# Enhancing literacy through picture-word interventions: A mixed methods study on English learners in southwestern Kansas

by

Eugene V. Struzik III

B.S., Park University, 2008
M.A., University of Kansas, 2019

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Curriculum and Instruction
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Manhattan, Kansas

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# Abstract

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The study included 44 fifth-grade English Learners who participated in an eight-week PWIM intervention. Quantitative data were collected using FastBridge assessments and the Garfield Reading Attitude Survey. The Garfield data revealed statistically significant gains in both recreational ($z = 4.04$, $p < .001$) and academic ($z = 3.62$, $p < .001$) reading attitudes, while FastBridge results showed descriptive improvements in vocabulary and comprehension that were not statistically significant within the study's timeframe. The qualitative strand consisted of semi-structured interviews with 17 focal participants. Analysis indicated that students developed greater confidence in reading aloud, shifting from fear and avoidance to increased willingness to volunteer and persist when encountering unfamiliar words. PWIM also reduced resistance to writing tasks by providing scaffolded vocabulary entry points, encouraged reading habits beyond school, and supported higher engagement and enjoyment of literacy activities.

Taken together, these findings suggest that PWIM contributed meaningfully to attitudinal and confidence growth, creating more positive literacy identities for English Learners, even though measurable achievement effects were not yet statistically significant. The study highlights the potential of PWIM as a visually scaffolded and student-centered instructional model that can

foster both affective and behavioral shifts in literacy, with implications for future research and classroom practice in linguistically diverse settings.

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Major Professor
Dr. Suzanne Porath

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# Acknowledgements

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To all who have been part of this journey, I extend my heartfelt gratitude.

# Dedication

This work is dedicated to my students, whose courage, resilience, and determination inspire me every day. You remind me that learning is not only about knowledge but also about finding confidence, discovering your voice, and believing in yourself.

May this study serve as a step toward creating classrooms where every English Learner feels empowered as a reader and writer, where your stories matter, and where your potential is never doubted.

You are the reason I teach, and you are the reason I will continue to seek new ways to help every child feel successful, confident, and proud of their learning journey.

# Chapter 1 - Introduction

## Introduction

Learning is a vital part of life in the United States because it equips individuals with problem-solving skills and strengthens communication in society. Language plays a central role in this process, as proficiency in English is closely tied to academic success and broader social integration (August & Shanahan, 2006; Cummins, 2000; Thomas & Collier, 2012). This convergent parallel mixed-methods study explores how language instruction, particularly through the Picture Word Induction Model (PWIM), supports literacy growth among English Learners in a multilingual educational setting. The United States has long been a multilingual nation, with diverse communities in every state speaking a wide range of languages (Marian, 2018). This linguistic diversity enriches the country but also presents challenges for schools, particularly for students from families where English is not the primary language of communication.

In Horizon City, Kansas, a pseudonym for a micropolitan community that is a small urban area serving as a regional hub with a population between 10,000 and 50,000 (U.S. Census Bureau, 2020), 47% of elementary students speak a language other than English at home, creating significant challenges for English Learners in mastering academic content (Kansas State Department of Education [KSDE], 2023). For these students, literacy development in English often requires targeted instructional support that bridges language barriers and fosters confidence in reading and writing.

One promising strategy is the Picture Word Induction Model (PWIM), an instructional intervention that uses pictures as a foundation for developing vocabulary, comprehension, fluency, and writing skills (Joyce et al., 2017). By engaging students in generating words and sentences from visual prompts, PWIM creates meaningful connections between language and imagery. Despite its promise, relatively little research has examined how PWIM influences English Learners' literacy outcomes, including their attitudes toward reading, confidence in reading aloud, writing perceptions, reading habits, and learning preferences.

This study addresses that gap by investigating the effectiveness of PWIM with fifth-grade English Learners in a rural-serving micropolitan community. The focus is on both measurable literacy outcomes and students' lived experiences, offering a comprehensive understanding of how PWIM can support English Learners in developing essential reading and writing skills.

## Statement of the Problem

Research has consistently shown that integrating pictures into reading instruction can foster curiosity, support vocabulary growth, and strengthen comprehension and writing skills (Lubis, 2018; Lysaker & Sedberry, 2015; Susanti, 2021). By linking visual imagery with text, students are able to draw more informed conclusions, retain information more effectively, and engage more deeply with the material. Technology has further expanded the role of images in instruction, providing dynamic and appealing resources for literacy development. Zhou et al. (2021) noted that combining text with pictures can "stimulate interest in learning, improve vocabulary learning ability, grammar knowledge, and language production ability" (p. 2).

