure agencies recognize that teachers need specialized competencies to work effectively with second language learners (Lessow-Hurley, 2003).

Numerous studies have been undertaken to enhance learning outcomes for ELL students (Abbott et al., 2017; Blattner & Dalola, 2018; Jiménez-Castellanos & García, 2017). Jiménez-Castellanos and García (2017), for instance, found significant associations between school

expenditures on ELL programs and the learning outcomes of ELL students. Feiman-Nemser (2018) emphasized the importance of evidence-based practices and teacher training as means of improving learning outcomes for ELL students. It is essential for teachers of ELLs to have the proper training to prepare lessons and plan classroom activities that can scaffold the learning process for these students. Most professionals agree that teachers of second language learners need awareness, skills, and knowledge related to language, pedagogy, culture, and community relations (Lessow-Hurley, 2003).

Despite these insights about how ELL programs and ELL-specific education practices can be improved, there remains a significant lack of research aimed at examining the lived experiences and perspectives of relevant stakeholders concerning specific educational practices and strategies used in general education classrooms. There is a rise in school districts allowing students to use one-to-one devices to answer questions, examine visualizations, take notes, research, and communicate (Jackson, 2012). Using technology with teacher-guided instruction can help ELL students engage in learning and enhance communication (Prince, 2017). Teachers can use various instructional models to scaffold instruction, which allows students to work at their own pace and level. These devices are increasingly being used to enhance ELLs' overall educational performance. Accordingly, developing insights into the use of one-to-one devices in middle-school classrooms may reveal the benefits and challenges of this educational strategy from the perspectives of educators who teach ELL students and the ELL students themselves.

**Problem Statement**

According to the National Clearinghouse for English Language Acquisition (NCELA, 2016), millions of students in the United States "have limited English language skills that affect their ability to participate successfully in education programs and achieve high academic

standards." Schools are ethically and legally obligated to provide ELL students with equal access to a quality education that enables them to progress academically while learning English (NCELA, 2016). Further, educators must create learning opportunities to facilitate their acquisition of English and practice speaking, listening, and reading English.

The problem this research is intended to address is that students who are ELLs commonly face educational obstacles, such as a lack of teaching strategies and language barriers, in U.S. general education classrooms (Abbott et al., 2017; Blattner & Dalola, 2018; Jiménez-Castellanos & García, 2017; Wassell et al., 2017). Namely, some educational practices commonly used in general education classrooms, such as those that are rooted in American cultural norms or English language proficiency, may not benefit ELL students as they benefit students fluent in English (Baecher et al., 2016; Chiu et al., 2017; Gorski, 2016; Liton, 2016). Limited research has been conducted with the aim of understanding how specific general education strategies and practices are perceived by multiple stakeholders, including ELL students. Thus, this research was intended to bridge this gap and lend insight into middle school teachers' perspectives on one-to-one devices used in classroom contexts. Another goal of my research was to understand teacher perspectives of how schools support parents and families and if this was occurring with my participants. The purpose of this qualitative phenomenological study, then, was to explore teachers' perspectives of how one-to-one devices influence their ELLs' academic experience. Within the context of the current study, one-to-one devices are electronics that are used on a personal basis in educational settings to enhance instruction (Selwyn et al., 2017). Semi-structured interviews were conducted with 15 middle school teachers from one school district in New Jersey. This research focused on teachers in middle school (Grades 5 and 8). The teachers worked in a large urban school district and were selected because they integrate one-to-one

devices to support instruction with English Language Learners. The participants had varying years of experience using one-to-one devices as part of classroom instruction.

## Research Questions

The following research question and sub-question were developed to guide this study:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

The different instructional settings included teachers who teach various content areas (mathematics, English Language Arts [ELA], science, social studies, /technology) and ESL and Bilingual Resource teachers who support ELL students in their classrooms or pull them out for services.

## Theoretical and Conceptual Framework for the Study

The theoretical framework of the study considers how the use of one-to-one devices may result in developing or enhancing self-efficacy on the part of the teacher. Bandura's (Bandura et al., 1999) theory of self-efficacy was used as the frame of reference in this area. Bandura's theory of self-efficacy described how individuals develop an understanding of how effective they believe they will be when they seek to complete a task or reach a set goal. The self-efficacy model reflects that self-efficacy is comprised of verbal coaching and persuasion, physiological/ emotional feedback, vicarious experiences modeled by others, and performance outcomes associated with past experiences. ELL students are participants in classrooms where teachers coach, model, and offer feedback as they move along the path of their learning experiences in the classrooms. The effective use of one-to-one devices by ELLs requires that teachers provide

opportunities and engage students effectively in this technology component, turning it into an asset for their learning process, regardless of the language barrier or other challenges ELLs face.

The theory of self-efficacy has most frequently been applied in the clinical and educational sectors to the process of acquiring new skills and knowledge. Self-efficacy is closely linked to educational performance and job performance, as an individual's belief in their ability to succeed can significantly impact their actions (Bandura et al., 1999; Honicke & Broadbent, 2016). Thus, a self-efficacy theoretical lens may benefit this research to understand the nature of the teachers' perspectives of one-to-one devices in classroom settings and how those perspectives are affected by personal beliefs about one's ability to utilize or teach using one-to-one devices effectively.

## Definitions

The following key terms and definitions are provided for their relevance within the current study context.

**English Language Learners** – English Language Learners (ELLs) are students who are not fluent in English, although they may have some understanding of the language or reading/writing/speaking ability (Wassell et al., 2017).

**Instructional settings** – Teaching and learning occur in a wide variety of settings and various kinds of classes. This includes general education classes where the different subjects are taught, ESL push-in, and bilingual resource pull-out.

**Education barriers** – Education barriers are factors that function as obstacles or challenges that make learning or obtaining an education more difficult for some students (Wassell et al., 2017).

**Culturally competent education** – Culturally competent education is guided by educators' awareness of cultural differences and the ability to educate students effectively with a diverse array of cultural backgrounds, experiences, and worldviews (Tank & Tank, 2001).

**Instructional technology** – The use of computers or other technology devices to enhance and support instructional practices (Meltzer, 2012).

**Digital learning resources** – Digital Support Features are specific embedded features in digital learning resources (DLRs) that assist students in understanding or communicating the content and activities provided in the DLR (U.S. Department of Education [USDOE], 2018).

**Professional development, professional learning teacher training** – All refer to professional educators working together with practitioners and experts currently using technology to learn resources and strategies to support using technology as part of the regular curriculum (Meltzer, 2012; Ruggerio & Mong, 2015).

**Twenty-first-century skills** – The knowledge, skills, and expertise students should master beyond the core content subjects to succeed in work and life in the 21st century. These skills include global awareness; financial, economic, business, and entrepreneurial literacy; civic literacy; health literacy; and environmental literacy (Partnership for 21st Century Learning, 2015).

**One-to-one devices** – One-to-one devices are electronics used on a personal basis in educational settings to enhance instruction. Examples are having a separate Internet-connected wireless computing device, such as a laptop (Chromebook), iPad, or tablet, with access to classroom instructional materials and resources available to use at school and or home (Abell Foundation, 2008; Lindsay, 2016; Sell et al., 2012).

**Phenomenology** – Phenomenology is the study of participants' subjective perspectives and experiences. Phenomenological research is enacted with the goal of understanding a central research phenomenon as it is viewed and experienced by participants (Moustakas, 1994).

**Self-efficacy** – Self-efficacy describes how effective individuals believe they will be when they seek to complete a task or reach a set goal. Bandura et al.'s (1999) conceptualization and theory of self-efficacy guided this study.

**Differentiation** – Differentiation refers to various teaching techniques and lesson adaptations that educators use to instruct a diverse group of students with diverse learning needs, in the same course, classroom, or learning environment (Great Schools, 2014).

## Significance of the Study

This research may lend significant new insights pertaining to educational practice and theory. Perspectives from educators collected during this research may inform new understandings of the appropriateness and utility of one-to-one device use among ELL students. Ultimately, insights gained from this study may lead to enhanced knowledge of how classroom practices and educational tools are perceived. This research may also advance the propositions of Bandura et al.'s (1999) theory of self-efficacy through the exploration of teachers' self-efficacy when instructing ELL students in using one-to-one devices and other educational tools in middle-school classrooms.

## Summary

In summation, this research aimed to explore teachers' perspectives on how the use and proper implementation of one-to-one devices influence ELLs' academic experience. Qualitative phenomenological methods were used to explore teachers' perspectives and experiences. Semi-structured interviews were used to collect data. The theoretical framework of the study was

Bandura et al.'s (1999) theory of self-efficacy. Chapter 2 consists of a review of literature that is relevant to the topic of the present study.

# CHAPTER 2 – LITERATURE REVIEW

## Introduction

As described in Chapter 1, the purpose of this qualitative phenomenological study was to explore teachers' perspectives of the use of one-to-one devices in middle school classroom settings. Therefore, the study addressed the problem of understanding how specific general education strategies and practices are perceived by multiple stakeholders. Thus, this research was intended to bridge this gap and lend insight into middle school teachers' perspectives of one-to-one devices used in classroom contexts.

Chapter 2 outlines the key components related to teachers' perspectives of using one-to-one devices in middle school classroom settings. The literature review reveals several subheadings that lend insight into middle school teachers' perspectives on one-to-one devices used in classroom contexts. In this literature review, I discuss English Language Learners (ELLs), improving ELLs' learning outcomes, technology in schools, one-to-one devices, one-to-one devices with ELL, and student and teacher perceptions of one-to-one devices.

## English Language Learners

General education classes in the United States have seen an increase in ELLs (O'Hara et al., 2013). English language learners (ELLs) are students who are not fluent in English, although they may have some understanding of the language or reading/writing/speaking ability (Wassell et al., 2017). In two studies conducted by Wassell et al. (2017) and Villegas et al. (2018), both discussed the importance of teachers' support of ELL students in school. The studies also described the importance of preparing teachers who teach students with varying levels of English. In Wassell et al.'s (2017) study, Sewell's conceptualization of the duality of structures was used as a framework to examine the relationship between structures and human agency. The

study showed the need for teachers and school administrators to discuss different ways to get families involved in their children's schooling and academic experiences. It is also of critical importance for teachers to have discussions that result in plans on how to involve families in their children's learning by providing opportunities for interaction and different forms of family and parental involvement within the school community.

Due to the increasing number of ELL students in classrooms throughout the nation, studies have examined effective practices in supporting student learning and achievement for ELL students. Over the past 10 years, studies have been conducted to address the need for strong preparation for teachers to address the needs of ELL students (García et al., 2010). In a study by Villegas, Feiman-Nemser's (2001) framework for teacher learning was used to review the supports preservice teachers are offered to support ELLs. Feiman-Nemser outlined five areas of preservice preparation for teachers: (a) Analyzing Beliefs and Forming New Visions, (b) Developing Subject Matter Knowledge for Teaching, (c) Developing an Understanding of Learning and Learners, (d) Developing a Beginning Repertoire, and (e) Developing the Tools to Study Teaching. These five areas set the lens in Villegas's research on preparing teachers for linguistic diversity. Feiman-Nemser's framework can assist teachers with learning to teach culturally and linguistically diverse students as well as lay the foundation for continued development throughout their teaching career.

The existing literature pertaining to supporting student learning for ELLs fell into the following common areas: involvement for families of ELL students and preservice learning opportunities for teachers. It is essential to address that lack of attention given to preparing teachers plays a significant role in teaching. The preparation of teachers is an undeniable factor

in effectively providing ELL students with the best possible educational experience to ensure their academic success.

Although the five areas mentioned above from studies in this matter are crucial for teachers to effectively implement instructional practices that support the academic development of ELL students, there is limited research specific to the use and implementation of one-to-one devices and its effect on the academic growth of ELLs. Through this research, I intended to explore the impact of these devices from the teachers' perspectives.

**Improving English Language Learners' Learning Outcome**

As the United States continues to see a rise in ELLs' in public school settings, it is essential to examine how classroom instruction supports ELLs with regard to their academic achievement.

The Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE, 2012) addressed five critical challenges to improving the instructional learning outcomes of ELLs in the classrooms:

- enhancing the development of language and literacy;
- developing effective interventions that promote literacy development and content knowledge;
- scaffolding instruction that facilitates learning in content area classrooms (e.g., oral language development, shared interactive reading, direct vocabulary instruction, traditional text vs. modified text);
- designing and delivering professional development that ensures teachers implement effective classroom practices to help English learners achieve high standards; and

- implementing a comprehensive school-wide intervention delivering curricula, professional development, and coaching sessions for content areas teachers.

Teachers need to use strategies and practices that allow students to understand the content and develop their language proficiency. A model that has been used as a common approach in many classrooms is Sheltered Instruction Observation Protocol (SIOP). If implemented with fidelity, the SIOP model positively impacts student achievement (Echevarría, 2012). However, it is imperative for teachers to receive proper professional development in teaching the SIOP model so that it is implemented correctly and with fidelity within their classroom.

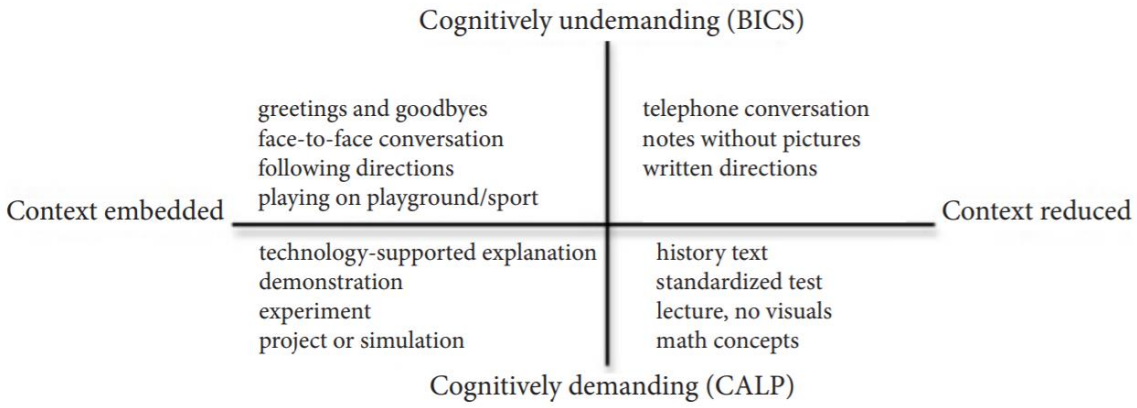
In a quantitative study by Huertas (2018), it was discussed that there is a national deficiency of well-trained teachers to work successfully with ELLs. By providing effective training and continuous support, teachers become effective in their instructional practices and would be able to transition students effectively into mainstream classrooms and perform successfully on state assessments. Huertas's study addressed three components:

- the instructional practices of teachers and their use of the SIOP Model;
- the achievement of ELLs on state assessments; and
- the effectiveness of the teacher participants regarding the SIOP Model.

According to the Second Language Acquisition Theory of James Cummins (2008), there are differences between two types of language that directly influence classroom instruction: Basic Interpersonal Communications Skills (BICS) and Cognitive Academic Language Proficiency (CALP). As shown in Figure 1 below, ELL students need both BICS and CALP (Cummins, 2008).

Figure 1

*Cummins's Framework of Language Skills (2008)*




Important findings from the research consistently showed that high-quality professional development and high-quality instructional practices of teachers are critical to improving learning outcomes for ELLs. It is also essential to consider the classroom culture, which has implications for teaching and for ELL students to thrive. Teaching and learning take place in a social and cultural context. Parts of the second language acquisition theory should lead teachers to create warm, welcoming classroom environments and use strategies that motivate students to communicate with each other and participate actively in classroom interactions (Lessow-Hurley, 2003). Therefore, one may conclude that classroom environments are the most important factor in providing ELL students with opportunities to succeed.

