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Language Arts Acquisition Rates of English Language Learners during Multi-Modal Instruction during COVID

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Language Arts Acquisition Rates of English Language Learners during
Multi-Modal Instruction during COVID

A Thesis

Submitted to the Faculty

of the Department of Leadership Education College of Education

of Winona State University

by

Deborah S. Dow

In Partial Fulfillment of the Requirements

for the Degree of

Master of Leadership Education

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Abstract

This study explores the correlation between remote, blended, and in-person learning, as it pertains to language arts acquisition by English Language learners. The purpose of this paper is to determine the optimal method of instruction as determined by assessment scores. The research focussed on a rural school district in Minnesota. The research was conducted by quantitative analysis of WiDA ACCESS, Renaissance Star, and FastBridge data. WiDA ACCESS data was obtained toward the end of each school year. A year of blended learning modalities was compared to two prior years of in-person instruction. Renaissance Star assessments were administered after each leaning modality occurred in order to determine which resulted in higher language arts acquisition. FastBridge data was utilized for kindergarten and grade 1 students. Like the Star test, FastBridge was administered after each leaning modality. The study analyzed the results in relation to the learning theories of Jean Piaget and Robert Gagne. The results showed in-person instruction was more effective for language arts acquisition among English Language Learners.

Introduction

Almost overnight the nation and world changed. The United States Census Bureau reported that during the COVID pandemic, the majority of students (93%) in the United States transitioned to remote learning (McElrath, 2020). This included English Language Learners. This population of learners, needing intervention and accommodations, faced a unique challenge. Because of the unique learning protocols for language acquisition skills in this population, the effects of remote learning remained largely unknown (Baker et al., 2016). Since language was utilized in all subject content areas, the success with language carries over into all academic arenas and sets the foundation for the highest possible student outcomes (DiCerbo et al., 2014). For success in the classroom and beyond, it is critical to meet the language arts acquisition needs of English Language Learners.

Statement of the Problem

The number of English learners enrolled in public schools in the United States is increasing. The data shows the necessity for language arts intervention. English language arts achievement among English Language Learners consistently lags behind non-English Language Learners. An achievement gap exists (Amendum et al., 2018). Although other factors play important roles in the learning process, (such as motivation, persistence, and quantitative skills), the role that language plays in determining a student's success with academic content is by far the most critical. All subjects utilize the English language. Since language is utilized in all subject content areas, the success with language carries over into all academic arenas (DiCerbo et al., 2014) and sets the foundation for higher student growth.

Background of the Problem

Two conflicting viewpoints exist as to the best practice of educating English Language Learners. The majority of studies support the in-person model of teacher intervention for English Language Learners. These demonstrate that the highest rate of language acquisition was accomplished through teacher-led individual or small group interactions (Dussling, 2020 & Baker, 2014). The second, albeit smaller, group of studies recognizes the role of digital media (used during remote learning) as the preferred educational platform (Kim, 2020). These studies note that many English Language Learners gain knowledge faster, remain engaged longer, and benefit from the self-directed learning that digital technology provides (Johnson et al., 2020).

Due to the increasing number of English Language Learners, it is vitally important to determine the best practice for language arts acquisition. In the United States, English Language Learners are the fastest growing population within public schools. Currently, 10% of students are English Language Learners (U.S. Department of Education, National Center for Education Statistics, 2020). The U.S. Department of Education goes on to state that by the year 2025, one out of four students will be English Language Learners.

The rationale behind this study is to develop best instructional practices for language arts acquisition, as evidenced by achievement levels, among elementary students in kindergarten through grade five. Determining a relationship between instructional models and student language arts acquisition rates is essential. Based on achievement levels, language arts instruction can be modified, adapted, and targeted for student success. As English Language Learners have greater understanding and their knowledge base grows in language arts, it has the serendipitous effect of supporting other academic areas.

Purpose of the Study

The purpose of this study is to examine language arts achievement levels of English Language Learners. The study will involve public school students in grades kindergarten through grade five in a rural school district in Minnesota. Various instructional methods will be compared in order to determine if there is a correlation between achievement and instructional method.

Research Questions

Prior research strongly predicts that in-person targeted interventions are the most effective for language arts acquisition (Baker et al., 2014, Baker et al., 2016, Pieretti and Roseberry-McKibbin, 2016, and Schmitt et al., 2017). During a school year, three models of learning are executed: remote, blended, and in-person. The hypothesis is that English Language Learner students receiving in-person interventions will demonstrate a higher degree of language arts acquisition as reflected through higher assessments scores. STAR and FastBridge assessments are utilized.

Research question 1: Do students in grades 2-5 receiving exclusively in-person interventions demonstrate more growth in language arts acquisition as evidenced by higher Renaissance STAR assessment scores?

Research question 2: Do kindergarten and grade 1 students receiving exclusively in-person interventions demonstrate more growth in language arts acquisition as evidenced by higher FastBridge assessment scores?

A year of variable educational approaches will be compared to two years of in-person instruction. The objective is to determine if variable educational approaches to language arts acquisition will result in a change of assessment scores. The hypothesis is that a year of in-person

learning will result in higher language arts acquisition for English Language Learners as evidenced by higher assessments scores.

Research question 3: Do students receiving a year of exclusively in-person instruction, compared to variable methods of instruction throughout the year, demonstrate more growth in language arts acquisition as evidenced by higher WiDA ACCESS assessment scores?

The null hypothesis is that there is no relationship between language arts acquisition rates of English Language Learners between in-person and other instructional methods.

Limitations/Delimitations

A limitation of this study is the number of participants. Due to a national pandemic during this time, some participants may have experienced COVID fatigue. This could have skewed the assessment scores during the period of blended learning. A delimitation of the study is that the participants were limited to a rural public school district in southeast Minnesota.

Definition of Terms

Remote learning - Educational instruction that is accomplished away from a physical classroom environment

Blended learning - Educational instruction that is accomplished in a dual manner, alternating between an in-person classroom setting, and an off-site, non-classroom location

Digital learning - Educational instruction that utilizes technology as part of the curriculum, or platform for learning

In-person learning - Educational instruction that takes place in a classroom setting

COVID fatigue - A complex of emotions that include boredom, loneliness, sadness, frustration, anxiety, fear, anger, and resentment, all brought on by the loss of activities and social relations produced by pandemic restrictions (Thagard, 2020).

Significance of the Study

Determining the most effective modalities for English Language Learners will provide educators with best practice guide and strong teacher efficacy. Additionally, instructors will be able to provide English Language Learners the most successful learning framework for the highest degree of language arts acquisition. By correlating assessment scores to various instructional modalities, an analysis of correlation can determine the highest rate of language acquisition success. This can be used to guide instructional practice. A proficiency of language arts skills can transfer to increased learning in other content areas. (Pieretti and Roseberry-McKibbin, 2016).