Despite this promise, significant challenges remain. The growing linguistic diversity of U.S. classrooms means that many English Learners (ELs) struggle to access literacy instruction effectively (National Center for Education Statistics [NCES], 2023). In particular, students from non-English-speaking homes often require additional supports to develop both the skills and the confidence necessary to succeed in reading and writing. In rural-serving communities such as Horizon City, Kansas, nearly half of the elementary students speak a language other than English at home (Kansas State Department of Education [KSDE], 2023), underscoring the urgency of identifying effective literacy interventions for this population.

Although prior research highlights the power of visual strategies for supporting literacy, few studies have examined how these strategies function as part of a structured instructional model such as the Picture Word Induction Model (PWIM) for English Learners in U.S. schools. While studies have shown that pictures can enhance comprehension and vocabulary development, relatively few have examined PWIM as a comprehensive strategy for improving literacy among English Learners. Even less is known about how PWIM influences not only measurable outcomes such as comprehension, vocabulary, and fluency, but also students' attitudes toward reading, their confidence in reading aloud, their perceptions of writing, their reading habits, and their learning preferences.

This convergent parallel mixed-methods study addressed that gap by examining the efficacy of PWIM with fifth-grade English Learners at Sunrise Elementary School in Horizon City, Kansas. The research investigated how PWIM shaped both literacy outcomes and student perceptions, providing insights for educators, administrators, and policymakers seeking effective strategies to support English Learners in similar contexts and grade levels.

## General objective

The general objective of this study was to examine the effectiveness of the Picture Word Induction Model (PWIM) in supporting literacy development among fifth-grade English Learners in a rural-serving micropolitan community. Specifically, the study aimed to evaluate how PWIM influenced students' comprehension, vocabulary, and fluency, as well as their attitudes toward reading, confidence in reading aloud, perceptions of writing, reading habits, and learning preferences. This objective guided the investigation of both measurable outcomes and students' lived experiences with PWIM at Sunrise Elementary School in Horizon City, Kansas (a pseudonym).

### Specific objectives

1. To evaluate the extent to which PWIM supports fifth-grade English Learners' comprehension, vocabulary, and fluency.
2. To explore how PWIM influences students' attitudes toward reading and their confidence in reading aloud.
3. To investigate how PWIM shapes students' attitudes toward writing and their reading habits in and outside of school.
4. To examine how PWIM affects students' learning preferences, engagement, and enjoyment of literacy activities

### Research Questions

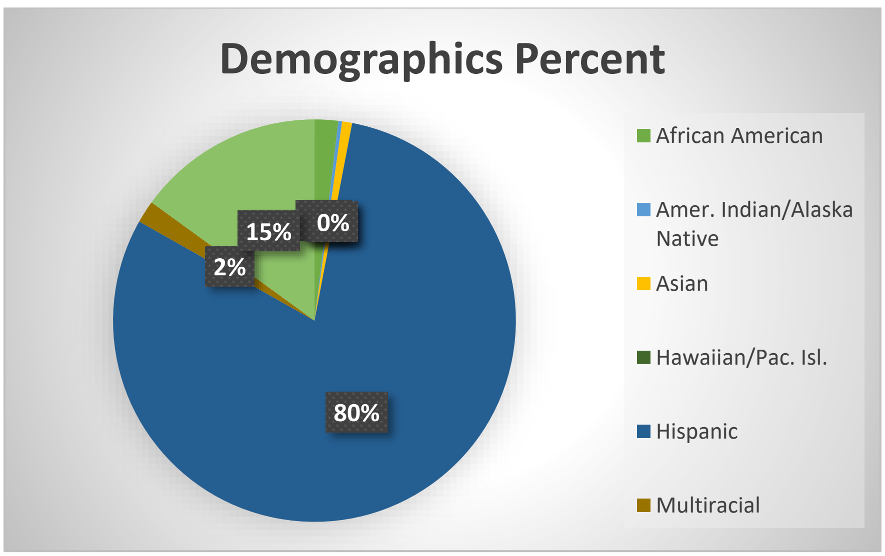
The study was guided by the following five research questions:

1. How does the Picture Word Induction Model (PWIM) influence fifth-grade English Learners' attitudes toward reading?
2. How does the PWIM affect fifth-grade English Learners' confidence in reading aloud and perceiving themselves as readers?
3. How does the PWIM influence fifth-grade English Learners' attitudes toward writing?
4. How does the PWIM shape fifth-grade English Learners' reading habits in and outside of school?
5. How does the PWIM affect fifth-grade English Learners' learning preferences, engagement, and enjoyment of literacy activities?