Research on teacher efficacy concluded that effective teachers for second language learners have high expectations for their students, engage them actively in the subject matter, use both of their students' languages, and value and incorporate aspects of the home culture into schoolwork (Lessow-Hurley, 2003). Maintaining high expectations for all students is a must to promote student achievement. For ELLs, it can represent the difference between their academic growth or their academic stagnation.

## Technology in Schools

Technology in schools must not only be defined by the use of computers, laptops, and iPads. Technology also includes any electronic equipment teachers use to enhance instruction, from electronic boards to radios and TVs, from iPads and headphones to projection devices. One-to-one devices, however, are the most individualized form of engaging students with a piece of technology. They can be used to assess their learning, instantly receive their responses, and complete individual tasks. Schools have gone to great lengths to budget and outfit their classrooms with technology resources to equip students better for the 21st century. Various types of devices fall under this umbrella, including computers, laptops, tablets, interactive whiteboards, document cameras, multimedia projectors, smartphones, and promethean boards.

A study conducted in 243 schools in Maine with 17,000 seventh grade students indicated that teaching and learning became more active and individualized when implementing a state-wide technology infusion program. The study provided changes in student achievement outcomes in association with technology infusion in classrooms. It emphasized classroom use of technology as a learning tool rather than a teaching replacement.

In another study that focused on eighth grade writing scores, Silvernail and Gritter (2007) found that there were statistically significant gains for students who used laptops relative to their baseline scores. A later study by Silvernail et al. (2011) also reported positive gains for students who used laptops in mathematics and writing.

As a result of these studies, teacher pedagogy has shifted from teacher-centered (where they did less lecturing and more coaching) to student-centered learning activities, where students routinely used the devices and showed an increase in skill in completing whole-class, small-group, and individualized assignments. Technology infusion programs also increased

sustainability in targeted professional development programs that focused more on promoting pedagogical changes toward student-centered and individualized learning and aligning technology applications to instructional goals that include 21-century skills inquiry learning and projects (Hull & Duch 2018; Lowther et al., 2012; Silvernail et al., 2011; Zheng et al., 2016).

### *One-to-One Devices in Schools*

One-to-one devices are electronics used on a personal, individual basis in educational settings to enhance instruction. Examples are an iPad that is assigned to a student to use or a personal laptop the student is given or asked to bring to class (Selwyn et al., 2017).

According to Clark and Luckin's (2013) report on what the research says about iPads in the classroom:

> For learners, iPads are easy to use and attractive. The research on iPad use and adoption overwhelmingly reports that tablet devices positively impact students' engagement with learning. Findings report increased motivation, enthusiasm, interest, engagement, independence and self-regulation, creativity and improved productivity. (p. 4)

In their research, Lamb and Weiner (2018) discussed how much of the research on one-to-one programs focused on teachers and student achievement and engagement as outcome measures of interest. Findings from their work showed that one-to-one implementation can improve achievement across the curriculum, support students' transition from concrete to abstract thinking, and create more student-centered pedagogies that can minimize the impact of distractions on student learning (Harper & Milman, 2016), while others found they can decrease achievement gaps among socioeconomic groups and learning abilities (McClanahan et al., 2012).

Downes and Bishop (2015) found technology integration is a strong fit with the core practices of the middle grades, including group activities that build team culture, individualization, choice, and creativity. Within this same study, students also reported that using technology helped them build stronger organization and efficiency with their work habits

(Downes & Bishop, 2012). We could also consider that middle schoolers are perhaps the first generation to have grown up in a world where technology is an accessible and dominant aspect of society in these times. It is not surprising that middle schoolers, who depend so much on their cell phones, can build efficiency with their schoolwork by using one-to-one devices, as found in this research.

A multiple case qualitative study by Martinez-Alba et al. (2014) provided the students' view of how technology was used in their instruction and how they thought it could motivate them to read. The study indicated that incorporating various resources on the internet and different types of tasks stimulated students and lessened the gap in how students acquire knowledge and literacy both inside and outside the classroom. Access to technology brings into their hands the resources and information to further their learning immediately.

While Lamb and Weiner (2018) concluded there is a positive impact on one-to-one initiatives, they also indicated there is not much research on how the institutional environment (e.g., beliefs, norms, and power structures) impacts one-to-one technology implementation. They found that further research is needed on how the institutional context may influence teacher behavior in these technology-focused efforts. They highlighted institutional theory as a way to examine educational technologies.

As reflected in the literature, the use of and access to one-to-one devices have been found to impact student outcomes positively. One-to-one devices may therefore be helpful in improving outcomes for ELLs. In the following section, the literature specific to the use of one-to-one devices with ELLs is presented.

**The Use of One-to-One Devices with English Language Learners**

As districts move forward in planning professional development for teachers who teach ELL students and in general classrooms, it is important for teachers to implement various strategies that will assist the ELL students in acquiring linguistic skills and succeeding academically overall. Along with teaching and learning, implementing technology in the classroom can also support student growth and address differentiation based on individual needs (Nemeth & Simon, 2013). One-to-one devices are electronics that are used on a personal basis in educational settings to enhance instruction. ELL students can significantly benefit from the interaction with this personal technology where concepts are quickly illustrated via images, modeling English fluency in speech and reading are accessible, and repeated images can assist in assimilated concepts and lessons. Using technology and encouraging participation increase learning and help develop ELLs' language skills (Bahrani & Soltani, 2011). According to the research studies of Peregoy and Boyle (2013) and Shindler (2008), many ELLs have an instrumental motivation that can be enhanced further by using technology. These researchers went on to say that motivation depends on interesting and challenging tasks that are based on students' needs. Technology "can create a lively classroom atmosphere and facilitate learning," and "materials which are available on the Internet should be selected according to the needs and interests of students" (Gencilter, 2009, p. 155). The benefit of one-to-one technology for ELLs included the fact that listening, viewing, and interacting with the content on the device remove the burden of having to speak the language (English) which students may not have fully mastered yet, but using the device allows them to demonstrate their skills even if their verbal skills are still developing.

To assist with comprehension, vocabulary building, and scaffolding, research has also suggested that teachers should guide ELLs on using the internet and online features (Akinwamise & Adedara, 2012). Technology can help teachers teach their students, develop a student-centered pedagogical approach, and enhance intercultural communication (Erben et al., 2007). To increase language learning, technology allows ELLs to collaborate with their peers and complete interactive tasks without the pressure of showing a full command of the language they are still developing.

According to Daniel and Cowan (2012), it is essential for teachers to provide these "opportunities to ELL students in order to help them become confident students who are able to perform to the best of their ability in all content areas; both in their native language as well as in the English language" (p. 99). Providing an easily accessible device to ELL students creates a learning experience that is engaging, non-threatening, and motivating. Providing the opportunity to work at their own pace and on their own level creates a learning environment in which they do not have to exceed the standards of their peers (Cutter, 2015). Incorporating one-to-one devices also provides teachers with opportunities to scaffold lessons for each student (Liu et al., 2014). These technology resources remove barriers for ELL students by providing them with instant visuals, modeling of the language, translation if needed, and illustrated knowledge of content areas.

In discussing the use of one-to-one technology with ELLs, Cutter (2015) shared that integrating technology into instruction has a direct positive impact on ELLs. However, it is noted, as with the research of both Wassell and Villegas, that to support all ELLs properly, teachers must receive support and professional development opportunities to ensure that they know about and understand a variety of technology applications. Incorporating the devices

provides students with unique learning opportunities that do not solely depend on the use of paper and pencil, but instead engage them in learning activities that will give them deeper understanding and strengthen their skills.

Although family involvement is consistently recognized as an important aspect across the K-12 educational spectrum, research that addresses teachers' perspectives about family involvement for middle school ELL students is limited. This study sought to fill that gap.

## Student and Teacher Perceptions of One-to-One Devices

### *Student Perceptions*

As the integration of technology continues to be a priority in education, the goal for integrating one-to-one devices is to increase academic performance. Technology devices should be appropriately integrated to have a positive impact on student achievement. It is crucial to garner students' and teachers' perceptions regarding the effectiveness of the one-to-one devices on their education to provide insight to schools and districts as they move to integrate technology in the classroom.

In a study conducted at a high school, communication was a common theme. Students reported iPads were their main means of accessing the curriculum, communicating with each other, and completing assignments. Students reported the biggest change they noticed was they were in a "portable" learning environment, which changed how they were learning and made it much easier to share resources or complete work more efficiently (Kaufman & Kumar, 2018). They also reported that iPads gave them more responsibility for their own learning and provided them with opportunities for multimodal learning and differentiated instruction. In the same study, students reported that iPads provided them with opportunities to research because internet access

is more readily available. One student stated, “The most useful thing is having the Internet right there, so at any time you can just look up information” (Kaufman & Kumar, 2018).

In another study, 458 middle school students were surveyed and asked to report their actual use of mobile devices during a 2-week engineering design unit. About 80% of students surveyed believed they should be allowed to use mobile devices in their classrooms. Table 1 shows how they would use mobile devices (Bartholomew et al., 2017).

Table 1

*If you had access to mobile devices during all your classes in school, how would you use it?* (N = 458)

| Possible Use of Mobile Devices | Yes | No |
|---|---|---|
| To send audio, video, or photo files to someone else | 80.8% (*n* = 370) | 19.2% (*n* = 88) |
| To access information via the Internet | 79.7% (*n* = 365) | 20.3% (*n* = 93) |
| To learn new skills | 68.8% (*n* = 315) | 31.2% (*n* = 143) |
| To communicate with someone else (i.e., text message, phone call, etc.) | 39.5% (*n* = 181) | 60.5% (*n* = 277) |
| To create, edit, manipulate, or manage photos and/or videos | 21.6% (*n* = 99) | 78.4% (*n* = 359) |
| I would not use it | 11.6% (*n* = 53) | 88.4% (*n* = 405) |

Blikstad-Balas and Davies (2017) also surveyed students regarding their experiences using one-to-one devices. Students indicated the following ways in which technology was valued:

- sharing notes made in lessons via OneNote, which can be accessed at all times;
- distributing resources via OneNote;
- distributing resources, sources and links, documents prior to lesson, PowerPoints subsequent to lesson via email;
- having work sent online/sending and receiving feedback on work/writing essays;
- testing drafts of essays in a format easily correctable by the teacher;

- being provided with a wide range of online video material on topics being learned;
- talking about the subject/current affairs on news websites/case studies/presentations/ educational videos/demonstration on the smartboard;
- being encouraged to do own research on laptops and the internet; and
- working collaboratively via OneNote and Google Docs.

Although most of the students reported they were in favor of utilizing a mobile device in the classroom, the findings also suggested that mobile devices may not always be a positive influence in the classrooms. Distraction was one main factor students cited that could have a negative impact in the classroom. According to a study by Blikstad-Balas and Davies (2017), the most commonly reported negative perceptions of the devices also related to concerns about off-task behaviors or increased opportunity for distraction, particularly in the areas of gaming or social networking (Willcocks & Redmond, 2014, pp. 403-404).

***Teacher Perceptions***

Teachers' perceptions of one-to-one devices can significantly affect their decisions about classroom practice. In reviewing the literature, it was found that teachers believed benefits of implementing one-to-one devices were increased student communication and collaboration skills. Teachers also identified a shift in their role as facilitators of learning, allowing students to become the leaders of their learning. Equity was also described as a benefit of the one-to-one devices because it provided all students with a device as well as equivalent access to information and learning resources, both in and out of school.

A study by Thomas and Muñoz (2016) explored high school teachers' perceptions of one-to-one devices. They found that teachers perceived the benefits of using a one-to-one device were due to increasing digital fluency and minimizing any digital divide (Thomas & Muñoz

2016). In similar studies, teachers communicated that one-to-one devices also increased students utilizing the Four Cs of 21st century skills in student learning which include: Communication, Collaboration, Critical Thinking, and Creativity Skills (P21 Partnership for 21st Century Learning, 2016).

Teachers also described challenges they faced with implementing one-to-one devices in the classroom. Balancing student learning time within the classroom and outside of the classroom was difficult to assess. Like students, teachers felt a barrier to the one-to-one devices was the distraction to teaching and learning. Lastly, continuous professional development to support teachers was another challenge for teachers.

Overall, students have shown similar perspectives from students and teachers, reporting that the integration of the mobile devices into the classroom provides students with the ability to share information, access information, learn new skills, and communicate as benefits. Using personal mobile devices can potentially enhance classroom learning. Additionally, it was also noted there were concerns with distractions regarding the usage of mobile devices.

**Gaps in the Literature**

A review of the literature on middle school teachers' perspectives on one-to-one devices used in classroom contexts made evident that there are gaps in the existing literature. The key question remains as to whether the use of one-to-one devices improves outcomes for ELL students.

A common gap in most of the literature is that the literature has focused on the importance of preparing teachers to work with ELL students. However, it does not discuss the type of preparation needed to support teachers in implementing the devices effectively. Exploring the literature showed that teachers must value and understand the need for integrating

mobile devices into the classroom. For authentic implementation, districts must provide teachers with the knowledge, confidence, beliefs, and school culture that welcome mobile technology integration for authentic implementation (Ertmer & Ottenbreit-Leftwich, 2010). The existing literature lacks depth because it does not allow for a thorough understanding of how teachers can effectively implement technology in the classroom to support ELL students. In order to effectively use technology to support instruction, teachers must have both pedagogical content knowledge and technological pedagogical knowledge.

Most of the literature has also focused on student and teacher perceptions, but there has been limited literature on parent perceptions. As technology continues to be an integral part of education, there is a need to examine further if parents believe there are benefits to using technology for teaching and learning. Additionally, there is limited research especially on the perceptions of ELL students, parents, and teachers. Instead, most of the focus has been on perceptions of students and teachers of the general education population. In the present study, I interviewed teachers who teach ELLs in a middle school setting to learn how one-to-one devices influence their academic experience.

Furthermore, there is a gap in the literature concerning the use of one-to-one devices to improve student outcomes, specifically for ELL students. Several studies revolved around how the devices were implemented in the classroom and the variety of applications used to support learners. However, there is a need for further research on the influence of one-to-one devices to improve student learning with ELL students. The present study can provide a unique perspective to understand the phenomenon through the perceptions and experiences of teachers who utilize one-to-one devices to support instruction.

## Summary

To meet the needs of ELL students in varied ways, school districts are implementing one-to-one devices in the classroom. The goal of incorporating one-to-one devices is to increase student learning by implementing strategies in the classroom to help ELL students promote their success in the English language. Studies have been conducted around the importance of preparing teachers by providing professional development on a continuous basis, so they can gain the skills necessary to use laptops effectively for learning. Additionally, the literature also discussed how the devices are used to support students. This study was aimed at exploring teachers' perspectives of how the use and proper implementation of one-to-one devices influence their ELL students' academic experience. It will also make recommendations on how to support ELL students, given that the classrooms have now evolved to in-person and remote instruction using the devices. In Chapter 3, the methodology and design for this research is provided.

# CHAPTER 3 – METHODOLOGY

## Introduction

As stated in Chapters 1 and 2, the purpose of this study was to explore teachers' perspectives of how one-to-one devices influence their ELL students' academic experiences. The research was guided by two research questions:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

Chapter 3 now describes the method for carrying out the study to answer these research questions. First is a brief description of the participants in the study and the setting in which the research took place. Next, the interview protocol is discussed, followed by a detailed summary of the method for collecting the data as well as the method for analyzing the data. The chapter concludes with a discussion of ethical considerations for the research study.

## Research Design

This research was guided by a qualitative methodology and a phenomenological research design. Qualitative methods are appropriate when the goal of a study is to better understand why or how a phenomenon occurs, rather than quantifying the prevalence or extent of a phenomenon (Taylor et al., 2015). Qualitative research involves the collection of detail-rich data. In the case of this research, the aim was to explore the phenomenon of one-to-one device use in middle school classroom settings through the lens of teachers' perspectives.