Summary

There are conflicting reports regarding best learning modalities for language arts acquisition among English Language Learners. English Language Learner students in the United States are increasing in number. Studies have revealed that on standardized tests English Language Learners do not score as high as their non-English Language Learner peers . The purpose of this study is to examine the language arts acquisition rate of English Language Learners in grades kindergarten through grade five. Chapter two covers the literature review regarding English Language Learners and their current academic achievement levels. That chapter will identify relevant studies that support in-person learning as well as studies that

support utilizing technology as part of the learning process. A historical perspective on learning theories will also be presented.

Literature Review

The literature review analyzes theoretical frameworks of learning as a historical context in regard to the transfer of knowledge. Specifically, this study analyzes language arts acquisition among English Language Learners in kindergarten through grade five. Because of the growing number of English Language Learners within public schools in the United States, and the achievement gap that exists when compared to students who are non-English Language Learners, it is critical to meet the needs of this population.

The research strategy involved a compilation of literature surrounding the concepts of English Language Learners and remote learning, supplemented by the keywords of best interventions, high growth, and assessments. Terms other than English language Learners were also utilized in order to provide specific criteria, such as: ELL, EL, EL, ESOL. Interventions were also supplemented by researching small group, teacher-led, and tiered grouping style of interventions. Other searches using assessments, tests, scores, reports, measures, and measurable outcomes, in addition to high growth, were also included in the search criteria. Literature resources and outcomes were obtained through A Boolean search using these three main search criteria (English Language Learner, interventions, and high growth). This resulted in literature specific to these parameters.

The literature review was organized first by looking at the historical perspective of documented need for English Language Learner support. Next, the increased population of English Language Learners within the public schools of the United States was documented. The *Digest of Educational Statistics* (National Center for Education Statistics, 2019) and the National Educational Association (2020) were resources that provided current and factual data on this

population of learners in the public school system in the United States. The next area examines the achievement gaps in the area of language arts between English Language Learners and non-English Language Learner students. Following this, in-person instructional modalities of learning and technology-based instructional modalities are considered. Studies that support the in-person model of learning are common in the literature base. In comparison, studies that refer to the utilization of technology are less frequent. Finally, theoretical frameworks of knowledge acquisition are presented. These focus on the theories of Jean Piaget and Robert Gagne.

Historical Context

Dating to the 16th century, various language-speaking groups settled through the United States, often living in communities where their native language was spoken. The Spanish established their first permanent colony in St. Augustine, Florida, in 1565. The Dutch started a colony in New York in 1609. During the late 16th century, settlements consisted of Spain, France, England, and the Dutch Republics existed in the United States (National Humanities Center, 2006). John Adams advocated for a national language academy on English. Hakuta (1986) reflects that this was rejected, and “deemed incompatible with the spirit of freedom in the United States” (p.165).

Linguistic pluralism existed during this time. Native language instruction and bilingual education were readily accepted and practiced. During the beginning of the twentieth century, things began to transform. A major change came with the passage of the Bilingual Education Act of 1968 (Blanton, 2005). This was known as Article VII of the broader Elementary and Secondary Education Act. The goal was to improve the quality and accessibility of education for English Language Learners. Another legislative event marked the advancement of bilingual

education for English Language Learners. In the United States Supreme court case of *Lau vs. Nichols*, (Bybee, 2014) educators were required to provide, "...affirmative remedial efforts to give special attention to linguistically deprived children" (p.140). This period was marked with an increased awareness of, and legally binding efforts toward, meaningful access to bilingual education.

Historically, the support for education of English Language Learners has been inconsistent. Federal and local support vary and there are vast differences between English Language Learner programming among states. For example, the 1980s was noted to be a time of decrease in federal support, and, in its place, local control over bilingual education was favored (Brown, 1992). The federal No Child Left Behind Act and the Every Student Succeeds Act promoted efforts for English Language Learner instruction. Although these were federal acts, implementation was left up to each state.

There is a wide variation in implementing English Language Learner programs. State and local schools, "...have a range of program choices for serving emergent bilingual children..." (Bybee, 2014, p. 142). It is evident that instruction for English Language Learners be implemented in a manner unique to their educational needs and differentiated from non-English Language Learner instruction. Minnesota adheres to the Title VI Civil Rights Laws, as well as the Equal Educational Opportunities Act, to identify and provide programs for English Language Learners (Minnesota Department of Education, 2020). Determining the best methodology for the best English Language Learner outcomes is essential. This will provide an essential framework from which to implement instructional strategies.

Need for English Language Learner Support

The necessity for supporting English Language Learners is evidenced by several factors: population and expected increase of the number of English Language Learners in public schools in the United States, assessment outcomes, and language arts achievement gap when compared to native English-speaking peers. Additionally, laws mandate academic achievements and progress for English Language Learners. “As a result of the accountability requirements established in Title III of the Elementary and Secondary Educational Act (ESEA) legislation, English Learners (ELs) are expected to make progress in both content area academic achievement and English Language Proficiency (ELP)” (Miley & Farmer, 2017, p. 200). School districts need to perform English Language Learner program evaluations to ensure that the educational needs of English Language Learners are being met.

The consequences of the inability to read are substantial. Hierck (2019) states, “...the link between academic failure and delinquency, violence, and crime is welding to reading failure” (n.p.). The author goes on to affirm that, “85% of all juveniles who interface with the juvenile court system are functionally illiterate” (n.p.).

It is important to meet the needs of English Language Learners. Accountability through laws make it mandatory to facilitate language arts acquisition skills for all students. Meeting the language acquisition needs of English Language Learners can have positive effects in youth and well into adulthood.

Population of English Language Learners

Looking at the numbers, the need for English Language Learner support is evident. As of February 2020, there were 4.9 million English Language Learner students in the United States

public schools. The total English Language Learner enrollment represented 9.6% of the total number of public school students (Mitchell, 2020). The *Digest of Education Statistics* (2019) reports that in 2018, Minnesota's public school English Language Learner population was 8.5% of the total number of students (National Center for Education Statistics, 2019).

If the current growth trend continues, it is anticipated that by 2025, one out of four students in the public classrooms in the United States will be English Language Learners (National Education Association, 2020). The National Education Association (2020) confirms that currently English Language Learners represent approximately 10% of all learners in K-12 public school settings in the United States and comprise over 400 native languages. Of all these students, English Language Learners are growing faster than any other student group.

With such an increase in numbers, districts and schools often find themselves lacking in staff, resources, and best pedagogy practices to support English Language Learners. The National Education Association (2020) elaborates that teachers often lack the classroom support in which to serve the needs of this group of students. Resources, training, and staffing are often inadequate at meeting the needs for English Language Learners. Mitchell (2020) supports this by saying, "Many teachers are not equipped with the skills and knowledge to properly educate English-learners" (p. 2).

The fastest growing group of students in schools in the United States is English Language Learners. Because of their unique needs and detrimental consequences of illiteracy, it is imperative that English Language Learners are supported. Determining and implementing optimal learning modalities for language arts is essential. This can increase language arts acquisition, literacy, and promote higher rates of success in other academic areas.

Language Arts Achievement

English Language Learners are held to the same standards on state mandated content assessments as their English speaking peers, regardless of their proficiency level in English. English Language Learner achievements are behind those of native English-speaking peers (Miley & Farmer, 2017). The statements from Schmitt et al. (2017) concurs with this and went on to further examine intervention effectiveness.

According to the Department of Education (2017), “In grade 4, the percentage of ELs proficient in reading ranged from 1 percent (Jefferson County) to 12 percent (Boston) in 2017 (n.p.). The language arts gap between English Language Learners and native English-speaking students is documented through the National Assessment of Educational Progress (NAEP). Looking at the most recent scores from Minnesota (2019), grade four English Language Learners scored 179 and grade four students that had English as their primary language scored 213. This is a 16% difference. Overall, English Language Learners scored at least 15% lower than their native English-speaking peers (National Center for Educational Statistics, 2019). Additionally, graduation rates are lower for English Language Learners and 20% do not graduate with their class. Remediation classes are needed after leaving grade 12 for 40% of English Language Learners as compared to native English-speaking students (Truong, 2017).

The research shows that English Language Learners score lower on language arts assessments when compared to their native English-speaking peers (Baker, 2016, Bundschuh, et al., 2018, Terantino, & Donovan, 2021) Additionally, since English Language Learners are held to the same accountability on state mandated assessments as their English speaking peers, effective instructional modalities must be determined and put into practice. All of these factors

evidence the need for providing the best modality of instruction for English Language Learners. Supports and resources are instrumental for highest possible outcomes. The effects of low language arts skills can have negative effects beyond the educational environment, and can carry through to adulthood.

Review of Theoretical Literature of In-Person Instruction

In-person instruction for English Language Learners has been the standard educational model for several decades. This includes on-on-one instruction as well as small group instruction (Schmitt et al., 2017). Some models also include peer-to-peer instruction as part of in-person instruction, although this technique is less practiced (Terantino and Donovan, 2021). Much research, spanning several decades, has been done supporting the in-person model of learning. This type of instruction, targeted for English Language Learners, most frequently occurs in a small group (less than ten students), or in a one-to-one setting.

Baker et al. (2014) report it is best to, “Provide small-group instructional intervention to students struggling in areas of literacy and English language development” (p. 11). Pieretti and Roseberry-McKibbin (2016) echo these findings: “Furthermore, results indicating increased classroom participation and engagement were particularly compelling” (p. 124). They go on to cite the benefits of in-person pedagogy practices. They support all modalities of in-person instruction: consultative, direct intervention, push-in, and collaborative settings.

Baker et al. (2016) note the importance of explicit, small group instruction as it provides the scaffolds necessary for English Language Learners. Baker et al. (2016) give evidence to support this type of in-person learning as it supplies English Language Learners additional opportunities to speak, hear, and read, which are all important constructs of comprehension. The

research of Schmitt et al. (2017) supports in-person English Language Learner instruction. It reinforces targeted instruction that occurs three or more days a week. They state, “However, there is some support that more intense interventions (interventions that take place three or more days a week) have better outcomes for students” (p. 143).

Dussling (2020) echoes the benefits of in-person small group instructional practices for English Language Learners. The study yielded results that demonstrated, “...small group instruction targeting phoneme awareness and phonics can benefit ELLs with native languages other than Spanish” (p. 245). In this study, all students benefitted from this in-person model. Gupta (2019) stresses the importance of class routines, and a welcoming and accepting classroom environment for English Language Learners.

There are many studies and the literature appears to support English Language Learner instruction that exists within a classroom environment. This in-person modality of learning strongly suggests targeted intervention for English Language Learners produces high gains in language arts acquisition.

Review of Theoretical Literature of Technology for Learning

As technology advances in accessibility and utility, this resource becomes an increasingly viable option for learning. In an educational setting, the availability of technology is increasing. More and more students have access to, and learn from, digital technology and the educational platforms technology provides. Studies have demonstrated the effectiveness of technology for learning and as an effective educational resource.

Utilizing technology for English Language Learners has shown to be beneficial (Gupta, 2019). Gupta voices the need to utilizing multiple modalities during instruction. “New modalities

have changed multimodal digital platforms that present educators with the possibility of providing meaningful opportunities for engagement and creativity employing different cognitive, audio-visual senses and ability to interact” (p. 55). When classroom environments become more diverse, English Language Learners need the opportunity to interact through a shared learning environment. Meaningful educational experiences through engagement via technology can provide various learning opportunities.

Truong (2017) further affirms this:

When coupled with instructional supports from educators, adaptive technologies can add capacity to respond to students’ needs and target specific learning gaps. Software such as Lexia Learning and Ellevation provide tools teachers need for personalizing approaches with differentiated instruction, interventions, and formative assessments specifically for ELL students (page 30).

Learning through technology can have the advantage of being individualized and self-paced.

This also enables educators to meet the students at their level. Re-teaching and targeted language arts material can be part of the digital lessons.

Bundschuh, et al. (2018) examined English Language Learners in grades kindergarten through grade five. The results indicated a large gain in language arts when utilizing technology as part of the instructional process. “A sub-analysis also demonstrated the greatest reading gains occurred for ELs who were the lowest performers at pretest” (Bundschuh, et al., 2018, p. 497).

Affrunti (2019) examined the utilization of iPads for vocabulary instruction for English Language Learners. Albeit the study’s participants were small in number, the results indicated that English Language Learners benefitted from digital technology. The study suggests that the

use of technology-based digital learning positively impacted student growth. A study conducted by Hughes et al. (2018) concurs. This targeted study determined that English Language Learners benefitted through the addition of a specific digital program added to the classroom experience.

Technology-assisted instruction can assist with re-teaching, practice, individualization of specific subject content matter, and independent learning. It offers students the ability to succeed and see growth as concepts are mastered and they move to the next level. It keeps students engaged longer, and offers variation in learning style. These studies demonstrate the positive gains that can occur with English Language Learners when technology was utilized.

Theoretical Framework

In order to determine the best instructional models for education, it is important to determine how students acquire knowledge. The theoretical framework of this study is based on the theories of learning presented by Jean Piaget (Hof, 2021, Kurt, 2020) and Robert Gagne (Davis, et al., 2018, Gagne, 1985, Faulder et al., 2019). These two cognitive models for knowledge acquisition are well known. These constructionist models reflect sequential learning achievement by growing in knowledge through cognitive processes or stages.

Piaget's belief in a series of stages in the process of cognitive development, called the cognitive development theory, was the basis for his research. Piaget noted these stages must occur in a particular sequence, since each stage incorporates and restructures the previous one, and refines the individual's ability to perceive and understand. These stages are: sensorimotor, pre-operational, concrete operational, and formal operational (Huitt and Hummel, 2003). Variation may be seen in the use of each stage due to intelligence and/or environmental factors. Behavior patterns are characteristic of the way an individual will interpret and use the environment at each of these stages. Additionally, within these stages, learning occurs in a nonlinear progression. "Piaget and his associates demonstrated that knowledge acquisition is based not only on perception, but also on practice" (Hof, 2021, p. 3). Piaget, a pioneer in studying technology and learning, realized that, "the child is not being programmed, but the child actively programs, and thereby creates his/her environment using the computer (Hof, 2021, p. 17). Using technology for educational application was "adopted by artificial intelligence researchers at MIT as a concept of learning 'without being taught' and – at a time when

university research funding shifted to civilian goals – was translated into an educational technology” (Hof, 2021, p. 18)

Piaget’s theory represents ideas about how learning occurs. Learning is based upon one’s own prior knowledge and experiences, which is unique to each person. This is accomplished through two processes. The first one is assimilation, which is the ability to use prior experiences to assist in the comprehension of a new idea or concept. The second is accommodation. This is the ability to adjust and redefine expectations to include the new experience (Kurt, 2020).