A phenomenological research design also guided this research. Phenomenology describes the exploration of a research phenomenon from relevant stakeholders' direct perspectives and

experiences (Moustakas, 1994). Teachers' experiences and perspectives are of interest for this study because of their direct experience instructing and using one-to-one devices. Subjectivity is central to phenomenological research. This study may explain the research phenomenon from the perspectives of individuals who utilize it as a professional tool to support ELLs. Other qualitative designs were considered, including descriptive and narrative inquiry designs (Taylor et al., 2015). However, the value of subjective firsthand perspectives was essential for addressing the research problem and understanding the implications of the central research phenomenon.

**Participants and Sampling**

Purposive sampling methods were used to select relevant participants. Purposive sampling involves selecting participants based on unique inclusion and/or exclusion criteria to ensure their relevance to the study. The participants for this research included 15 middle school teachers from a large urban school district in New Jersey.

The school was selected as the most appropriate site for this study because it has implemented one-to-one devices since 2016. The middle school serves approximately 700 students in Grades K-8. There are approximately 300 students in middle school Grades 5-8, and 175 of the total population of students are English Language Learners (ELLs). Grades 5-8 were of particular interest due to their utilization of technology. In my observations as an instructional leader in a K-8 school, technology applications and devices are being used more frequently with middle school students because they travel to different instructional settings, compared to students in Grades K- 4, Additionally, the middle school was selected because of my personal familiarity with the middle school grades.

The participants formed a heterogeneous group in terms of the subjects they taught or services they provided (instructional settings), the number of years teaching, and their experience

in using one-to-one devices. The school has ESL programs that serve students in levels 1-5. ESL students receive a classification according to their English Language Proficiency:

Level 1 - Beginner (Very Limited English),

Level 2 - Early Intermediate,

Level 3 - Intermediate,

Level 4 - Advanced, and

Level 5 - Fluent English Proficient.

The selected classrooms were ESL classrooms and classrooms where ELLs are included in the general education classrooms and pulled out for ESL services that may occur in the classroom or a separate classroom.

**Data Collection**

My research focused on how teachers of ELLs perceive one-to-one devices, specifically teachers in middle school from Grades 5-8. Participants in this study included teachers in middle school classrooms who taught ELLs at varying levels of language acquisition. The participants also had varying years of experience using one-to-one devices as part of classroom instruction.

Interviews were not conducted or analyzed until after Seton Hall University IRB approval was obtained (see Appendix B). Teachers who taught ELLs and used one-to-one devices were extended an invitation through electronic mail to participate in the study (see Appendix C). Participants were provided information about the study and a basis for the research. They were asked to indicate a window of time to allow for completion of the virtual interviews. For the study, a target sample of 15 teachers was initially identified. A total of 15 teachers responded to the invitation to participate; therefore, all 15 were selected for the study. Once teachers

responded to the invitation, they were assigned a pseudonym (i.e., T1, T2). Consent forms were collected at the start of each interview session (see Appendix D).

Semi-structured interviews were conducted with teachers at the middle-school education level to ascertain their relevant perspectives and experiences. The interviews ranged from 45-60 minutes. Interviews were audio-recorded and transcribed for ease of analysis. The following example interview questions guided the interviews with participating teachers (see Appendix A):

1. What type of technology do you use to support your English Language Learners?
2. Tell me about the professional development you have received using one-to-one devices with English Language Learners.
3. Tell me about any challenges you have experienced with using one-to-one devices.

The concept of one-to-one devices and other relevant definitions were also provided to participants to ensure clarity. Castillo-Montoya's (2016) interview protocol refinement framework was used to ensure that the questions were entirely relevant to the participants and the purpose of the study.

**Reliability and Validity**

To ensure reliability and validity, the data collected were analyzed, and any patterns or constants in the responses was identified to reach conclusions.

At the final phase of the interview question development, I piloted the interview questions before conducting the interviews with the participants. The pilot interview allows the researcher to practice the interview protocol, get a sense of how long the interview will take, and adjust the questions before the study's formal launch (Castillo-Montoya, 2016).

Applying reflective practices, being descriptive, and using rich data as strategies assisted this researcher in identifying themes from the multiple data sources. The researcher practiced

reflexivity by journaling and reflecting on the research process, collecting data, and describing what happened each day as interviews were conducted. Maintaining a journal as I interacted with the participants in the interviews allowed me to reflect on the process and have firsthand experience with the feedback that the participants offered. To ensure credibility, it was important that reflexivity practices be incorporated to reduce the likelihood of researcher bias. The data from the interviews were used to allow teachers to voice their thoughts regarding one-to-one devices. As I wrote my findings, I referred to my journal to identify topics for further investigation and future research.

Upon completion of the transcripts, I also engaged in an informal member checking process to increase validity. Lincoln and Guba (1991) described the use of member checking in qualitative research as the "most crucial technique for establishing credibility" (p. 314).

Findings can also be used to plan future professional development in my district, as I work with supervisors and principals to enhance technology practices in their schools in our district.

**Scope and Delimitations**

This research centered on one-to-one device use in middle school classrooms. One-to-one device use was the focus because of the common implementation of this educational strategy in general education classrooms and the lack of data concerning how ELL students perceive this strategy. Middle school teachers were purposely selected because their perspectives provided a unique understanding of the benefits and challenges associated with one-to-one device implementation. Insights from a grade level above the early elementary grades were desired due to how language barriers can impact the experiences of ELL students more significantly in higher grade levels (Abbott et al., 2017).

## Data Analysis

Thematic analysis was used to analyze the data. Thematic analysis entails coding and describing data in accordance with themes and patterns that emerge from the data set that are relevant to the context of the research questions (Taylor et al., 2015). The interviews took place virtually using GoToMeeting. The interview recordings from GoToMeeting were transcribed and saved on a password-protected laptop. For this study, Braun and Clarke's (2006) six-step framework for thematic analysis was used for this analysis. First, I familiarized myself with the data collected, then read and reread the transcripts several times. All interview transcripts were uploaded into NVivo 12 software. Next, I used an inductive coding process. I developed initial codes to label the data and searched for emerging themes that arose from these codes. Afterward, I reviewed the themes, refined them, and defined them before concluding with a final write-up of the analysis to answer the research questions (Braun & Clarke, 2006).

## Limitations

As with all research, limitations also informed this study. The study was limited to 15 participants from one target population. Another potential limitation was the self-reported nature of the data as it was not technically possible to ensure that participants' responses were directly reflective of their experiences. Participants were able to leave the study at any time. They were made aware that their responses would remain anonymous to reinforce their honesty and the integrity of the data. Furthermore, the inclusion of a single school district may have served to limit diversity among participants' perspectives. I ensured that teachers in the participating district employed effective ways to use one-to-one devices as an educational strategy in middle school classrooms.

## Assumptions

Certain assumptions guided this study. First, it was assumed that participants would provide relevant and honest responses to the central research questions. Participants were reminded that their participation was entirely voluntary, and their responses would not affect their employment or education. Further, it was assumed that purposively selecting participants who were middle school teachers would result in data that lend new insight to the central research phenomenon, as these populations have directly relevant perspectives on one-to-one device use in classroom environments.

# CHAPTER 4 – ANALYSIS OF DATA

## Introduction

The use of one-to-one devices in instruction can become an asset as teachers provide ELLs with technology tools that may enhance their academic experience and assist in closing the language gap while fostering English language development (Tank & Tank, 2001). Additionally, web-based resources are being promoted as effective tools for transforming teaching and learning (Groff, 2012). Therefore, the primary purpose of this qualitative phenomenological study was to explore teachers' perspectives of how one-to-one devices influenced their ELLs' academic experiences and how their perspectives aligned and diverged in different instructional settings. The other purpose of the study was to identify potential themes for successful implementation or suggestions for improvement to support ELLs. Many schools are using one-to-one devices to raise student achievement with the ELL population. Therefore, it is important to understand teachers' perceptions of these processes. Many schools rush into a one-to-one program and end up unprepared to implement a strong program. Thus, it is essential to hear from teachers regarding what needs to be added or changed when using one-to-one devices to support ELLs.

In this chapter, the data collected to answer the research questions are presented. First, the demographics of the study site and characteristics of participants are offered. Next, the data garnered from the participating teachers are reviewed, and lastly, themes are presented along with a summary of the chapter.

## Research Questions

The following research question and sub-question have been developed to guide this study:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

## Demographics

Data for this study were collected through semi-structured interviews. The urban school district was identified as having one-to-one device environments in Grades 5-8. This kindergarten through eighth grade school consisted of a population of 670 total students and 120 ELL students. An invitation to participate was sent to 15 identified one-to-one teachers in Grades 5-8 who teach ELLs. A total of 15 teacher perceptions were gathered during individual interviews.

## Characteristics of Participants

Teachers who participated in the study were from various classroom content areas, assignments, and grade levels. To protect teacher participant responses and identities, pseudonyms were used in the semi-structured interviews: interview questions #1, #2, and #3 obtained demographic information from the participants. Of the 15 participants, 12 were females and 3 were males. The average teaching experience of participants was 13 years, ranging from 2 years to 25 years. Eight participants were middle school ELA, math, social studies, and science teachers; five were ESL/Bilingual teachers, one was a resource teacher, and one was a technology teacher.

Table 2 presents the participants, grade(s) taught, teacher assignment, and number of years teaching.

Table 2

*Characteristics of the Participants*

| Participant | Grade(s) Taught | Teacher Assignment | Number of Years Teaching |
|---|---|---|---|
| T1 | 5 | ELA | 9 |
| T2 | 6 | Mathematics | 22 |
| T3 | 6 | ELA | 25 |
| T4 | 5 | Mathematics | 17 |
| T5 | 7 & 8 | Resource ELA | 18 |
| T6 | 7 & 8 | ESL | 2 |
| T7 | 8 | Mathematics | 11 |
| T8 | 8 | ELA | 14 |
| T9 | 4 & 5 | ESL | 17 |
| T10 | 5 & 6 | Science/SS | 17 |
| T11 | 7 & 8 | ESL/Science | 5 |
| T12 | 5-8 | ESL | 14 |
| T13 | K-8 | ESL/Bilingual | 5 |
| T14 | K-8 | Technology | 9 |
| T15 | 7 & 8 | Social Studies | 6 |

**Findings**

Braun and Clarke's (2006) six-step framework for thematic analysis was used for this analysis. Transcripts were read and reread to gain familiarity with data and initial codes were generated (e.g., "benefits of technology" and "duration of teaching"). Codes were refined and sorted into preliminary themes, and, finally, relevant themes were finalized. The following four themes arose from the data:

1. **Professional development**, which included teachers' exposure to professional development in using one-to-one devices with ELLs;
2. **Teaching methods**, which included three subthemes: (a) Differentiation, (b) Instructional model for ELLs, and (c) Facilitator for learning;
3. **Student engagement**, which included three subthemes: (a) Frequency of use, (b) Monitoring student engagement, and (c) Types of technology applications; and
4. **Evaluation of technology**, which included three subthemes: (a) Benefits, (b) Challenges, and (c) Recommendations of using technology with ELLs.

Themes 1-4 answered the main research question and subquestion:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

### *Theme 1: Professional Development Using One-to-One Devices with ELLs*

When discussing professional development for one-to-one implementation, three commonalities surfaced: (a) professional development for digital learning resources and platforms (especially during the COVID-19 pandemic); (b) not enough professional development specific to supporting ELLs and, ELA teachers; and (c) ESL/Bilingual teachers received more specific professional development for ESL students than their peers.

The professional development for digital learning resources and platforms resulted in dialogue about how helpful it was to receive professional development on how to use the resources and platforms. All the participants reported they had received professional

development on using one-to-one devices to provide students with technology-based experiences to support learning across the curriculum. Teacher T13 described the professional development:

> Most of the professional development that I can tell you about has been because of the pandemic and the online teaching and stuff. We've received PDs on Google Chrome extensions, Google Translate, how to translate documents, or how to make it accessible for our students to translate documents. We've received a PD on an extension called Mote, where I can record my voice and attach it on my Google stream, or attach it to any document, or attach it to any assignment. (T13, 21 May 2021, Personal Interview)

When discussing specific professional development to support ELLs, most teachers stated there was not enough. As Teacher T1 said: "There hasn't been anything specific provided, specifically for ELLs, but we've adapted the different programs that we use, and the professional development strategies that we use for those students." T12 stated:

> We've been trained in several other Google Apps, whether it's Slides, all of different Google stuff, and we have become very familiar with it and use it in different ways, too, to give instructions to students, but nothing, nothing, particularly in terms of computer-based training specific to ELLs. (T12, 18 May 2021, Personal Interview)

All participants spoke about the various apps they used in their classrooms to support instruction. Many of the apps translate the content for students to support their learning. This also allows teachers to check what the students know, and teachers can adjust their instruction based on student needs. The use of one-to-one devices provides teachers with an easier format to monitor student learning quickly and efficiently. All participants said the technology helped them represent the information in multiple ways when teaching. T1 stated:

> For example, Newsela is a website that actually does offer translated passages for students. What I find most effective with the English language learners is anything that's going to keep, not only keep them engaged, but also provide them with the visuals and graphics to help them understand the content. So, we basically can still implement what we call sheltered instruction through the remote learning setting, so we're able to provide them with extra visuals. It's actually been very helpful in this remote format because I can present my screen and I can have them present their screen and find some troubled areas. (T1, 12 May 2021, Personal Interview)

The ELA and ESL/Bilingual teachers felt there were many digital learning resources and programs that help ELLs. Teacher T5 stated:

> We have Learning Ally, which is all audiobooks, and they have Spanish and English, so I think that's really good, if we're doing a novel in class, whether it's district-related, or our own, and they can just simply search in Spanish, and it comes up. If I am doing a language arts lesson, I like to use, for example, CommonLit because they have the option to translate the text and different vocabulary. (T5, 14 May 2021, Personal Interview)

However, information gathered from the interviews showed that teachers of other content areas (math, social studies, and science) did not receive professional development specific to supporting ELLs. T15 stated:

> A lot of the PDs that they're trying to provide is more about how to use Google, like the Google Suite, for us to become proficient with that. As for the English Language Learners, um, there are some tools that I've found helpful, like with Kami, which is really, really great where you can alter the text, even a PDF document. It's not just me reading it to the students. They can read it themselves with the technology where like if they highlight it, it'll read to them. Um, so as far as the PD goes, like I've had a few with those, but like with Kami and what have you in Google. But I wish there was a little more, to be frank, because specifically, I mean, this is especially with the school then working at, um, we have a lot of English language learners, and most of them will come in sometimes in the middle to the end of the school year, so you have to know these things very quickly. So, I feel as though there are not enough of the pieces out there. I feel like those feelings are very generalized. (T15, 21 May 2021, Personal Interview)

The teachers who did not teach ELA or were not ESL/Bilingual teachers all stated that the district provided substantial professional development to use the devices with the Google Platform but did not provide specific resources for their content area. As stated by T2:

> You know, we went to training, district, issued PDs for bilingual with bilingual, not necessarily bilingual and technology. So, to say that we have got in training, specifically connecting, um, ELL and technology. I think that's just up to us to explore what the programs offer to implement with our ELL students, if we have had it, it's not coming to me as far as training, so I think it's pretty much self-taught. (T2, 13 May 2021, Personal Interview)

According to the participants, the professional development varied based on the content they taught. The ELA and ESL teachers felt the professional development was specific to how to

utilize various resources to support ELLs. However, the math, social studies, and science teachers felt the professional development was not specific to support ELLs. This study focused on teachers' perspectives on how one-to-one devices influence their ELLs' academic experience. Participants' responses to the interview questions showed that the majority believed professional development was essential to improve their teaching practice while using one-to-one devices to support ELLs and enhance their academic experience.