Piaget’s belief in the uniqueness of individual learning reinforces the ideology that, “no two individual can ever be at the same level of readiness for a given experience” (Webb, 1980, p. 95). Webb goes on to say that as each person assimilates new information and refines the mental structures necessary to process it, the person’s cognitive schemes are constantly being edited, or revised. In the educational setting, the educator would act as a facilitator of learning, guiding student’s activities, through techniques such as scaffolding or modeling.

Piaget placed a high importance on social interaction as a contributing force for cognitive growth and development. Piaget also highlights the significant role peers play in learning. They serve as role models for learning, incorporate reflection strategies to promote insights to learning, offer explanations of knowledge that are more readily understood, and encourage and reinforce learning activities. This would lend greater support to the importance of in-person learning and the facilitation of growing in knowledge with the “effectiveness of group processes” (Webb, 1980, p. 96).

Gagne’s theory of learning was developed in order to facilitate learning and assist with classroom instruction. Gagne believes that children learn an ordered fashion with an increasingly

more difficult set of activities. The theory offers a phase by phase checklist and are, “...necessary for generating learner attention through the stimulus to preparing the learner to solve new problems” (Iqbal et al., 2021 p. 2).

Gagne’s nine events of instructional practice are key to this theory. Bibi et al. (2015), lists these conditions of learning, or these nine instructional events, and corresponding cognitive processes:

Figure 1

Gagne’s 9 Events and Mental Processes

| Event | Action | Mental process |
|--|---|-----------------------------|
| 1. Gaining attention | Use questions, pictures or relevant scenarios | Reception |
| 2. Informing learners of the objective | Tell learners what they will be able to do after learning | Expectancy |
| 3. Stimulating recall of prior knowledge | Ask for recall of prior relevant knowledge | Retrieval to working memory |
| 4. Presenting the content | Structured display of the contents to be learned | Selective perception |
| 5. Providing "Learning guidance" | Use mnemonics, elaboration, pictures, graphs | Semantic encoding |
| 6. Eliciting performance | Ask learners to perform | Responding |
| 7. Providing feedback | Give corrective feedback | Reinforcement |
| 8. Assessing performance | Additional learner performance with feedback | Retrieval & reinforcement |
| 9. Enhancing retention & Transfer | Ask learners to apply knowledge in real life scenarios | Retrieval & generalization |

Bibi, 2015

Gagne’s theory is sequential and systematic in regard to learning or knowledge transfer. Application of the model leaves room for a multi-modal approach to instructional delivery. The study by Iqbal et al. (2021) supports the utility of Gagne’s theory in the classroom. The benefits include: lesson plans with purpose based on constructivism theory, monitoring activities for student engagement, and providing students with multiple opportunities for feedback. Gagne’s nine-part approach allows for individualized subject content and ample opportunities for student

feedback (Davis, et al., 2018). Su and Sung (2016) reiterate this feedback as essential for enhanced learning.

Gagne stressed that it is crucial for learners to obtain the necessary prior information in order to gain knowledge of more difficult concepts. As long as these conditions are met, Gagne's theory holds to the argument that learning and intellectual gains can be acquired. Bibi et al. (2015) notes Gagne's nine events "are sequenced in this manner because each of them affects the internal processing of information in the same order" (p. 535). Bibi et al. (2015) further describes the process of intellectual learning to memory as exemplified in Figure 1:

The input from our senses moves information into the sensory registers and then into short-term memory. From there it is encoded, stored in long-term memory, and finally retrieved when required. The learning model takes into account these steps of memory and also includes specific actions for every event. (p. 535)

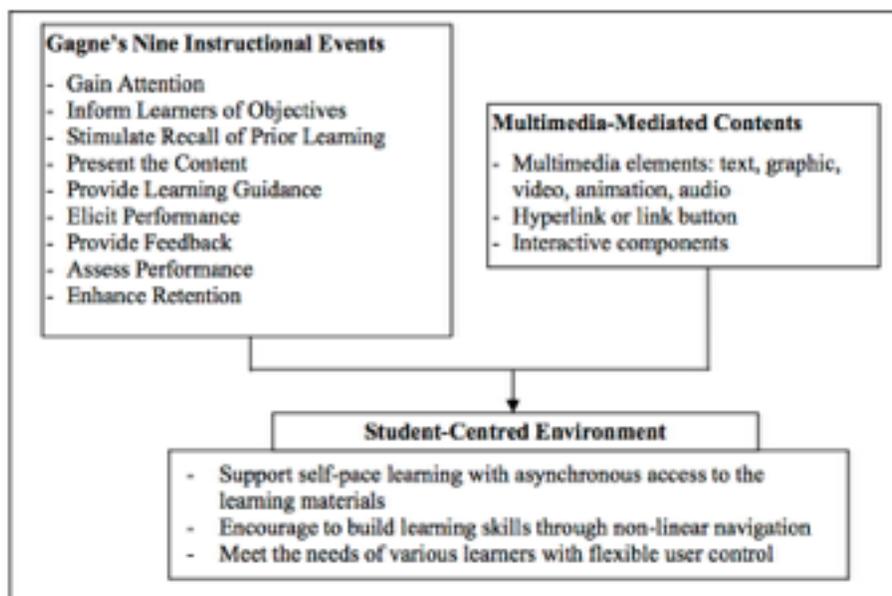
Gagne's nine events assist in creating a framework from which various instructional modalities exist. Faulder et al. (2019) cite support for Gagne's nine events of instruction through their study. They stress the importance of learning basic concepts prior to more complex. Iqbal et al. (2021) reinforces the understanding that Gagne's events blend, "the exogenous instructions with the learner's endogenous cognitive learning process and retention where individual diversity, learner's readiness and motivation to learn are perfectly reflected" (p. 3). English Language Learners benefit from individualized and diverse instructional practices.

Additionally, Leow (2014) credits Gagne's nine instructional events as instrumental in developing an interactive learning module for content delivery of a syllabus. Albeit this was

designed for university students, these same components can transfer to the delivery of elementary subject content areas. The diagram below exemplifies the details involved in this research design.

Figure 2

Student-Centered Environment with the Use of Multimedia and Gagne's Events



Leow, 2014

More specifically, the student-centered environment is ideal to meeting the needs of English Language Learners. It supports self-pacing, individualized learning, practice, and flexibility in learning acquisition.

Gagne's Conditions of Learning, (as a cumulative learning theory), is a framework that guides the advancement of enhanced learning through technology. Others have utilized his research in creating technology frameworks to enhance and supplement student instruction. One study conducted by Krishna et al. (2021) presents the effectiveness of integrating technology as

an adjunct to Gagne's nine instructional events. Gagne's nine part approach to learning has many applications for technology within educational models. The theory also stresses the importance of a system that provides effective feedback based on learner response. This individualized feedback for English Language Learners, once only provided through an instructor, exists in the technology utilized in classrooms today.

Piaget and Gagne share similar learning theories as they stress sequential steps to increased knowledge. Piaget endorsed the cognitive area of development; Gagne the intellectual. Piaget's theory of cognitive development believes a learning hierarchy, or sequential order, is present in the stages of cognitive development. Gagne focussed on the intellectual components of learning and capabilities, as the transfer of knowledge moves from the basic to more complex.

Both Piaget and Gagne offer valid considerations in regard to cognitive growth and learning. The premise of cognitive hierarchies are of consideration as this study examines student growth in various learning modalities. Piaget's work with technology and the research of Gagne offer substantial support regarding learning through digital methodologies. The utilization of technology can take place in any learning environment: a remote, blended, or in-person instructional delivery.

Summary

In summary, the literature documents a clear need for support for English Language Learners in public schools in the United States. This is based upon an increase in the English Language Learner population and the existing achievement gap. English Language Learners do not perform as well in language arts when compared to native English-speaking peers. Learning theories offer insight into these modalities. The analysis of literature for both in-person and

technology-based modalities of learning results in a benefits to both. Both support a learning hierarchy. While Piaget's theory of cognitive development tends to focus on the cognitive areas of learning, Gagne's cumulative learning theory centers on intellectual capabilities. Both theories have aspects that endorse technology as an adjunct to teaching methodologies.

Chapter three provides the research methodology utilized in this quantitative study. Data collected will produce further evidence of a correlation to best learning modalities. A group of 30 kindergarten through grade five English Language Learner students will be assessed. Three various learning modalities will be analyzed: in-person learning, remote learning, and blended learning. Obtaining data through STAR and WiDA ACCESS assessments, analyzing the data, and determining correlations will be completed. This will support quantitative reliability for a correlation between variables. This will not determine cause/effect relationship.

Research Methodology

Research Design

The purpose of this study is to examine the language arts acquisition rate of English Language Learners in grades kindergarten through grade five. Three assessment measures will be utilized: WiDA ACCESS, Renaissance Star, and FastBridge. This quantitative method uses numerical analysis for determining if a relationship between variables exists (Muijis, 2010). The outcomes will determine a correlational relationship. First, student data from the end of each school year was collected. This data is obtained through a WiDA ACCESS test. This assessment measures whether there was a statistically significant difference in scores between the year of variable learning models compared to the two years of in-person educational models.

The second measure is to determine the correlation of three modalities of educational approaches to learning. This correlational research examines language arts acquisition of English Language Learners through three models: remote learning, blended learning, and in-person learning. Students in grades 2-5 complete a Renaissance STAR assessment at the end of each of these learning models. Kindergarten and grade 1 students complete a FastBridge assessment at the end of each learning model.

Research Sample

The chosen research model utilized is a representative sample. Included in the study were 30 English Language Learners from a small rural community in Minnesota. The elementary students ranged in grades corresponding to kindergarten through grade five. All speak Spanish as their primary language. According to the National Center for Educational Statistics (2020), the percentage of public school students in Minnesota who were English Language Learners in 2017

was 8.5 percent. As an overall number, this percentage includes both elementary and secondary educational settings. The elementary school utilized for this study enrolled 496 students. The sample size for this study is 6% of the total school's population.

Three different assessments were utilized for the study. Each assessment occurred in the same building, with the exception of one remote learner. These assessments vary in the way they were administered. The WiDA ACCESS assessments are completed once a year, at the end of every school year. All students complete this assessment. The Star and FastBridge assessments are completed three times a school year: at the beginning, middle, and end of the year. These were administered after each various instructional modality during the 2020-21 school year during COVID.

Research Setting

The STAR tests were administered by the English Language Learner instructor or, less frequently, the paraprofessional. They take place in a quiet room that is as sterile as possible; it is void of any extra sensory stimuli such as noise, smells, and with few windows. Consideration is taken as to the student's schedule, food intake, level of current proficiency, and need to move (kinesthetic learners). The number of students in one assessment room at a time is between three and five. These are not timed assessments. Each student receives one hour for each of these four sections and all students complete their section within this amount of time. Students can stop the test and resume on another day. This is a rare occurrence. Students may use headsets in order to block noise as well for a certain portion of the test. Students have one pencil and one blank piece of paper. Students sit at tables with independently moving chairs. They are spaced with one person at a table.

WiDA ACCESS assessments are conducted by the classroom instructors. Students take this test with their classroom peers. The average number of students in a room is approximately 23. The WiDA ACCESS tests are not timed.

FastBridge assessments are conducted by classroom instructors. Students take this test with their classroom peers. It is given to all kindergarten students. The average number of students per assessment session varies and is less than the WiDA average of 23.

Instrumentation

The data from three assessments were utilized in this study: WiDa ACCESS, Renaissance Star, and FastBridge. WiDA ACCESS data was retrieved from the current year which exemplified a school year of blended learning approaches, or models. Additionally, two prior years of data for each of these assessments are evaluated. Renaissance Star and FastBridge data represents assessments conducted after each of the three various learning models. This data is available three times a year.

The Renaissance Star test was given to English Language Learners three times a year. They are computer-adaptive, meaning the difficulty of questions changes depending on the previous response to the test question. This feature allows for individualized assessment levels based on each student. The unique feature to this assessment is that it can be given to the same student in English and Spanish. This assists in giving instructors an accurate measure of English Language Learners knowledge and growth. The Star test is a sequenced and progressively tiered learning system. The skills become more advanced as students sequence through each level. Every question is timed, however there is no overall time limit on the test. The Star reading test took approximately 15 minutes to complete.

FastBridge assessments are administered to all kindergarten and grade 1 students three times a year. It consists of 13 subtests and assesses skills such as letter names, word blending, and phonemic awareness. It uses data to identify learning gaps, and growth areas. These results assist with the development of individualized learning paths. The test is divided into sections of 4 components. Each section takes approximately 6-8 minutes to complete. Students have a 4 week window in which to complete the test. This district completes the test in the same week it is initiated. The test may be stopped and resumed up to 14 days later.

The WiDA ACCESS assessment is given once a year for grades K-5, near the end of the school year. Like the Renaissance Star test, the WiDA ACCESS test is computer-adaptive. Unlike the Renaissance Star test that is administered to all students, the WiDA ACCESS test is administered exclusively to English Language Learners. There are four content areas: listening, speaking, reading, and writing (WIDA, n.d). One hour is allowed for each component. Students start with the listening, followed by the reading portion of the test.