In summary, the professional development theme was composed of participants with diverse experiences working as teachers. Participants shared their years of experience and the specific grade levels with which they had experience. They also described the professional development they received to facilitate their use of technology in the classroom. Some participants had extensive exposure to professional development, while others reported a lack of professional development specific to technology use with ELLs.

### *Theme 2: Teaching Methods*

The teaching methods used to support ELLs are critical in influencing their academic experience. Traditional teaching strategies focus predominately on lectures with students as listeners and does not meet the needs of students which require active engagement (Naz et al., 2017). The use of new technology and one-to-one devices enhances teaching and learning and builds 21st century skills which aim at developing students' skills and knowledge. Participants were asked to discuss how often they used one-to-one devices during instruction. This question created a further discussion about their teaching methods, which formulated into a theme with three subthemes: differentiation, the instructional model for ELLs, and facilitator of learning.

**Subtheme 1: Differentiation.** This subtheme was composed of participants' descriptions of methods they used for differentiation. To address ELLs' various English language learning

levels, the teachers used a variety of applications and digital learning resources to provide the appropriate levels of language and academic instruction. Most participants who taught the core subjects (English, math, social studies, and science) felt the devices allowed for more customized learning, where they can assign the activities appropriate for students' specific language levels and scaffold more easily. The three sample responses below represent the general sentiment of the teachers:

> So, differentiation, you know, basically is based on the grouping and by need, um, you know, some more complex lessons, you know, like CommonLit trying to think of all the other ones, learning, you know, Learning Ally is just for the reading books, but, you know, just scaffolding and kind of grouping. (T5, 14 May 2021, Personal Interview)

> I've been giving them different levels of questions with the same concept but different levels of questioning. (T4, 14 May 2021, Personal Interview)

> Well, depending on the classroom situation, and depending on the students' data, the teachers sharing with me, um, for example, in a math ESL class, it definitely will give accommodations and modifications. (T12, 18 May 2021, Personal Interview)

All participants communicated the importance of using one-to-one devices as a tool to differentiate instruction and provide ELLs with a rich and comprehensive experience necessary to acquire a second language. Differentiation through the use of technology allows teachers to use a variety of innovative ways to make the content understandable and accessible to students. It allows them to tailor the content to individual ELLs, and change the pace, amount, level, or kind of instruction to meet the individual needs of each learner. For example, here is a response from a teacher on how to apply differentiated instruction using technology in a classroom with ELLs:

> Video is really important. I'm very, very selective of the videos that I show them. So, usually, I will give them about one to two videos that they can choose that they feel like they could understand at their pace. Because not all English language learners are on the same level, obviously. And so, maybe that one video may seem too simple, for one, but if the next one is more on the next step that they can be like, okay, I could follow this. So, maybe the more simplified video is going to focus on vocabulary more so than the other one is focusing more on a deeper content knowledge of what we're going over. (T15, 21 May 2021, Personal Interview)

> It's also why I like brain pop because they also put things in different languages, too. There are videos, there, quizzes, everything is in a different language, as well, if necessary. So, it's not to say that they're not trying in an English, but to ease the understanding, it can be translated. (T14, 21 May 2021, Personal Interview)

The ability for ELLs to have their own personal device and receive differentiated instruction allows teachers to provide more visual support to get their learners interested and build on their motivation to help them acquire the language. The one-to-one devices gave them additional resources they did not have before to assist them in providing differentiation for their students.

**Subtheme 2: Instructional Model for ELLs.** This subtheme included information about the different instructional models teachers used with their ELLs. Varied instructional models were used to ensure that ELLs received the type of instruction they need to learn English and succeed academically. Goldenberg (2008) summarized three points that characterize instructional models for ELLs:

- Incorporating instruction in English language learners' first language appears to promote their literacy achievement in English;
- Instructional strategies that have proven effective for monolingual English speakers also appear to be effective for ELLs; and
- Instructional strategies may have to be modified for ELLs (e.g., pacing, vocabulary complexity, comprehension supports), given that they are still learning English.

All participants described the instructional model that was most effective for them. Regardless of the model used or the content area they taught, all participants discussed various ways the one-to-one devices improved the delivery of instruction. Additionally, they noted that

the one-to-one devices supported ESL language development, collaboration, communication, and the ability to think critically, engage, and prepare projects. Table 3 illustrates participant responses to different instructional models and programs used for English language learners.

When participants were asked to describe the instructional model they used with their ELLs, five programs emerged as described above: (a) sheltered instruction, (b) cooperative learning, (c) push-in, (d) small groups/breakout rooms on Google Platform, and (e) bilingual resource. The data showed that participants who were ESL or Bilingual teachers mostly used sheltered instruction and/or push-in; below are three sample responses:

> For me, it's usually, I think, sheltered instruction where I like, I kind of like allow some students to go to the next level, differentiation of the groups like one or two kids. (T12, 18 May 2021, Personal Interview)

> We use two models; we use the sheltered instruction for the ESL students. So the ESL teacher goes in the classroom with their homeroom teacher and we do breakout rooms. We do a lot of modification and also differentiate their instruction if the students are not at the same level. The other model we use is the bilingual resource, which I have my own classroom for my bilingual students and these are the students who came to the country for two years or less. (T9, 17 May 2021, Personal Interview)

> We use two models; we use the sheltered instruction for the ESL students. So the ESL teacher goes in the classroom with their homeroom teacher and we do breakout rooms. We do a lot of modification and also differentiate their instruction if the students are not at the same level. The other model we use is the bilingual resource, which I have my own classroom for my bilingual students and these are the students who came to the country for two years or less. (T9, 17 May 2021, Personal Interview)

> What I find most effective with the English language learners is anything that's going to keep, not only keep them engaged, but also provide them with the visuals and graphics to help them understand the content. So, we basically can still implement what we call sheltered instruction through the remote learning setting, so we're able to provide them with extra visuals. It's actually been very helpful in this remote format because I can present my screen. I can have them present their screen and find some troubled areas. (T1, 12 May 2021, Personal Interview)

Table 3

*Instructional Models and Programs for English Language Learners*

| Model | Program | Description | Technology Resources |
|---|---|---|---|
| English-only: Developing literacy in English | Sheltered Instruction | English adapted to students' proficiency level, supplemented by gestures, visual aids, manipulatives, etc. | Kahoot<br>Jamboard<br>Imagine Math<br>Learning Ally<br>Nearpod<br>Newsela<br>Pear Deck<br>Certified Coach<br>Envision<br>GoGuardian<br>Class dojo<br>Achieve 3000<br>BrainPop<br>Code.org<br>PBS kids<br>Padlet |
| | English as a second language (ESL) push-in | Students are taught in English and students are served in mainstream classrooms with ESL instructional support provided in the classroom by a specialist. | |
| | Cooperative learning | Learning is social, and all individuals learn first on the social level, between people, then on an individual level. | |
| | Small groups/breakout rooms on Google Platform | | |
| Bilingual: Developing literacy in two languages simultaneously | Bilingual pull-out<br>Bilingual resource | Both English and students' native language. Students receive more individualized attention in small groups. The ESL teacher arranges the groups according to language level. | |

The content area teachers used cooperative learning, small groups, or breakout rooms. As Teacher T8 stated, “In the classroom, it’s probably more, like, you know, I would show them what to do maybe like on the smartboard. So, they see it and then, they would work on their device a lot of times, in small groups or if there was somebody someone else that could kind of help them and guide them. But, more like, I guess, cooperative learning.” The interviews helped determine the subtheme of instructional models with ELLs; although it was not verbalized, it was prevalent among all participants. The conversation around instructional models led to a discussion on how the one-to-one devices supported the ELLs. T13 praised the devices for helping her to share information with the students:

> Um, it’s funny because I feel like the instructional models are the same. It’s just you have new ways of implementing them. So, like I would do “I do, we do, you do” things like that, or like even the use of anchor charts. I mean, I can just upload an anchor chart, or a picture of an anchor chart, and I can present it to them. So, the same thing, I would say, that in all instructional models, whichever they are, can definitely be implemented through the use of a device. I would use, achieve 3000 mostly for my bilingual students, so I use that a lot and that required them to, you know, get their Chromebooks out and use that. That had audio support that had vocabulary support for them. (T3, 21 May 2021, Personal Interview) classroom for my bilingual students and these are the students who came to the country for two years or less. (T9, 17 May 2021, Personal Interview)

> We use two models; we use the sheltered instruction for the ESL students. So the ESL teacher goes in the classroom with their homeroom teacher and we do breakout rooms. We do a lot of modification and also differentiate their instruction if the students are not at the same level. The other model we use is the bilingual resource, which I have my own classroom for my bilingual students and these are the students who came to the country for two years or less. (T9, 17 May 2021, Personal Interview)

> What I find most effective with the English language learners is anything that’s going to keep, not only keep them engaged, but also provide them with the visuals and graphics to help them understand the content. So, we basically can still implement what we call sheltered instruction through the remote learning setting, so we’re able to provide them with extra visuals. It’s actually been very helpful in this remote format because I can present my screen. I can have them present their screen and find some troubled areas. (T1, 12 May 2021, Personal Interview)

Participants shared their perspectives on how one-to-one devices helped provide students with what they need in various ways. The ability to share videos and information that students can easily access with their own device helps deepen understanding and contextualization of the material, and infographics (visuals with text) can be especially useful for engaging ELLs.

**Subtheme 3: Facilitator of Learning.** This subtheme was motivated by participants' responses to the question regarding the influence of one-to-one implementation on students' learning. According to most participants, there were aspects of improvement in their teaching due to using one-to-one devices with the ELLs, which helped answer the research questions:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

Participants in this study identified that one-to-one devices improved their teaching practices and the ability to incorporate a multitude of strategies to guide learners. ELA teachers discussed how the use of different digital learning resources allowed them to embed support features that included visual images to help a student understand new vocabulary and auditory features such as text-to-speech supports, allowing students to hear the text they are reading. Math teachers discussed how the devices allowed them to group students, differentiate instruction, and respond to students more quickly than they would without the use of the devices. Below are responses to the question: Has the use of one-to-one devices changed you as a facilitator of learning?:

> It has honestly helped a lot because they can use the one-to-one device to research, to gather more information. It helps them to think critically, and it helps them gather more information and, let's say, PowerPoints, or all of that, it's visual, so it helps them understand the concept better. (T6, 14 May 2021, Personal Interview)

> It helps the students with gathering more information and thinking critically, providing them with a visual. That helps me with the lesson preparation, and when we give the instruction, it's just, it's easier to just prepare lessons and use the device. (T1, 12 May 2021, Personal Interview)

> First, I think, I feel it gives a challenge. It was a little bit challenge for me to learn all these techniques and tools that exists with technology. It's improving so quickly, but as we're using it more and more, I feel it really benefits the students and us as teachers. Because we're able to create those lessons that will grab the students' attention instead of just, for example, posting the lesson on the board or reading a story in the book and students will sit there or copy down from the words on the paper or notebook, so it gives different ways to deliver the instruction and the teacher they're using all these different ways or tools that they have to deliver the best quality of instruction. (T11, 18 May 2021, Personal Interview)

> It kind of pushed me to learn. I'm not the best with technology. I never really liked technology, but it has pushed me to start to see how incredibly helpful it is. But also, not to lose that connection with the students, which I find sometimes technology can do. But I've been able to find a way to grow as an educator and using different technology to reach them. So, in a way going through this pandemic; despite all the horribleness that went with it, there was some, there's a silver lining to it. So, it's definitely helped me grow too by expanding my lessons a little more, they're more interactive now. (T15, 21 May 2021, Personal Interview)

Most participants felt the one-to-one devices were tools that the teacher and learner can use to facilitate their learning process. The devices allowed teachers to re-examine the nature of the classroom environment and provide access to sources beyond the classroom and textbooks, allowing them to become a facilitator of learning.

In summary, the teaching methods theme was composed of participants' descriptions of the various methods used in their classrooms. Participants noted how they differentiated within their lessons and classrooms. They also shared the types of instructional models they used for their ELLs. Lastly, participants reported on the use of one-to-one implementation and whether it facilitated or hindered learning. As teachers continue to incorporate the use of one-to-one devices for ELLs, they can open up more learning opportunities for students to work on both the

academic and social aspects of the English language and develop their English language skills in various engaging ways.

***Theme 3: Student Engagement***

According to Klem and Connell (2004), "Student engagement has been found to be one of the most robust predictors of student achievement and behavior in school" (p. 5). It is important for teachers to create multiple opportunities for student engagement that will provide students with active learning experiences that include collaborative group work, cooperative learning, opportunities to think critically, and complete presentations and projects. As stated by Teacher T1**,** "What I find most effective with the English Language Learners is anything that's going to keep, not only keep them engaged, but also provide them with the visuals and graphics to help them understand the content."

Schlechty (2002) defined five levels of student engagement as follows:

1. Authentic Engagement—students are immersed in work/activities with personal meaning and value (discussing a topic of personal interest);
2. Ritual Compliance—the work/activity has little or no immediate meaning to students, but students are engaged because of extrinsic outcomes of value (earning high grades);
3. Passive Compliance—students view work/activity as having little or no meaning, but participate/expend effort to avoid negative consequences (failing the course);
4. Retreatism—students are disengaged from work/activity (observed texting on phone) and make no attempt to comply with work/activity, but are not disruptive to others. Learning is unlikely to occur; and

5. Rebellion—students refuse to do the assigned task, act disruptive, and attempt to substitute alternative activities creating some-major disruption (viewing social media sites that distract students within viewing distance). Learning does not occur.

As it relates to this study, student engagement focused on Level 1, Authentic Engagement. Teachers created and incorporated engaging activities and tasks into their lessons using the devices and various digital learning resources.

Participants were asked how they monitored student engagement with one-to-one devices. Theme 3, student engagement, and three subthemes emerged from the participant responses: (a) Frequency of use, (b) Monitoring student engagement, and (c) Types of technology applications.

**Subtheme 1: Frequency of Use.** This subtheme is comprised of participants' descriptions of how often they use one-to-one devices during instruction. All participants stated they used the devices every day. During the COVID-19 pandemic, this was the only tool used for instruction. Before the pandemic, all participants indicated they used a combination of direct instruction and the devices. Since the frequency increased over the past 18 months, participants shared that they have learned to incorporate many new resources to engage learners. Programs such as all Google products (i.e., Google Classroom, Google Forms, Google Slides, Jamboard, and Google translate), Learning Ally (an online library where the audio reads to students), IReady, Alex, Imagine Math, Achieve, 3000, Wonders, Pear Deck, and many more have improved instructional practices for teachers and provided additional support for their ELLs. Three responses below described how often teachers incorporate one-to-one devices:

> I am very tech-savvy, so I use one-to-one devices and all day, every day in my in all my instruction. So, I really enjoy the flexibility that it allows the students, and it allows me to prepare, beforehand, videos and other activities that, while I'm working with a small group, that needs me one-on-one, my students that are working independently, it allows

> them that teachable moment to still be targeted through a video or an activity. So, that there's no downtime and allows, you know, for the students to continue learning, even though I'm busy with another group so I really enjoy that. (T7, 17 May 2021, Personal Interview)
>
> We use it every day. Every day we have live Google Meets for the students for at least like forty minutes for each subject, but most of the time, we take the, the whole hour depends on the schedule, We're scheduled to stay with the students, like forty minutes, and then the twenty of the twenty minutes, they can work on their own book, Of course, they're using a device as well. In previous years I think, it depends on the subject as ESL, if I'm pushing in for bilingual, for math or for language arts, it will depend on the subject that I'm working on so, for math, most of the time, we will use the devices for students to work individually on the programs that the school or the district purchased. For language arts, sometimes, it's every day, so we can listen to a story in a group, and our students can go back and listen one more time to the questions on their device. Um, there's different activities or games, like, specific to any programs they're using they can practice. (T9, 17 May 2021, Personal Interview)
>
> In the six years that I've been teaching, I would say we went from barely using it in the very beginning of my teaching career, to, I'm using it every day, um, and not just because of COVID. Before, I would have the students get their own computers, because I was morphing into more of a technological basis for my class. I always had my English Language Learners would have their own computer in class that they could use whatever we were working on, like, if I'm doing primary sources those are very difficult to translate, because even the language in English is very difficult… So, I had all my English language learners on their own computer to be able to understand what I'm putting out, so, it's not just they're listening to me, they are seeing it in print, and I keep it short, sweet to the point. Too many words, it's too much for them, it's overwhelming. So that kind of technology I've tried to work with them before that now it's a little bit easier because they now have it, we don't have to worry about do they have a computer? Do I have enough computers to give out to be able to handle this? We don't have to worry about that anymore. They have it now. (T15, 21 May 2021, Personal Interview)

The participant responses showed that incorporating technology into the ELL classroom gives students and teachers a chance to become facilitators of learning. Teaching remotely during the COVID pandemic increased the frequency of how often students used the devices and provided teachers with a plethora of resources to use to support learners.