The English Language Learner instructor spends several hours practicing with students so they are familiar with the computer, the process, and the technology. For example, on the speaking component of the test, students speak into the computer. The instructor has all English Language Learner students practice speaking into the iPad before taking the speaking portion of the WiDA ACCESS test. This assessment differs from the Star test in that it has a writing component that is not completed utilizing a computer. Students obtain the writing prompt from the computer and then write their responses in the booklet provided.

Data Collection and Analysis

Data for this research is obtained from the elementary English Language Learner department. This is public information. The data sheets were categorized by test type and year. The Star test data will involve three sets of data for each of the three school years, or nine total data sets. The WiDA ACCESS test data will contain one set of data for each of the three years, or three total data sets.

This data was open to the public as part of the district's data. This specific data was obtained from the English Language Learner department at the elementary school. There were no identifiable information present in the data obtained. The data was packaged in a secure fashion. The spreadsheet of student data contains randomly generated student numbers, ie. student 1, student 2, etc. The student data in this spreadsheet is the basis for the quantitative analysis (WIDA, n.d.)

Once all data is retrieved, it was put into a spreadsheet, with disambiguating features clearly labeled. In the spreadsheet, the Star test is tabbed by school year and by assessment date. Each tab will have a different test date, with three results for each school year. The ACCESS data is also tabbed by school year. The scores for both the Star and ACCESS assessments are entered from top to bottom, and labeled by student 1, student 2, etc.

Analyzing the data will initially determine the correlation of three modalities of educational approaches to learning. This correlational research examines language arts acquisition of English Language Learners through three models: remote learning, blended learning, and in-person learning. The first hypothesis is that students in grades 2-5 that receive in-person instruction (as compared to remote and blended learning) have higher rates of language

arts acquisition, as evidenced by higher Star assessment scores. This is similar to the second hypothesis with the exception of grade levels and assessment tool. The second hypothesis is that students in grades K and 1 that receive in-person instruction (as compared to remote and blended learning) have higher rates of language arts acquisition, as evidenced by higher FastBridge assessment scores.

The third piece of data analysis measures whether there was a statistically significant difference in scores between the year of variable learning models compared to two years of in-person educational models. The third hypothesis is that English Language Learner students receiving yearly in-person interventions (compared to a year of variable learning modalities) will demonstrate a higher degree of language acquisition as reflected through higher WIDA assessment scores. This is accomplished through analyzing data from prior two years of in-person learning and then comparing this to the scores obtained after a year of three various learning modalities.

The quantitative data for this correlational study will be analyzed in a linear fashion with line charts. Correlations “describe the magnitude and nature of a relationship between two or more variables” (Sheskin, 2010, p.2). Since a comparison of data patterns over time will be assessed, line graphs are an accurate representation of the information. This will support quantitative reliability for determination of correlational relationships, not cause/effect relationships. The null hypothesis is that there is no difference among the group means.

Summary

In summary, best instructional practices for language arts acquisition of English Language Learners will be analyzed. With the fastest-growing student population in the United

States, nearing 10% of the total school population, it is critical that the best learning modalities for language arts instruction be assessed. Through studying various learning instruction modules (remote, blended, and in-person), a correlation between student growth and type of learning can be identified. Additionally, in a transition year where all models have been present, the data will help to determine the rate of learning over a school year compared to two school years of in-person instruction.

Results

Introduction

This chapter reports on the results of the study. Included are the three types of assessment measurements: WiDA ACCESS, Renaissance Star, and FastBridge. Specifically, a year of learning will identify which education delivery model indicated greatest growth for students. These three types were: blended, remote, or in-person instructional delivery. Through the data, highest scores indicate highest learning for that model. Student scores in grades kindergarten through five will be analyzed. Through this data, growth trends will be determined and a best instructional model for English Language Learners will be concluded.

Description of Sample

English Language Learners in kindergarten through grade five were assessed utilizing three assessment tools. Each assessment was conducted in an environment consistent to all participants. Grades kindergarten through 5 employ the WiDA ACCESS test. Grades 1 and 2 utilize the Renaissance Star assessment. The FastBridge assessment was utilized for kindergarten. No prior data for kindergarten exists. Attention to details such as noise, temperature, and time of day were acknowledged and held to a uniform standard.

Data Analysis

The data will be analyzed according to each assessment type. WiDA assessments are given once a year at the end of the year. The WiDA data will be measured against student growth from the prior two years. WiDA data from a year of various instructional modalities will be compared to two years of data. These two years reflect exclusively in-person instruction.

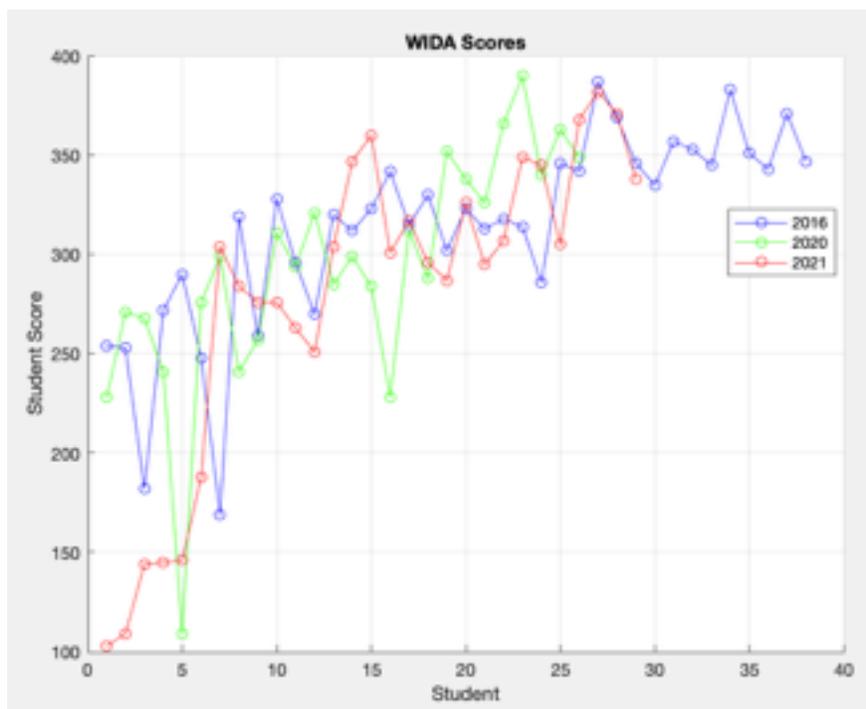
Star data is obtained three times a year: fall, winter, and spring. During COVID, each of these represented a learning model. Through the data, a calculation will be made as to which model demonstrated the highest growth for English Language Learners.

The FastBridge test is an assessment for kindergarten and grade 1. Similar to the Star data, it is given to students three times a year. The results impel the conclusion as to which type of instructional model reflects the highest growth.

Summary

Figure 3

WIDA Assessment Scores

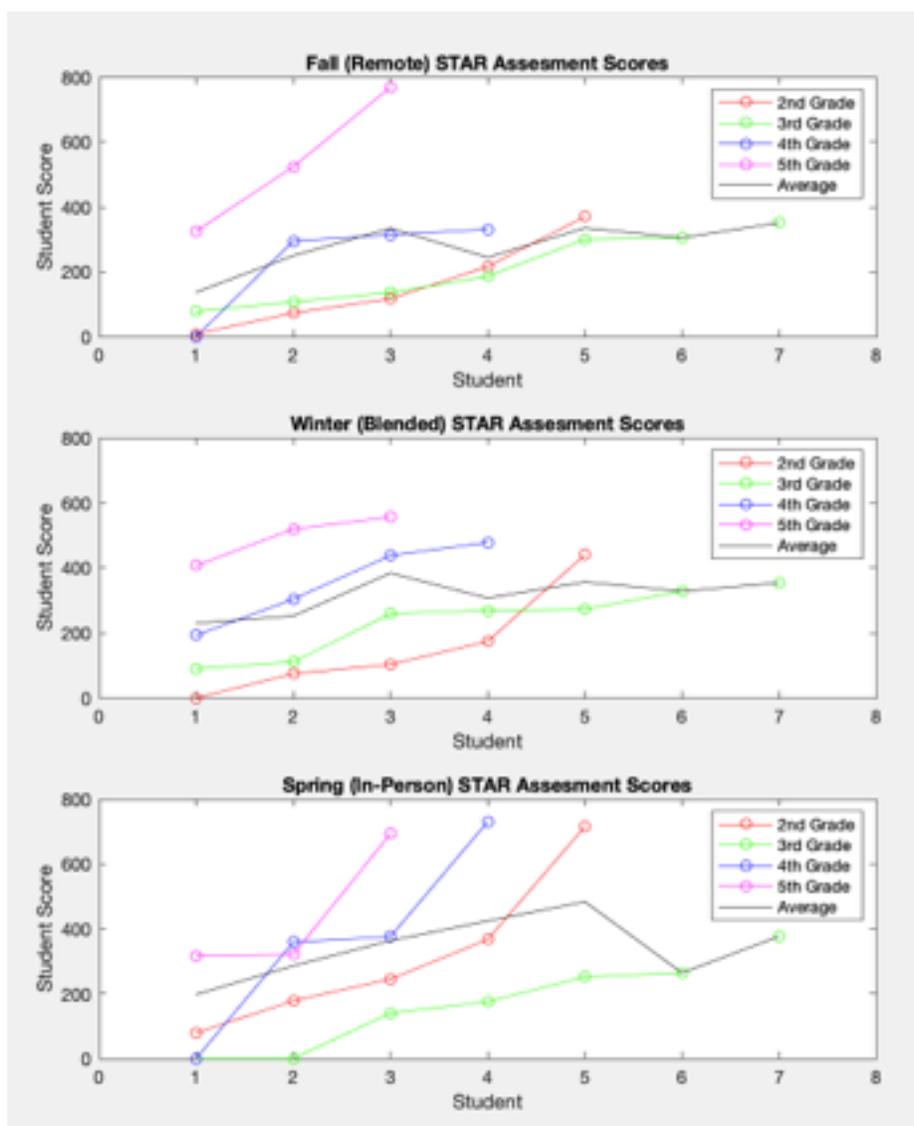


The results of the WiDA ACCESS revealed an area of greatest growth for English Language Learners during the time of in-person instruction. WiDA assessments showed the

average score during the year of blended learning was 289, compared to the two previous years' scores of 305 and 314. The year of blended learning (spring 2021) represent a decrease of 5.5% from the previous year of in-person instruction (spring 2020).

Figure 4

Renaissance Star Assessment Scores

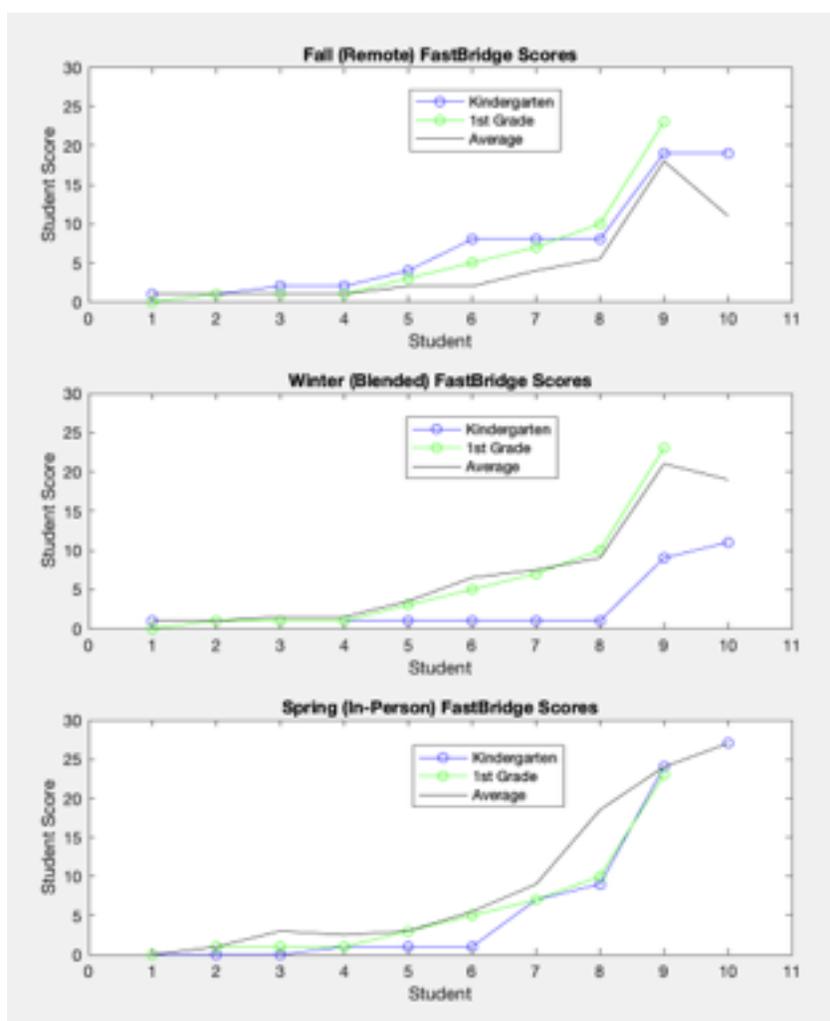


Renaissance Star data reflects the greatest language arts acquisition rates for English Language Learners during in-person learning (spring 2021). The average student STAR score

during this time was 349.2. The greatest decline in scores occurred during the time of remote learning (fall 2020). The average test score during this time was 267.9. This was followed by blended learning (winter 2020-21), with the average score of 298. Blended learning represents a 12% growth from remote learning. In-person learning demonstrated most growth during a year of various instructional modalities, or a 30% increase from remote learning.

Figure 5

FastBridge Assessment Scores



FastBridge data repeats these findings. The average kindergarten and first grade score during in-person learning (spring 2021) was 9.4. The lowest scores were reflected during a blended learning model (winter 2020-21) with the average score of 4.1. From winter to spring student scores increased by 129%. Remote learning scores (fall 2020) averaged 6.8.