**Subtheme 2: Monitoring Student Engagement.** This subtheme encompasses participants' methods for monitoring student engagement. All participants discussed the benefits of using GoGuardian as the main tool to monitor student engagement. GoGuardian is a

monitoring and teacher facilitator application that helps students learn safely. It allows teachers to view student online activity, control devices, and provide a variety of ways to deliver instruction in different learning environments (GoGuardian 2020). The sample responses below represent the general sentiment of the teachers when asked about monitoring student engagement:

> So, again, GoGuardian has been a lifesaver because we can see what they're doing. Monitor their progress. (T5, 14 May 2021, Personal Interview)

> Also, the GoGuardian Program, because I can see, most majority of my students' screens. I can actually see their live answers, and I'm able to address certain things if it seems like they're struggling, if it seems like they're not quite there yet, I can address it through a direct comment. It's not even embarrassing to the students because no one else sees that message to them. I am also in the process of becoming something called a Pear Deck, Certified Coach, which is really cool. I cannot wait to use this with my ELLs because Pear Deck seems like it's for all learners and the teacher-paced instruction and student-paced instruction. Regardless of what strategy you use, it really provides students with what they need can't wait to use that. (T1, 12 May 2021, Personal Interview)

> I have GoGuardian up while I have a monitor that I'm watching the students while I'm teaching off of my laptop and the beauty of Google is, you can actually see them working live. So, I issue them an assignment a document, as a slide, document. I'm speaking of science, where we use more Google. Once I have signed it and they have their own copy of it, I can go into Google Classroom, and I can see what they're doing. I can see their work, and I can help them and say…no, that's not where we're at, that's not the question that we're answering. I can feed them the answers. So, we're doing that for them as like, the modification because I know that online is a struggle to without me. It's nice, it's helpful. (T2, 13 May 2021, Personal Interview)

> We use this site called GoGuardian and I can see what the students are, which sites they are opening, when they are coming to the meeting. Even if they do communicate with each other, we can see everything. Also, I can send messages through the GoGuardian to students, if I want you know to get their attention by sending messages, like, put your camera on, since we have the caption now, we have that feature in Google Classroom, so that students can put translation. So they can read everything the teacher is saying, in English and this is very beneficial for ESL, especially bilingual students who just came to the country. (T9, 17 May 2021, Personal Interview)

> So, now, oh my God, with the program of Guardian, oh, wow, so I can make sure that all my students are on the meets, Or, like, following along on a certain page that they need to be on you know, answering the questions. I can see if a student has captions on or does not have captions. Sometimes, on my prep, just because I worry too much about my

> bilingual newcomers, I open up their screen, and, you know, I send them a reminder, please, open up your captions. She's sitting in Math class, and she doesn't know what's going on, because she doesn't have our captions on. It's really, really like, I mean, I can't even put it into words, it's such a good program. We monitor their use, their engagement, and even tells you if a student has been idle for how many minutes. That's, like technology's crazy nowadays. (T13, 21 May 2021, Personal Interview)

Although GoGuardian was the primary tool used for monitoring engagement, some participants discussed other ways to monitor engagement. Some participants also discussed how they could monitor students who were cheating through GoGuardian since they can monitor and control students' tabs to ensure they are on task and the assigned websites.

The data from the interviews showed that teachers found one-to-one devices to be effective with ELLs to engage them in learning and provide them with immediate and purposeful feedback. Not only were the devices used as tools to enhance ELLs' learning experience, but they were used as tools to communicate, monitor, and guide them.

**Subtheme 3: Types of Technology Applications.** This subtheme arose from participants' reports of the types of technology applications they used to support ELLs in their lessons. As discussed in Theme 1: Professional Development, teachers received professional development on platforms, applications, and resources. In addition to the professional development they received, teachers also sought out on their own various technology applications or tools to integrate into their lessons to support their ELLs.

Participants were asked: What type of technology do you use to support your English Language Learners? All participants shared that their students used Chromebooks as the device for one-to-one instruction. Sample participant responses below describe the various applications used with the ELLs:

> So they do have the one-to-one laptop devices, Chromebooks. The ELLs have to become familiar with the devices, that's number one. So, I think it's important that they learn how to navigate and use the different tools with it. For the ELLs, there's also different

> programs that I think helped them. Like, if I'm doing a language arts lesson, I like to use, for example, CommonLit because they have the option to translate the text and different vocabulary. I know there's Spanish and Arabic, a few different languages and that really helps them when we're completing these assignments. (T5, 14 May 2021, Personal Interview)

> So, I use the audio reader and different programs. So for our ELL students, when their accounts are created, they have the option to be given audio support. So, I push for that use. I always tell them, you know, you can have it be read to you. Now, with our Google Meets, I always encourage my students to turn captions on, and those captions can also be translated automatically, in their language. So I always encourage that as well, Whether it be with my period ESL or bilingual or with their general ed teacher, because that always supports their language learning. I always use, you know Google Translate is always open to them. There's so many things resources online that you can use. (T13, 21 May 2021, Personal Interview)

> Right now, we're on one-to-one devices, they use Chromebooks. So, I use Google Classroom, and I use Google Meet, and then we have an ESL power, our after-school program I teach live, you know, one hour after school for extra support for students who are ELL learners, Hispanic, Arabic Turkish. Afterschool, we have usually use brain pop, which you know, it already has lessons, and I specifically, for this group, I target Level Three students who are proficient. Yeah, you know, you wouldn't notice until you see them writing grammatically and you would see grammar would be their area to work on. We have everything is leveled and we would work on, let's say, know, the grammar for the week. They would have a reading component. They'd have a quiz component, and all the kids would participate. Everybody has a portion to read. Everybody has a portion to respond. Brain Pop, it's really wonderful. (T3, 14 May 2021, Personal Interview)

Participants also spoke of other technology besides Chromebooks they would use in their lessons. Interactive whiteboards, iPads, and cell phones were also used with students. Overall, participants felt that using one-to-one devices and various applications allowed them to make their teaching content more visual, provide practice learning content through online applications, and support ELLs' language development. Teacher 2 stated:

> I'm having them create slides and more of Google applications that I feel like they might not have necessarily been exposed to and that process is a struggle, and I do find that the ELLs are struggling a little bit more with that. I do find that it's difficult for them to just take it all in in the pace at which we're at. We're working with them, know, we're creating the slides. We're copying notes. They're doing their own work. They're downloading or uploading images that connect with, with stuff, so I do feel like it is helping them. (T2, 13 May 2021, Personal Interview)

In summary, the student engagement theme comprised participants detailing the methods they used to engage ELLs and how they monitored this engagement. Participants shared the types of technology (hardware and software) that facilitated their lessons. They also mentioned the frequency of using technology. Most participants described technology as being very frequently used. Lastly, participants shared the ways they monitor student engagement, such as the use of Go Guardian. They felt the devices were used to meet the language-related needs of ELLs and to enhance their learning experience.

### *Theme 4: Evaluation of Technology*

When discussing the overall perspectives on the use of technology in instruction, Theme 4: Evaluation of Technology and three subthemes emerged from the participant responses: (a) Benefits of technology, (b) Challenges experienced, and (c) Recommendations. As technology continues to grow in classrooms, especially after the COVID-19 pandemic, teachers are finding innovative ways to support, engage, and enhance their ELLs' academic experience.

All of the participants interviewed taught in a building that was identified as having a one-to-one initiative where devices were used to support instruction before the COVID 19 pandemic. Once students and teachers had to transition to full remote instruction, the school district provided additional professional development in technology to prepare teachers to use the devices effectively. Teachers were required to deliver instruction via the device only from their homes. This was a shift for most teachers, who relied on traditional teaching methods to deliver instruction and used technology to support some lessons. However, with the professional development they received and becoming more familiar with applications and resources, the participants voiced their perspectives of the benefits and challenges of using one-to-one devices with their ELLs.

**Subtheme 1: Benefits of Technology.** This subtheme included information about the benefits that participants observed in their use of technology. Finding ways to infuse technology into instruction can help ELLs acquire a second language and enhance motivation and confidence. Three participant responses to the question about the benefits of using technology with ELLs appear below:

> Okay, so as we know, that depends on their level, but for all these newcomers, they usually come and they don't know with a word in English, and most of the time they're so shy or scared to share or talk. So what I found using these one-on-one devices, it gives the students the ability to answer questions and respond to the teacher's question on the platform itself without sharing orally, which is what we want, we need them to share early, but maybe for the first stages where they are still beginner. Now, it gave them more confidence, just work on the device; that's something so important, it is beneficial for ELLs. (T11, 18 May 2021, Personal Interview)

> Well, they have better access to information. Um, for them, it can mean maybe low-stress environments they feel more comfortable with participation. They could participate more and engage more because some of them, without the device, it's really hard to get them to participate when they don't feel comfortable. So maybe having that one-to-one device makes them feel a little bit more comfortable, and I always say independent. (T6, 14 May 2021, Personal Interview)

> They definitely will become more familiar with technology programs that will help them get familiar with, you know, proven their writing skills. I really like the way Google suggests that, um, certain spellings, certain punctuation, certain grammar. Another thing that I feel that it's good is that multitasking is definitely a benefit coming through one-to-one technology. In the future, though, you know, they will have some experience with multitasking. It also builds a lot of confidence. I see a lot of ESL students that have definitely shown signs of self-esteem, improvement, and confidence. (T12, 18 May 2021, Personal Interview)

> I'm telling you, The Google Translate, which isn't perfect, but it helps the closed captioning because when I'm speaking, they can kind of get the gist as they read. (T3, 14 May 2021, Personal Interview)

> Yes, I do think that they are preparing for their future. By you know, exposing them to the different platforms that are out there, you know, within the world of Google. (T2, 13 May 2021, Personal Interview)

The findings revealed that one-to-one devices and technology resources can play an important role in accelerating academic success among ELLs. Participants shared that the devices increase the motivation and confidence of ELLs by helping them work independently and take more ownership of their learning. It allows teachers to differentiate and incorporate visuals with text which can be helpful in engaging ELLs.

**Subtheme 2: Challenges Experienced.** This subtheme was comprised of participants' identification of challenges they faced when using technology in their lessons. Many participants discussed the significant amount of additional time required to show students how to manipulate and become knowledgeable with the device. For some ELLs, this was their first time using the Chromebook as a tool for learning. Teachers were first challenged with getting students comfortable with the basic operation of the device, such as turning it on and off or using the touchpad to navigate. Teachers then had to ensure students knew how to use the Google platform and navigate the internet and various tools and apps to engage in learning. This was also applicable to teachers who had to be prepared to invest time in learning the functionalities of the devices as well as in designing, planning, and developing effective lessons. Below are two participants' responses regarding preparation:

> So, some of the challenges actually is teaching the students themselves to how to manipulate and use the device. It's a little bit hard, especially, like, I have students, I only speak Arabic and English, so I have a student who only Spanish new to my class. It was hard for me to show him where you need to click, where is the right click on the computer. So he can go to Google Translate, and whenever I talk, it will translate everything in English and Spanish for him. But it was hard for him to know where the right-click is. So that's the hardest challenge part. (T11, 18 May 2021, Personal Interview)

> I guess the main challenge is that there's a big emphasis on like showing students explicitly how to do things, making time for that, but also making sure they're understanding the content aspect of it, so, so you really have to dedicate a lot of time to the tools to show and modeling it and showing students how to use them. So that's, that's probably one of the difficult things, but there's also like, a lot of technology that's been

> provided, such as, like, screencast, you can make your own videos for students. So, I know that my colleagues and I use that a lot for students, like, who need a little recap, they didn't understand something, or just need a video before coming to class about what to expect. I think that's really helpful, especially for ELL students. The simpler, the better. You know, you're not overwhelming the students; it's very important. (T1, 12 May 2021, Personal Interview)

Some participants also discussed how communication could pose a challenge at times. This included communication among teachers and students as well as parents. Although they felt technology was a suitable medium for online interacting, the participants indicated it could reduce the verbal communication among students and teachers. T2 described her challenge with parent communication: "So I find that a huge challenge, um, with ELL students are also the challenge and communicating with parents, as well. I think that, in connection, with their frustration, being in an English, speaking classroom with an English-speaking teacher."

Other challenges included the easiness of online plagiarism and difficulty having students keep their cameras on while in an all-virtual setting. Before the COVID-19 pandemic, students were using their devices in the classroom, but when they were learning from home, teachers had difficulty keeping their cameras on. These challenges are described in the responses below:

> So, a big challenge is not that they don't like to put their cameras on, especially in the grade level we're in. (T5, 14 May 2021, Personal Interview)

> I guess I would go for any culture, but some of them are pushing them so much that the kids are kind of cheating, and I can't prove it. (T4, 14 May 2021, Personal Interview)

> The one-to-one device has been hard because sometimes you miss seeing their faces, like how they look. (T3, 14 May 2021, Personal Interview)

**Subtheme 3: Recommendations.** This subtheme encompassed participants' recommendations for how to improve their teaching with technology to support ELLs. As mentioned earlier, participants shared their perspectives on whether the use of one-to-one

devices has changed them as facilitators of learning. Although most participants noted the differences in growth, they believe the use of technology has strengthened some areas of their teaching practice by making their content area more available and engaging. They offered recommendations on how to support the ELLs through the use of the devices.

> I think that is super important, you know, that the parents know how to use these devices and can help their student as well, not just relying on the teachers. So I think definitely virtual workshops for parents to participate and just learn how to navigate and learn the different programs and tools that are out there. I think that's really important. (T5, 14 May 2021, Personal Interview)

> So, parents really need to be aware of how to use the technology so they can support their kids. We have to convince them of the importance of technology or having your child on a device. I'm not saying all the time, but it will benefit them, especially when we're talking about the ELL population, and will benefit them so much. (T11, 18 May 2021, Personal Interview)

> Um, I mean, there's still room for improvement. I really want to take what we're learning and make it a little bit more authentic for students. And there's tons of technology that we can tap into for that, like Flip Grid. I'd like to get myself, to that point, where we're using more of those programs where students are creating authentic pieces, where they can really show what they learned, using their voice, using their talent. So I think giving students a voice. So the learning is more authentic; that's where I would hope to get there. (T1, 12 May 2021, Personal Interview)

In the area of professional development, some participants felt professional development should include programs that support more languages. Not all English learners are Spanish speakers. According to NCES (2017) and shown in the table below, Spanish was the home language of 3.74 million ELL public school students in fall 2017, representing 74.8% of all ELL students. Arabic, Chinese, and Vietnamese were the next most commonly reported home languages.

Table 4

*Number and Percentage Distribution of English Language Learner (ELL) Students in Public Schools and Number of ELL Students as a Percentage of Total Public School Enrollment, by the 10 Most Commonly Reported Home Languages of All ELL Students: Fall 2017*

| Home Language | Number of ELL Students | Percentage Distribution of ELL Students[1] | Number of ELL Students as a Percent of Total Enrollment |
|---|---|---|---|
| Spanish, Castilian | 3,749,314 | 74.8 | 7.6 |
| Arabic | 136,531 | 2.7 | 0.3 |
| Chinese | 106,516 | 2.1 | 0.2 |
| English[2] | 94,910 | 1.9 | 0.2 |
| Vietnamese | 77,765 | 1.6 | 0.2 |
| Somali | 41,264 | 0.8 | 0.1 |
| Russian | 36,809 | 0.7 | 0.1 |
| Portuguese | 33,252 | 0.7 | 0.1 |
| Haitian, Haitian Creole | 32,655 | 0.7 | 0.1 |
| Hmong | 32,174 | 0.6 | 0.1 |

Source: U.S. Department of Education, National Center for Education Statistics, *EDFacts* file 141. Data Group 678, extracted August 10, 2019, and Common Core of Data (CCD), State Nonfiscal Survey of Public Elementary and Secondary Education, 2017-18. See *Digest of Education Statistics*, 2019, Table 204.27.

Participants discussed the importance of receiving professional development that included resources in languages other than Spanish. They shared that they did not have as many resources or programs that supported students in languages that were spoken by the students they were teaching. The responses below describe how additional resources would support their students:

> I think more PDs, I guess for using technology and different programs. Maybe we need to focus on more languages. Like just think about the population. What is the highest population? I know that the highest is Hispanic, which is why a lot of programs are turned into Spanish, but also, I have many students that are bilingual Arabic and we don't have these resources. It's either like physical resources or programs, online programs they can use to assist them in their learning process. (T11, 18 May 2021, Personal Interview)

[1] Detail does not turn to 100% because not all categories are reported.

[2] Examples of situations in which English might be reported as an ELL student's home language include students who live in multilingual households and students adopted from other countries who speak English at home but also have been raised speaking another language.

> Um, so a lot of the programs, as much as they are amazing, and have the audio support, they don't have all the languages. So, I know the main language here is Spanish. I know like Arabic is now a growing language Jersey and Turkish and Bengali, but I feel like, you know, the world is vast and I'm pretty sure like wherever these languages are or the countries have these resources, I wish we would have this same. (T13, 21 May 2021, Personal Interview)

Overall, participants discussed the various ways their teaching practices improved due to access to the one-to-one devices. However, to enhance the academic experience of all ELLs, parental training or support and additional professional development that included resources in multiple languages were the most significant areas that would improve the academic experience of ELLs when using one-to-one devices.

In summary, the evaluation of the technology theme was composed of participants' assessments of the effectiveness and utility of technology for teaching. Participants reported the benefits of the technology they observed. In contrast, they also identified some challenges that they encountered when using technology. Some participants shared recommendations they made to facilitate supporting ELLs through the use of technology in an academic setting.

**Summary**

Chapter 4 discussed the findings of the study. This study explored teacher perspectives on how one-to-one devices influence their ELLs' academic experience. Qualitative techniques were used for data collection to answer the research question. Four themes arose from the data:

1. **Professional development**, which included teachers' exposure to professional development in using one-to-one devices with ELLs;
2. **Teaching methods**, which included three subthemes: (a) Differentiation, (b) Instructional model for ELLs, and (c) Facilitator for learning;
3. **Student engagement**, which included three subthemes: (a) Frequency of use, (b) Monitoring student engagement, and (c) Types of technology applications; and

4. **Evaluation of technology**, which included three subthemes: (a) Benefits, (b) Challenges, and (c) Recommendations of using technology with ELLs.

The results of the interviews with 15 teachers in Grades 5-8 suggested that the implementation of one-to-one devices during instruction is beneficial to ELLs. Participants stated that the devices allowed them to increase engagement during instruction as well as differentiate and incorporate visuals with text which can increase ELLs' motivation and confidence by helping them work independently and take more ownership of their learning. Additionally, they described the devices as tools that the teacher and learner can use to facilitate their own learning process. The devices allowed teachers to re-examine the nature of the classroom environment and provide access to sources beyond the classroom and textbooks, allowing them to become facilitators of learning.

Chapter 5 explores how these findings align with the research and outlines recommendations for policy, practice, and future studies.

# CHAPTER 5 - SUMMARY, DISCUSSION, AND RECOMMENDATIONS

Chapter 5 provides a summary and discussion of the findings, followed by recommendations for policy, practice, and future research.

## Summary and Discussion of Findings

The purpose of this qualitative research was to explore teachers' perspectives of how one-to-one devices influence their ELLs' academic experiences. The research question and subquestion of this study were as follows:

**RQ1:** What are teachers' perspectives on how one-to-one devices influence their English Language Learners' academic experience?

**RQ1.1**: In what ways do these perspectives align and diverge in different instructional settings?

I conducted semi-structured teacher interviews to ascertain the teachers' relevant perspectives and experiences to answer these research questions. Fifteen middle school teachers from an urban school district in New Jersey were participants in this study. The findings identified four themes that corresponded to the research questions: professional development, teaching methods, student engagement, and evaluation of technology. These themes demonstrated the different perspectives teachers had about the influence of one-to-one devices on their students' academic experience and the teaching experience and methodology teachers use, all of which contributed to their perspectives. These themes also revealed the different experiences teachers had with one-to-one-devices and how these experiences changed their perspectives. Teachers' perspectives on the benefits and challenges of using technology were also included in the themes, along with the effect that different environments can have on the use of technology.

### *Professional Development*

The first theme, professional development, impacted teachers' experiences using one-to-one devices to support their ELLs. Incorporating one-to-one devices into the classroom has resulted in a need for changes in teaching practices. For teachers to transform the way they teach, they must be provided with effective professional development to help them understand the classroom management strategies and instructional design techniques needed to teach with one-to-one devices. This is consistent with Villegas and Feiman-Nemser's findings discussed in Chapter 2, which outlined five areas of preservice preparation for teachers: (a) Analyzing Beliefs and Forming New Visions, (b) Developing Subject Matter Knowledge for Teaching, (c) Developing an Understanding of Learning and Learners, (d) Developing a Beginning Repertoire, and (e) Developing the Tools to Study Teaching. These five areas set the lens for the research of Villegas and Feiman-Nemer on preparing teachers for linguistic diversity. Participants' responses indicated that using technology can result in improved student outcomes. However, if teachers are not trained to utilize it to support their students effectively, there is a likelihood of minimal effectiveness. Studies have shown that one-to-one devices can support cognitive learning (Peng & Chou, 2007), mathematics learning (Kalloo & Mohan, 2011), and language and literacy learning (Coe & Oakhill, 2011; Kemp & Bushnell, 2011). One-to-one devices and access to information can provide ELLs with exposure to learning resources in language acquisition necessary for academic success (Cummins, 2000, p. 541).

The participants were asked about the professional development they received on using one-to-one devices to support their ELLs. An analysis of their responses found that supporting ELLs with content-specific teaching strategies was missing from the professional development

they received. Professional development was more focused on using the Google platform and incorporating various digital learning resources and applications to support instruction.

To understand the significance that technology can have in ensuring success for ELLs, it is essential to understand how students acquire a new language. As discussed in Chapter 2, ELL students need both BICS and CALP (Cummins, 2008). According to the Second Language Acquisition Theory of James Cummins, there are differences between two types of language that directly influence classroom instruction: Basic Interpersonal Communications skills (BICS) and Cognitive Academic Language Proficiency (CALP). This study revealed that high-quality professional development and high-quality instructional practices of teachers are critical to improving learning outcomes for ELLs.

Previous researchers have examined the importance of teachers' support of ELL students in school and the importance of preparing teachers who teach students with varying levels of English (Villegas et al., 2018; Wassell et al., 2017). Feiman-Nemser's framework for teacher learning that outlined five areas of preservice preparation for teachers was used to review the supports preservice teachers are offered to support ELLs. These five areas set the lens of Villegas's research on preparing teachers for linguistic diversity.

As stated by participants and supported by research, it is important to provide adequate and meaningful professional development, so teachers can understand how the one-to-one devices and digital resources fit into their lessons in particular content areas to support ELLs.

### *Teaching Methods*

The data collected helped arrive at a potential answer for both research questions. Participants in this study identified that one-to-one devices improved their students' academic experience. They were asked to discuss how often they used one-to-one devices during

instruction. This question created a further discussion about their teaching methods, which formulated into a theme with three subthemes: differentiation, the instructional model for ELLs, and facilitator of learning. All participants felt that using the devices allowed for more customized learning, where they could assign activities appropriate for students' specific language levels and scaffold instruction more easily. The one-to-one devices helped gain resources, engage in higher-level thinking activities, and differentiate instruction for all students.

Research supported the notion that teachers trained and prepared to work with ELL students can effectively support their students' development. According to Cummins's (2008) Second Language Acquisition Theory, there are differences between two types of language that directly influence classroom instruction: BICS and CALP), and ELL students need both. In order for teachers to improve the academic experience for ELLs, it is important to understand the underlying theory to help build a foundation for instructional practice when teaching ELLs.

Participants were asked about the instructional model they used with their ELLs. Although five programs emerged—(a) sheltered instruction, (b) cooperative learning, (c) push-in, (d) small groups/breakout rooms on Google Platform, and (e) bilingual resource, all teachers used various digital learning resources with the devices to support instruction. Teachers need to use strategies and practices that allow students to understand the content and develop their language proficiency.

The type of instructional program used for ELLs can positively influence their language development. The data showed that regardless of the instructional setting, model, program, or content they taught, all teachers felt the devices positively impacted student achievement. The type of instructional program used for ELLs can positively influence their language development, literacy, and academic achievement.

### *Student Engagement*

According to studies by Peregoy and Boyle (2013) and Shindler (2008), many ELLs have an instrumental motivation that can be enhanced further by using technology. The researchers went on to say that motivation depends on exciting and challenging tasks that are based on students' needs. Teachers need to create multiple opportunities for student engagement to provide students with active learning experiences that include collaborative group work, cooperative learning, opportunities to think critically, and complete presentations and projects.

Student engagement focused on Level 1, Authentic Engagement, from Schlechty's (2002) five levels of student engagement. Teachers created and incorporated engaging activities and tasks into their lessons using the devices and various digital learning resources. Research from the study indicated the need to provide educators with a framework that is useful for understanding technology's role in the educational process to ensure students are engaged in lessons with personal meaning and value. Koehler and Mishra's (2009) Technological Pedagogical Content Knowledge (TPACK) framework is a tool that identifies the kinds of knowledge required by teachers for successful technology integration in their teaching.

All participants shared that they have learned to incorporate many new digital learning resources to engage learners and improved instructional practices. The digital learning resources provide students with a platform to activate their different levels of cognitive thinking, such as analyzing, evaluating, and creating, which also allows students to feel more in control of their learning. Participants as well reported that providing auditory and visual supports and including materials in the languages of the ELLs was effective in improving students' learning outcomes, improving their English vocabulary acquisition, and being successful in engaging students. This was consistent with the work of Granito and Chernobilsky (2012), who suggested that using

mobile technology in language learning improved the long-term retention of vocabulary and structures. Participants' responses to questions regarding student engagement also showed that students' engagement and collaboration improved as the one-to-one devices provided portability and fast access to information through the internet.

Monitoring student engagement was an area all participants agreed was essential when using one-to-one devices. All participants discussed the benefits of using GoGuardian as the primary tool used to monitor student engagement, track student progress, and provide individualized assistance to help students perform better. To provide real-time support to ELLs, teachers had the ability to monitor device activity, monitor students' screens, and improve on-task time and accountability. Research supported that technology can help ELLs build self-confidence, reduce anxiety, and acquire the language (Turgut 2011). Being able to monitor engagement and communicate with students helped participants create technology-rich environments, which allowed the teachers to make their teaching content more visual, provide practice learning content, and help support ELLs' language development. Using technology and encouraging participation increase learning and help develop ELLs' language skills (Bahrani & Soltani, 2011).

Overall feedback from participants in this study suggested that the use of one-to-one devices enhanced student motivation.

***Evaluation of Technology***

The first research question for the study sought to determine teachers' perspectives on how one-to-one devices influence ELLs' academic experience. Responses revealed that many participants felt using one-to-one devices and digital learning resources could play an essential role in accelerating academic success among ELLs. In addition, teachers in this study felt

students using one-to-one devices experience more engaging lessons, a student-centered approach to teaching and learning, and collaborative opportunities.

As discussed in Chapter 4, incorporating one-to-one devices into instruction seems to have inspired the teachers in this study to think reflectively about their role in the classroom, that is, they now thought of themselves as facilitators in learning. Although most participants noted differences in growth and how they believe some areas of their teaching practice have been strengthened by using technology by making their content area more available and engaging, they discussed some challenges they experienced.

Communication with parents was a challenge participants identified. Part of the recommendations participants made was to provide opportunities for parents to learn how to use technology as well. A home-school connection starts with encouraging parent involvement. Involving parents will not only allow them to support their children at home, but as the participants stated, it will improve communication with teachers and assist parents with navigating and learning the different programs and tools.

Many participants discussed the significant amount of additional time required to show students how to manipulate and become knowledgeable with the device. Additionally, teachers had to be prepared to invest time in learning the functionalities of the devices and designing, planning, and developing effective lessons. Previous research by Holcomb (2009) stressed that "how and when laptops are distributed can play a key role in determining the success of a one-to-one initiative" (p. 53). To ensure students are ready to use the devices, schools must be prepared to help create positive attitudes towards the technology.

## Recommendations for Policy

The number of students in U.S. schools who have limited English language skills continues to grow (NCELA, 2016). School districts are responsible for ensuring ELLs have equal access to a quality education that enables them to progress academically while learning English. As discussed earlier in this study, lack of professional development specific to supporting ELLs's use of one-to-one devices was frequently mentioned and described as necessary for general education teachers. Policymakers should consider requiring general education teachers to get certified in bilingual content every 3 years. This certification will impact ELLs because teachers will feel equipped to teach the ELL population. By creating a certification process within the content they teach, teachers would be certified every 3 years with the subgroup population with whom they work.

Three years will allow teachers to adjust to the needs and new methodologies and pedagogies related to teaching and learning. Part of the certification process would include training on using one-to-one devices and technologies and explaining how they can be used pedagogically to enhance ELL learning experiences. This certification process will ensure that teachers learn about language acquisition while developing instructional strategies to support each English Language Learner.

## Recommendations for Practice

In addition to the summary and discussion of findings, I would like to make recommendations for how this study might contribute to work in education with one-to-one devices and ELLs. ELLs have diverse needs, and ongoing targeted teacher professional development is necessary to meet the changing needs of each student. Teachers need access to

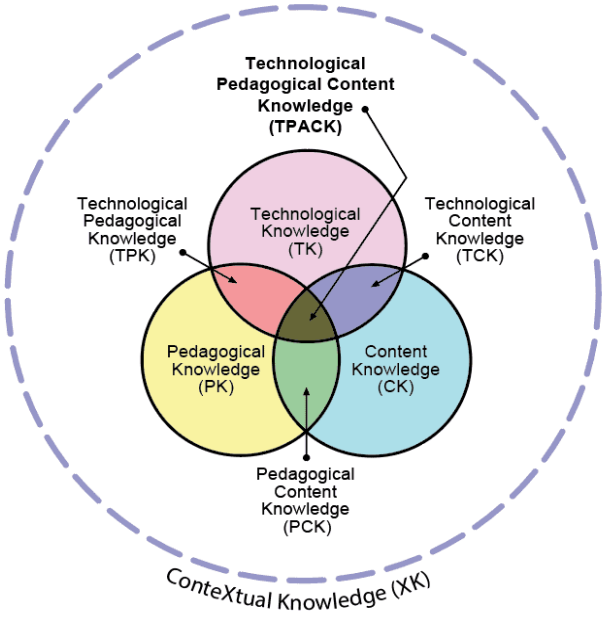
specific research-based strategies that will enable them to implement the best programs and teaching methods in their classrooms. Although professional development was offered at the district level on how to use the Google platform and the digital learning resources aligned with the programs they used for instruction, the participants stated it would be helpful to receive professional development with digital learning resources specific to supporting their ELLs. School districts should consider training programs where one-to-one classroom models are used. Teacher trainers or coaches could lead by modeling instructional strategies for ELLs in technology-rich environments.