FastBridge data for kindergarten reflected maximum scores during in-person instruction, with the average score of 10. The lowest FastBridge scores for English Language Learners was during the blended period of learning (winter 2020-21), with an average score of 2.8. This was followed by remote learning (fall 2020), with an average student score of 7.2. The decrease between remote learning in the fall and blended learning in the winter reflected a 61% decline. The increase from blended learning (winter) to in-person learning (spring) was a 39% increase in student test scores.

FastBridge data for grade 1 concludes the highest language acquisition rate occurred during in-person instruction with an average score of 8.9. The second highest rate of learning was evidenced during a blended learning model (winter 2020-21) with average score at 7. The least favorable learning was during remote learning (fall 2020), with the average score of 6.

Summary

The data reflects the highest WiDA ACCESS, Renaissance STAR, and FastBridge scores were during the time of in-person instruction. During a year where multi-modalities of learning were present, the end of the year scores decreased. All three assessments concluded the same correlation: in-person instruction for English Language Learners demonstrated the highest assessment outcomes for grades K-5.

Discussion and Conclusions

Introduction

The purpose of this study was to examine language arts achievement levels of English Language Learners. Various instructional methods were compared in order to determine a correlation between achievement and instructional method. This chapter discusses the results. It will provide an analysis into best language arts learning modality for English Language Learner student growth as evidenced by assessment scores. An examination relating to the theoretical framework will be interjected. Questions regarding strengths and weaknesses will be addressed and recommendations for future research stated.

Discussion and Conclusions

Taken once a year, the WiDA ACCESS test, when compared to two previous years of data, demonstrated lower learning for English Language Learner students during a year of multiple learning modalities. Student average scores were 289 for the year ending in 2021. The student average for the previous two years were 305 and 314. Comparing the school year ending in 2021 that consisted of blended learning modalities to the previous year of exclusively in-person instruction (2020), students averaged a 5.5% decrease in WiDA scores.

Star assessment data demonstrated that during a year of various instruction, the greatest learning occurred during the period of remote learning. The average student score during this time was 26.6. In-person learning occurred the last 4 months of the school year. Remote learning is the second highest degree of learning as evidenced by the data. It took place at the beginning of the school year. These scores reflect a student average of 27. The period of a blended style of instruction revealed the lowest test scores of 25. One items worth noting is the number of

students assessed during in-person instruction decreased by 3. Looking at the overall scores during this time would not be an accurate measure of student growth.

Comparing this to the previous year's data, the average scores in the fall of 2019 were 39. The average scores in the fall of 2020 (remote learning) were 27. This is a 31% decrease from the previous year. The data suggests that during the period of remote learning, the language arts acquisition rates for English language Learner students decreased.

Comparing the winter of 2020 scores to the previous year (2019), the data reveals an average student decrease of 38%. This time period reported the greatest range of decrease in student assessment scores, when compared to previous year's data. This suggests that instruction that occurred through an in-person model showed greater student growth from fall to winter, or an increase of 2%. The blended learning model that occurred from fall to winter in 2020 revealed negative growth. Student learning decreased from fall to winter by 6%. It appears that English Language Learners have a lower degree of language art acquisition during remote and blended learning modalities and the highest rate of learning during exclusively in-person instructional delivery. One possible explanation for the decrease is the transitory nature of the school year proved to be challenging for English Language Learners. A consistent in-person approach produced favorable outcomes as demonstrated by Star assessment scores.

A factor to consider during COVID is masking. Since language arts rely on the transfer of knowledge of speech and the formation of letters, masking can be a barrier. Letters and sounds, words and speech that are necessary for language arts development may be negatively impacted by the use of masks and by not having a clear audio/visual of these components.

FastBridge testing for kindergarten and grade 1 revealed the highest rate of learning occurred during in person instruction that took place during the last part of the school year, or spring term. This would signify that in person instructional delivery is crucial for knowledge transfer, especially for kindergarten. The data reveals a 61% decrease in student learning from the period of remote learning in the fall to a blended learning style in the winter. In contrast, from the period of blended learning in the winter to in-person learning in the spring, student learning increased by 72%. In-person learning for kindergarten and grade 1 proved the most successful for demonstrating language arts growth as evidenced by a higher FastBridge assessment scores.

The theoretical framework research supports all modalities of in-person instruction: consultative, direct intervention, push-in, and collaborative settings. Dusling, Gupta, Pieretti and Roseberry-McKibbin, and Schmitt et al. repeat the benefits of routine, small group and one to one instruction for English Language Learners. The results of this study align with the research and match the expected outcomes. During remote and blended learning modalities, one to one instruction was not feasible. Schedules and routines were not consistent. Interventions were inconsistent and occurred infrequently. These factors contributed to a lower rate of learning.

Gagne's nine events of instructional practice are key to this theory. He postulates that gaining attention and providing feedback are essential to learning. Obtaining and keeping student attention via remote and blended learning proved a challenge. Expedient feedback was variable during this time. Gagne's belief of attaining prior knowledge exposed a challenge to remote and blended instructional models during this time. Students who could receive instructional supports during an in-person framework, may not obtain these through remote and blended learning. This creates a learning gap and barrier to learning advanced concepts.

Piaget's believed that learning is based upon one's own prior knowledge and experiences, which is unique to each person. Piaget highlighted the role peers play in learning. His theory upholds the importance of social interaction as a contributing force for cognitive growth and development. During COVID, where social distancing and isolation occurred, peer contact was minimal or non-existent. Learning was suppressed. These could play a factor in the lower assessment scores evidenced during remote and blended learning.

Leadership Implications

It is crucial that English Language Learners be given in-person instruction. As a leader, the challenge lies at the juxtaposition between health guideline and student learning. A balancing act is necessary for enacting safety protocols, yet not at the expense of student education. Conversations involving all stakeholders can create an optimal outcome for best practice moving forward. Leader implications involve monetary disbursement and conflicting district and educator needs, determining priorities, problem assessment, acquiring a basis for determining fact-backed data practices, an increase in decision-making skill sets, reflection, and proactively engaging the community. Some stakeholders may want isolation during this time. Some may want no masking. A leadership challenge is to balance the health risk compared to student educational outcomes.

Recommendations for Future Research

Research in the future would benefit from a larger number of English Language Learner participants. Expanding this study to include other non-rural districts in Minnesota or other states would be useful. It would be beneficial to track student data over time, thus reflecting individual student growth over time. The addition of the role masking plays in the acquisition of language

arts may prove beneficial. The phoneme is the smallest unit of sound and a large part of sound acquisition is accomplished through seeing the shape of the mouth during letter and speech formation. Wearing a mask is a barrier to the essential visual component necessary language arts acquisition.

Summary

In summary, English Language Learners demonstrated the highest rate of language arts acquisition with in-person model of instruction. Remote and blended learning produced lower rates of language arts acquisition skills. Several variables may exist for the lower scores during these two instructional models and the study would benefit from a larger English Language Learner population.

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