School districts should also consider establishing a parent center at each school that provides parents with hands-on opportunities to use the devices. Additionally, offering parent workshops to help parents with using and understanding the digital learning resources to support their children at home can help improve the academic learning experiences of ELLs.

Additionally, school districts should ensure teachers using one-to-one devices in instruction are trained in the Technological Pedagogical Content Knowledge (TPACK) framework. The TPACK framework also addresses the complexity and intersection of technology, teacher pedagogy, and content knowledge (Koehler & Mishra, 2009; see Figure 2). As discussed in this study, professional development in schools has focused on technology applications and platforms. Schools should focus on a holistic approach such as the TPACK model to assist teachers in integrating technology, pedagogy, and content knowledge, which can prepare teachers to deliver more effective instruction and enhance the learning experience of ELLs.

Figure 2

*Koehler and Mishra's (2006) TPACK Model*




**Recommendations for Future Studies**

Although there is research on using one-to-one devices in teaching and learning with general education students, very few studies have been conducted specifically on ELLs. This study focused on gaining insight into teacher perspectives on how one-to-one devices influence ELLs' academic experience. Participants shared that one-to-one devices and digital learning resources engaged students in academic content while building language and literacy skills and promoting collaboration and student engagement. Future studies could focus on examining student perspectives and comparing differences between teacher and student perspectives. To enrich these findings, it would be worthwhile to investigate and include ELL students and a larger and more diverse sample of teachers. Furthermore, the inclusion of parents could further the understanding of the uses of one-to-one devices. Lastly, future research may include quantitative measures of academic gains by ELLs using one-to-one devices in instruction.

## Conclusion

ELLs need high-quality instruction that will emphasize key components of reading and oral proficiency to succeed in their studies (Echevarría et al., 2013). Using technology as part of instruction can be a promising practice for ELLs cognitive and non-cognitive development. The goal of this qualitative study was to explore teacher perspectives on how one-to-one devices influence ELLs' academic experience. Additionally, the researcher wanted to explore in what ways do these perspectives align and diverge in different instructional settings. Four themes arose from this study, all four corresponding the first research question: What are teachers' perspectives on how one-to-one devices influence ELLs' academic experience? These themes demonstrated the different perspectives teachers h about the influence of one-to-one devices on their students' academic experience and how their teaching experience, professional development, and methodology can contribute to their perspectives. Additionally, student engagement and evaluation of technology revealed the different experiences teachers have with one-to-one devices and showed how these experiences change perspectives. They also indicated the effect that different environments can have on the use of technology.

The findings in this study showed that adding technology to ELL classrooms gives students a chance to develop their English language acquisition skills in various engaging ways. Participants also discussed various ways how their teaching practices improved due to access to the one-to-one devices. They were able to identify and describe the benefits of using the one-to-one devices to support their ELLs' academic experience. Although the data revealed that one-to-one devices influence ELLs' academic experience, the data also revealed that professional development was not specific to supporting ELLs. School districts must invest in properly

training teachers because it will help heighten teachers' efficacy when using the devices and resources. Providing ELLs and their teachers with high-quality programs and services is a crucial investment in the future success of English Language Learners.

## References


Abell Foundation. (2008). *One-to-one computing in public schools: Lessons from "laptops for all" programs.* Author.

Abbott, M. L., Lee, K., & Rossiter, M. J. (2017). Enhancing the impact of evidence-based publications on K-12 ESL teacher practices. *Alberta Journal of Educational Research, 63*(2), 193-213. https://cjc-rcc.ucalgary.ca/index.php/ajer/article/view/ 56349

Abedi, J., & Dietel, R. (2004). Challenges in the No Child Left Behind Act for English language learners. *Phi Delta Kappan, 85,* 782-785. https://doi.org/10.1177/00311111721 70408501015

Akinwamise, T. K., & Adedara, O. G. (2012). Facilitating autonomy and creativity in second language learning through cyber-tasks, hyperlinks and net-surfing. *English Language Teaching, 5*(6), 36-42.

Baecher, L., Knoll, M., & Patti, J. (2016). Targeted observation of ELL instruction as a tool in the preparation of school leaders. *International Multilingual Research Journal, 10*(3), 201-216. doi:10.1080/19313152.2016.1185910

Bahrani, T., & Soltani, R. (2011). The integration of different technologies into language learning: Language learners' attitude and motivation a case study from Malaysia. *Language in India, 11*(10), 427-438.

Bahreman, N. T., & Swoboda, S. M. (2016). Honoring diversity: Developing culturally competent communication skills through simulation. *Journal of Nursing Education, 55*(2), 105-108. doi:10.3928/01484834-20160114-09

Bandura, A., Freeman, W. H., & Lightsey, R. (1999). *Self-efficacy: The exercise of control*. Macmillan.

Bartholomew, S., Reeve, E., Veon, R., Goodridge, W., Stewardson, G., Lee, V., & Nadelson, L. (2017). Mobile devices, self-directed learning, and achievement in Technology and Engineering Education classrooms during a STEM activity. *Journal of Technology Education.*

Blattner, G., & Dalola, A. (2018). I tweet, you tweet, (s)he tweets: Enhancing the ESL language-learning experience through Twitter. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 8*(2), 1-19. doi:10.4018/IJCALLT.2018040101

Blikstad-Balasa, M., & Davies, C. (2017). Assessing the educational value of one-to-one devices: Have we been asking the right questions? *Oxford Review of Education, 43*(3), 311-331. doi:10.1080/03054985.2017.1305045

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Buchanan, J., & Friedrich, L. (2013). *How teachers are using technology at home and in their classrooms* (Pew Internet & American Life Project). Pew Research Center.

Cambridge International Education. (2018). *Global Education Census Report.* https://www.cambridgeinternational.org/Images/514611-global-education-census-survey-report.pdf

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *Qualitative Report, 21*(5). https://web.a.ebscohost.com/

Chiu, C., Sayman, D., Carrero, K. M., Gibbon, T., Zolkoski, S. M., & Lusk, M. E. (2017). Developing culturally competent preservice teachers. *Multicultural Perspectives, 19*(1), 47-52. doi:10.1080/15210960.2017.1267515

Clark, W., & Luckin, R. (2013). *What the research says iPads in the classroom.* Institute of Education University of London.

Coe, J. E. L., & Oakhill, J. (2011). 'txtN is ez f u no h2 rd': The relation between reading ability and text-messaging behavior. *Journal of Computer Assisted Learning, 27*(1), 4-17. doi:10.1111/j.1365-2729.2010.00404.x

Council for the Accreditation of Educator Preparation (CAEP). (2013). CAEP 2013 standards for accreditation of educator preparation. http://caepnet.org/standards/introduction

Cummins, J. (1984). Wanted: A theoretical framework for relating language proficiency to academic achievement among bilingual students. *Language Proficiency and Academic Achievement, 10,* 2-19.

Cummins, J. (2000). Academic language learning, transformative pedagogy, and information technology: Towards a critical balance. *TESOL Quarterly, 34*(3), 537-548.

Cummins, J. (2008). BICS and CALP: Empirical and theoretical status of the distinction. In B. Street & N. H. Hornberger (Eds.), *Encyclopedia of language teaching and learning* (2nd ed., Vol. 2, pp. 76-79). Springer Science + Business Media.

Cutter, M. (2015). *Using technology with English Language Learners in the classroom.* Doctoral degree, St. John Fisher College, NY.

Daniel, M., & Cowan, J. (2012). Exploring teachers' use of technology in classrooms of bilingual students. *Gist Education and Learning Research Journal, 6,* 97-110.

de Jong, E., & Naranjo, C. (2019). General education teacher educators and English language learner teacher preparation: Infusion as curricular change. *The New Educator, 15*(4), 331-354. doi:10.1080/1547688X.2019.1663331

Downes, J. M., & Bishop, P. (2012). Educators engage digital natives and learn from their experiences with technology: Integrating technology engages students in their learning. *Middle School Journal, 43*(5), 6-15.

Downes, J. M., & Bishop, P. A. (2015). The intersection between 1: 1 laptop implementation and the characteristics of effective middle level schools. *RMLE Online, 38*(7), 1-16.

Echevarria, J. (2012). *Effective practices for increasing the achievement of English learners.* Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE).

Echevarría, J., Vogt, M., & Short, D. (2013). *Making content comprehensible for English learners: The SIOP model* (4th ed.). Pearson/Allyn & Bacon.

Erben, T., Ban, R., & Castañeda, M. (2009). *Teaching of English learners through technology.* Routledge.

Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education, 42*(3), 255-284.

Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record, 103*(6), 1013-1055.

García, E., Arias, M. B., Murri, N. J. H., & Serna, C. (2010). Developing responsive teachers: A challenge for a demographic reality. *Journal of Teacher Education, 61*(1-2), 132-142. doi:10.1177/0022487109347878

Gencilter, B. (2009). Effect of technology on motivation in EFL classrooms. *Turkish Online Journal of Distance Education, 10*(4), 136-158.

GoGuardian. (2020). Website. https://www.goguardian.com/teacher-bundle

Goldberg, M. (2005). Losing students to high-stakes testing. *The Education Digest, 70*(7), 10-19.

Goldenberg, C. (2008, Summer). Teaching English language learners: What the research does—and does not—say. *American Educator, 33*(2), 8-44. https://digitalcommons.georgia southern.edu/esed5234-master/27

Gorski, P. (2016). Rethinking the role of "culture" in educational equity: From cultural competence to equity literacy. *Multicultural Perspectives, 18*(4), 221-226. doi:10.1080/ 15210960.2016.1228344

Granito, M., & Chernobilsky, E. (2012). The effect of technology on a student's motivation and knowledge retention. *Northeastern Educational Research Association (NERA) Annual Conference* (pp. 1-22). https://opencommons.uconn.edu/nera_2012/17

Great Schools. (2014). Website. www.greatschoolspartnership.org

Groff, J. (2013). Technology Rich Innovative Learning Environments. *OCED CERI Innovative Learning Environment project*, 1-30.

Guler, N. (Ed.). (2018). *Optimizing elementary education for English language learners*. IGI Global.

Harper, B., & Milman, N. B. (2016). One-to-one technology in k–12 classrooms: A review of the literature from 2004 through 2014. *Journal of Research on Technology in Education, 48*(2), 129-142.

Hull, M., & Duch, K. (2018). One-to-one technology and student outcomes: Evidence from Mooresville's digital conversion initiative. *Educational Evaluation and Policy Analysis, 41*(1), 79-97.

Hammarberg, K., Kirkman, M., & de Lacey, S. (2016, January). Qualitative research methods: When to use them and how to judge them. *Human Reproduction, 31*(3), 498-501. https://doi.org/10.1093/humrep/dev334

Harmon, J. (2015*). Op-ed in* U.S. News and World Report *points out harmful effects of Trump's comments on undocumented immigrants on youth.* https://ampersand.gseis.ucla.edu/carola-and-marcelo-suarez-orozco-anti-immigrant-rhetoric-hurts-children/

Herold, B. (2016). Technology in education: An overview. *Education Week, 20,* 129-141. http://www.edweek.org/ew/issues/technology-in-education/index.html?cmp=eml-eb-content-edtech%20021616&override=web

Holcomb, L. B. (2009). Results and lessons learned from 1: 1 laptop initiatives: A collective review. *Techtrends: Linking Research and Practice to Improve Learning, 53*(6), 49-55. doi:10.1007 /s 11528-009-0343-1

Honicke, T., & Broadbent, J. (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review, 17,* 63-84. doi:10.1016/j.edurev.2015.11.002

Huertas, G. (2018). Effectiveness and impact of the Sheltered Instruction Observational Protocol on ELL student academic achievement. Nova Southeastern University. Retrieved from NSUWorks, Abraham S. Fischler College of Education. https://nsuworks.nova.edu/fse_etd/235.

Jackson, L. (2012). *Computers in the high school classroom.* Education World.

Jiménez-Castellanos, O. H., & García, D. (2017). School expenditures and academic achievement differences between high-ELL-performing and low-ELL-performing high schools. *Bilingual Research Journal, 40*(3), 318-330. doi:10.1080/15235882.2017.1342717

Kalloo, V., & Mohan, P. (2011). Correlation between student performance and use of an mLearning application for high school mathematics. *Proceedings of the Eleventh IEEE International Conference on Advanced Learning Technologies*, Athens, GA.

Kaufman, D., & Kumar, S. (2018, May). Student perceptions of a one-to-one iPad program in an urban high school. *International Journal of Research in Education and Science, 4*(2), 454-470. doi:10.21890/IJRES.428269

Kemp, N., & Bushnell, C. (2011). Text-messaging practices and links to general spelling skill: A study of Australian children. *Australian Journal of Educational and Developmental Psychology, 11*, 27-38.

Kibler, A., Valdés, G., & Walqui, A. (2014). What does standards-based educational reform mean for English language learner populations in primary and secondary schools? *TESOL Quarterly*, *48*(3), 433-453. https://doi.org/10.1002/tesq.183

Klem, A. M., Connell, J. P. (2004). Relationships matter: Linking teacher support to student engagement and achievement. *Journal of School Health, 74*(7), 262-273. doi:10.1111/j.1746-1561.2004.tb08283.x

Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? *Contemporary Issues in Technology and Teacher Education, 9*(1), 60-70.

Lamb, A. J., & Weiner, J. M. (2018). Extending the research on 1:1 technology integration in middle schools: A call for using institutional theory in educational technology research. *Middle Grades Review, 4*(1), Article 3. https://scholarworks.uvm.edu/mgreview/vol4/iss1/3

Lessow-Hurley, J. (2003). *Meeting the needs of second language learners: An educator's guide.* Association of Supervision and Curriculum Development.

Lincoln, Y. S., & Guba, E. G. (1991). *Naturalistic inquiry* (8th ed.). Sage.

Lindsay, L. (2016). Transformation of teacher practice using mobile technology with one-to-one classes: M-learning pedagogical approaches. *British Journal of Educational Technology, 47,* 883-892. doi.org/10.1111/bjet.12265

Liton, H. A. (2016). Harnessing the barriers that impact on students' English language learning (ELL). *International Journal of Instruction, 9*(2), 91-106. https://eric.ed.gov/?id=EJ1106334.

Lowther, D., Inan, F. A., Ross, S. M., & Strahl, J. D. (2012). Do one-to-one initiatives bridge the way to 21st century knowledge and skills? *Journal of Educational Computing Research, 46*(1), 1-30. doi:10.2190/EC.46.1.a

Martinez-Alba, G., Cruzado-Guerrero, J., & Pitcher, S. M. (2014, September). Glogsters and other motivating technology: A multiple case study of English learners. *The Reading Matrix, 14*(2). Corpus ID: 61222493.

McClanahan, B., Williams, K., Kennedy, E., & Tate, S. (2012). A breakthrough for Josh: How use of an iPad facilitated reading improvement. *TechTrends, 56*(3), 20-28.

Meltzer, S. T. (2012). *Step-by-step professional development in technology.* Eye on Education.

Menken, K., Hudson, T., & Leung, C. (2014). Symposium article: Language assessment in standards-based education reform. *TESOL Quarterly*, *48*(3), 586-614. https://www.jstor.org/stable/43267981

Moustakas, C. (1994). *Phenomenological research methods*. Sage.

National Center for Education Statistics (NCES), Common Core of Data (CCD). (2017). Local education agency universe survey. *Digest of Education Statistics, 2019.*

National Center for Education Statistics (NCES), U.S. Department of Education (USDOE). (2018). *English language learners in public schools.* https://nces.ed.gov/programs/coe/indicator_cgf.asp

National Clearinghouse for English Language Acquisition (NCELA). (2016). Bethesda, MD.

Naz, F., & Murad, S. (2017). Innovative teaching has a positive impact on the performance of diverse students. *SAGE Open, 7.* doi.org/10.1177/2158244017734022

Nemeth, K., & Simon, F. S. (2013, March). Using technology as a teaching tool for dual language learners in preschool through grade 3. *Young Children, 68*(1), 48-52.

New Jersey Department of Education (NJDOE). (2019). Bilingual policy. https://www.nj.gov/education/bilingual/policy/

O'Hara, S., Pritchard, R., Huang, C., & Pella, S. (2013). The teaching using technology studio: Innovative professional development to meet the needs of English learners. *TESOL Journal, 4*(2), 274-294. doi:10.1002/tesj.58

P21 Partnership for 21st Century Learning. (2015). *Framework for 21st century learning.* http://www.p21.org/about-us/p21-framework

Peng, H., & Chou, C. (2007). Mobile computing as a cognitive tool for middle schools: Connecting curriculum and technology. *International Journal of Instructional Media, 34*(3), 301-310.

Peregoy, S., & Boyle, O. (2013). *Reading, writing, and learning in ESL: A resource book for teaching K-12 English learners.* Pearson.

Prince, J. (2017). English language learners in a digital classroom. *CATESOL Journal, 29*(1), 51-73. https://eric.ed.gov/?id=EJ1144336

Ruggiero, D., & Mong, C. J. (2015). The teacher technology integration experience: Practice and reflection in the classroom. *Journal of Information Technology Education Research, 14*, 161-178.

Schlechty, P. C. (2002). *Working on the work: An action plan for teachers, principals, and superintendents.* Jossey-Bass Education Series.

Sell, G. R., et al. (2012). *A meta-synthesis of research on 1:1 technology initiatives in K-12 education.* Institute for School Improvement, Missouri State University.

Selwyn, N., Nemorin, S., Bulfin, S., & Johnson, N. F. (2017). Left to their own devices The everyday realities of one-to-one classrooms. *Oxford Review of Education, 43*(3), 289-310. doi:10.1080/03054985.2017.1305047.

Shindler, J. (2008). Transformative classroom management. http://web.calstatela.edu/faculty/jshindl/cm/Chapter7motivation.htm.

Silvernail, D., & Gritter, A. (2007). *Maine's middle school laptop program: Creating better writers* (Research Brief). University of Southern Maine.

Silvernail, D., Pinkham, C., Wintle, S.E., Walker, L.C., & Bartlett, C.L. (2011). A middle school one-to-one laptop program: The Maine experience. Gorham, ME: Maine Educational Policy Research Institute, University of Southern Maine.

Stuckwisch, B. (2017). An honest look at a one-to-one classroom. *Kaleidoscope: Educator Voices and Perspectives, 3*(2), 12-15.

Tank, M. E. T., & Tank, L. S. E. T. (2001). *Call to action: Mandating an equitable and culturally competent education for all students in Washington State.* The Office of Superintendent of Public Instruction, Washington State.

Taylor, S. J., Bogdan, R., & DeVault, M. (2015). *Introduction to qualitative research methods: A guidebook and resource*. John Wiley & Sons.

Thomas, K., & Muñoz, M. A. (2016). Hold the phone! High school students' perceptions of mobile phone integration in the classroom. *American Secondary Education, 44*(3), 19-37.

Turgut, G. (2011, October). A case study on use of one-to-one laptops in English as second language classrooms. *Turkish Online Journal of Qualitative Inquiry, 3*(4), 28-47. Corpus ID: 61732672

U.S. Department of Education (USDOE), Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. (2018). *National study of English learners and digital learning resources.* Author.

Villegas, A. M., SaizdeLaMora, K., Martin, A. D., & Mills, T. (2018). Preparing future mainstream teachers to teach English language learners: A review of the empirical literature. *Educational Forum, 82*(2), 138-155. https://doi.org/10.1080/00131725.2018 1420850

Wassell, B. A., Hawrylak, M. F., & Scantlebury, K. (2017). Barriers, resources, frustrations, and empathy: Teachers' expectations for family involvement for Latino/a ELL students in urban STEM classrooms. *Urban Education, 52*(10), 1233-1254. doi:10.1177.00420859 15602539

Willcocks, B., & Redmond, P. (2014). *Evaluating a 1-to-1 iPad project: Beyond rose coloured glasses.* Australian Computers in Education Conference 2014. https://eprints.usq.edu.au/ 26253/8/Willocks_Redmond_ACEC_2014_PV.pdf

Xiong, Y. S., & Zhou, M. (2006). *Structuring inequality: How California selectively tests, classifies, and tracks language minority students.* California Policy Options (Paper 4). University of California, Los Angeles, School of Public Affairs.

Zheng, B., et al. (2016). Learning in one-to-one laptop environments: A meta-analysis and research synthesis. *Review of Educational Research, 86,* 1052-1084. doi.org/10.3102/ 0034654316628645

## Appendix A: Interview Protocol and Questions

**Christine Johnson**

**Interview Protocol and Transcript**

**Protocol Scripted Introduction:**

Greetings (Name of teacher),

You have agreed to participate in a voluntary interview, this is a very informal, so I want you to feel at ease during the interview. If there are any questions you may have, please do not hesitate to ask. If there are any questions you are not comfortable with, please let me know and we can move on to the next question, you can refuse to respond to any questions of concern. With your permission, I would like to record the audio in the interview with my computer using GoToMeetings. All recordings will be kept confidential, and no names will be used to identify you. I have 11 questions that I would like to ask you and the interview should take about one hour. I appreciate the opportunity to interview you.

**Interview Protocol**

Hello, my name is Christine Johnson, and I am a student at Seton Hall University in New Jersey pursuing my Executive Doctorate in Education. I would like to thank you for participating in my research study and taking the time for this interview. I will use the information I collect in this interview to analyze my research question and support my thesis. The information shared between you and I in this interview will be kept confidential and I will be the only one with access. I am interested in whether one-to-one devices influences learning for English Language Learners. I would like to talk about how English Language Learners teachers' perceive one-to-one devices**.** Do you have any questions before we begin? Again, thank you for willing to participate in the interview aspect of my research.

These are the research questions that will guide this study:

RQ1: What are teachers' perspectives on how one-to-one devices influences their academic experience?

RQ1.1: In what ways do these perspectives align and diverge in different instructional settings?

**Background Questions**

1) How many years have you been teaching?
2) What grade levels have you taught?

**Research Questions**

3) What type of technology do you use to support your English Language Learners?
4) Tell me about the professional development have you received using one-to-one devices with English Language Learners?
5) How often do you use one-to-one devices during instruction?
6) What is the instructional model you use with one-to-one devices?
7) How do you monitor student engagement with the one-to-one devices?
8) Talk to me about the benefits in using technology with English Language Learners.
9) How do you differentiate using the one-to-one devices during instruction?
10) Tell me about any challenges you have experienced with using one-to-one devices?
11) Has the implementation of the devices changed you as a facilitator of learning? If so, how?

**Post-Interview Script**

Thank you (Name of teacher),

I appreciate the time you took today to answer the questions for this study. I will be reviewing your responses, and then I will transcribe them as a part of my research. Should you wish to opt-out of the study, you still have time before I finalize my findings. As a reminder, the results of my study will be available for your review upon completion. Thank you for participating and for supporting my work in this study.

## Appendix B: IRB Approval

SETON HALL UNIVERSITY
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May 5, 2021

Christine Johnson
Seton Hall University

Re: 2021-204

Dear Ms. Johnson,

At its April meeting, the Research Ethics Committee of the Seton Hall University Institutional Review Board reviewed and approved your research proposal entitled, "*English Language Learner Teachers' Perspectives on How One-to-One Devices influence their Students' Academic Experience*" as submitted. This memo serves as official notice of the aforementioned study's approval. Enclosed for your records are the stamped original Consent Former. You can make copies of these forms for your use.

The Institutional Review Board approval of your research is valid for a one-year period from the date of this letter. During this time, any changes to the research protocol, informed consent form or study team must be reviewed and approved by the IRB prior to their implementation.

You will receive a communication from the Institutional Review Board at least 1 month prior to your expiration date requesting that you submit an Annual Progress Report to keep the study active, or a Final Review of Human Subjects Research form to close the study. In all future correspondence with the Institutional Review Board, please reference the ID# listed above.

Thank you for your cooperation.

Sincerely,

Mara Podvey

Mara C. Podvey, PhD, OTR
Associate Professor
Co-Chair, Institutional Review Board

Phyllis Hansell

Phyllis Hansell, EdD, RN, DNAP, FAAN
Professor
Co-Chair, Institutional Review Board

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*www.shu.edu*

## Appendix C: Recruitment Letter

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**Letter of Solicitation**

March 30, 2021

Greetings,

My name is Christine Johnson, I am currently a doctoral candidate at Seton Hall University. I am conducting a research study on English Language Learner Teachers' Perspectives on How One-to-One Devices influence their Students' Academic Experience. The study has been approved by the IRB at Seton Hall and Paterson Public Schools.

This research may lend significant new insights pertaining to educational practice and theory. Perspectives from educators and ELL students collected during this research may inform new understandings of the appropriateness and utility of one-to-one device use among ELL students. Ultimately, insights gained from this study may lead to enhanced knowledge of how classroom practices and educational tools are perceived.

I am seeking to interview teachers of English Language Learners who use one-to-one devices to support instruction. As part of the study, I am inviting you to participate in a virtual interview. The interview should take no more than one hour and will be scheduled at a time that is convenient for you. Responses to the questions will be kept confidential. If permission is given to audio record the interview, I will do so, and there will be no other recordings of the interview.

The information collected from the interview will be transcribed and upon conclusion of the study, I will contact participants to ensure the accuracy, credibility, validity of my analysis represents your perspectives. Participation in this study is voluntary and participants may withdraw at any time.

If you are interested in participating in this study or have any questions or would like to discuss further, please do not hesitate to contact me by telephone [redacted] via email at [redacted]

Thank you for your time and consideration.

Sincerely,

Christine Johnson,
Doctoral Candidate
Seton Hall University

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Department of Education Leadership, Management and Policy
400 South Orange Avenue – South Orange, New Jersey 07079 – Tel: 973-761-9668

## Appendix D: Informed Consent



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**Informed Consent Letter**

**Title of Research Study:** English Language Learner Teachers' Perspectives on How One-to-One Devices influence their Students' Academic Experience.

**Principal Investigator:** Christine Johnson

**Department Affiliation:** Executive Educational Leadership Management and Policy (Ed.D) Program, Seton Hall University.

**Sponsor:** This research is supported by the Executive Educational Leadership Management and Policy (Ed.D) Program.

**Brief summary about this research study:**
The following summary of this research study is to help you decide whether or not you want to participate in the study. You have the right to ask questions at any time.

The purpose of this qualitative phenomenological study is to explore English Language Learner teachers' perspectives on how one-to-one devices influence their students' academic experience. Within the context of the current study, one-to-one devices are electronics that are used on a personal basis in educational settings to enhance instruction (Selwyn et al., 2017). Semi-structured interviews will be conducted with 15-20 middle school teachers from one school district in New Jersey. This research focuses on teachers in middle school from fifth to eighth grade. The teachers work in a large urban school district and will be selected because of their integration of one-to-one devices to support instruction with English Language Learners. The participants have varying years of experience using one-to-one devices as part of classroom instruction.

You will be asked to answer ten interview questions. Participants will participate in one interview and one follow-up interview.

We expect that you will be in this research study for one hour.

The primary risk of participation is none. There are no known risks associated with this study.

The main benefit of participation is to lend significant new insights pertaining to educational practice and theory. Perspectives from educators collected during this research may inform new understandings of the appropriateness and utility of one-to-one device use among ELL students. Ultimately, insights gained from this study may lead to enhanced knowledge of how classroom practices and educational tools are perceived Knowledge gained through this research may

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contribute to more culturally competent ELL education in United States public schools, particularly in New Jersey.

**Purpose of the research study:**

You are being asked to take part in this research study because you teach English Language Learners, and use one-to-one devices for instruction in grades five, six, seven and eight. Women nor minorities will be excluded from the subject pool. Additionally, prisoners and illiterate persons will be excluded.

Your participation in this research study is expected to be for one hour.

You will be one of 15-20 people who are expected to participate in this research study.

**What you will be asked to do:**

Your participation in this research study will include: One interview and one follow up interview. If permission is given to be audio recorded, the researcher will audio record the interviews using an iPhoneX. The interviews will take no longer than one hour virtually with the researcher only. At the start of the interview the researcher will explain the reason for the research. The interview protocol will start as follows:

- The participant will be assigned a pseudonym, which will be used during the transcription of the

  audio recording.
- The participant will be asked to describe a brief history of their background in education.
- The researcher will share the research questions related to the study:

  RQ1: What are teachers' perspectives on how one-to-one devices influences their academic experience?

  RQ1.: In what ways do these perspectives align and diverge in different instructional settings?
- Sample Teacher interview questions:

  1) How often do you use one-to-one device during instruction?

  2) What is the instructional model you use with one-to-one devices?

  3) How do you monitor student engagement with the one-to-one devices?

  4) Talk to me about the benefits in using technology with English Language Learners.

Before the interview is over, the researcher will remind you that if you wish to opt out of the study, you still have time before the researcher finalizes the study.

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**Your rights to participate, say no or withdraw:**
Participation in research is voluntary. You can decide to participate or not to participate. You can choose to participate in the research study now and then decide to leave the research at any time. Your choice will not be held against you.

The person in charge of the research study can remove you from the research study without your approval. Possible reasons for removal include missing study visits, non-compliance with the study procedures.

**Potential benefits:**

There may be no direct benefit to you from this study. You may obtain personal satisfaction from knowing that you are participating in a project that contributes to new information.

**Potential risks:**

The risks associated with this study are minimal in nature. Your participation in this research may include the collection of your recorded responses to the interview questions. All participants will be assigned a pseudonym at the beginning of the interview. Once the data is moved to a password protected laptop computer from the iPhone X, the recordings will be deleted permanently from the phone. All documents will be password protected.

**Confidentiality and privacy**:

Efforts will be made to limit the use or disclosure of your personal information. This information may include the research study documents or other source documents used for the purpose of conducting the study. These documents may include the research study documents or other source documents used for the purpose of conducting the study. We cannot promise complete secrecy. Organizations that oversee research safety may inspect and copy your information. This includes the Seton Hall University Institutional Review Board who oversees the safe and ethical conduct of research at this institution.

**Data sharing**
Data collected from this study will not be shared with anyone outside of the study team.

**Cost and compensation**

You will not be responsible for any of the costs or expenses associated with your participation in this study.

There is no payment for your time to participate in this study.

**Conflict of interest disclosure:**

The principal investigator and members of the study team have no financial conflicts of interest to report.

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**Contact information:**

If you have questions, concerns, or complaints about this research project, you can contact the principal investigator Christine Johnson at christine.johnson1@student.shu.edu or the Seton Hall University Institutional Review Board ("IRB") at (973) 761-9334 or irb@shu.edu.

**Optional Elements:**

Audio and/or video recordings will be performed as part of the research study. Please indicate your permission to participate in these activities by placing your initials next to each activity.

| I agree | I disagree | |
|---|---|---|
| _____ | _____ | The researcher may record my [audio or video] interview. In understand this is done to help with data collection and analysis. The researcher will not share these recordings with anyone outside of the study team. |

I hereby consent to participate in this research study.

_____ _____

Signature of participant Date

_____

Printed name of participant

_____ _____

Signature of person obtaining consent Date

_____

Printed name of person obtaining consent

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