## The Problem that Needs to be Addressed

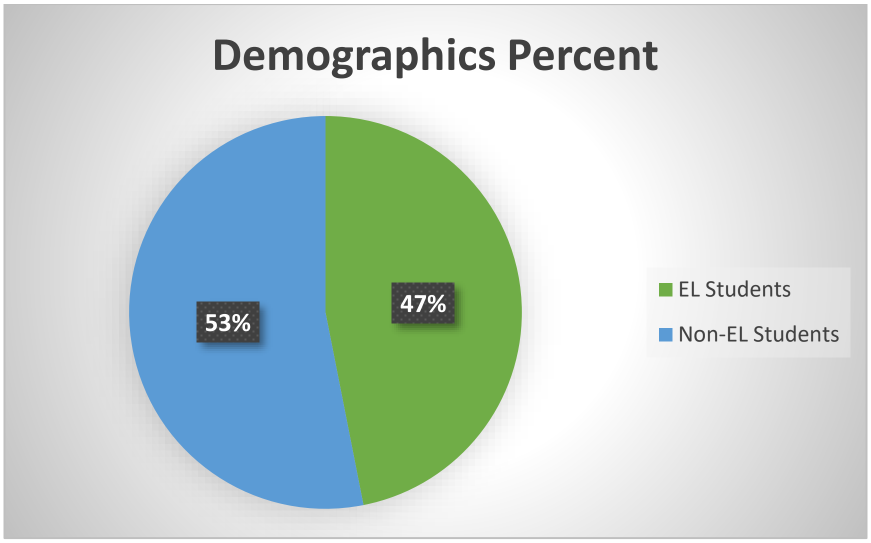
In the Horizon City School District, a pseudonym for the actual district where the study took place, a significant number of students were performing below grade level in English Language Arts (ELA) (Kansas State Department of Education [KSDE], 2021). The district faced two persistent challenges: 47% of the student population were English Learners (ELs), and approximately 80% were economically disadvantaged (KSDE, 2023). These challenges are visually represented in Figures 1.1 through 1.3, which illustrate the district's demographic and socioeconomic landscape.

**Figure 1. 1.** Demographics in Horizon City School District. Note. Adapted from Kansas State Department of Education (2023).



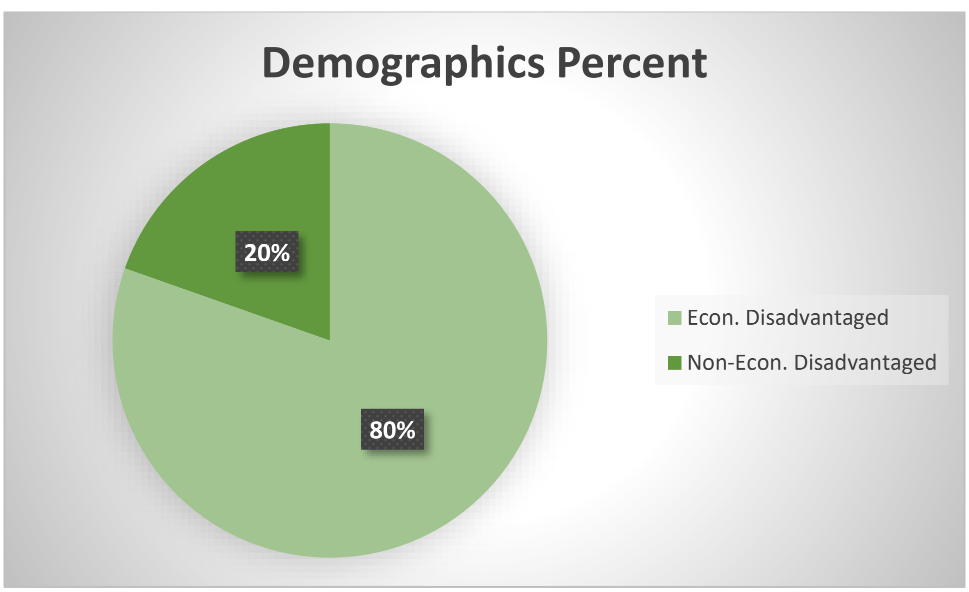

The overall demographic composition of the district provides essential context for understanding the challenges of literacy instruction. Hispanic students made up the majority of the district population, comprising 80% of the total student body. Smaller percentages of African American, Asian, and multiracial students contributed to the district's diversity. This demographic profile underscores the need for instructional strategies that effectively serve a multilingual and multicultural student base.

**Figure 1. 2.** EL students in the Horizon City School District. Note. Adapted from Kansas State Department of Education (2023).




Another defining feature of the district is the high proportion of students classified as English Learners. Nearly half of the district's students fall into this category, meaning that a substantial portion of the student body faces additional language barriers in their academic development. This high percentage highlights the urgency of implementing targeted interventions to support English Learners' literacy acquisition and development.

**Figure 1. 3.** Economically disadvantaged students in the Horizon City School District. Note. Adapted from Kansas State Department of Education (2023).



Socioeconomic status also played a significant role in shaping the district's educational context. Approximately 80% of the students were economically disadvantaged, a factor closely associated with limited access to educational resources and support at home (Reardon, 2011; Sirin, 2005). These barriers often compounded the difficulties that English Learners faced in achieving grade-level literacy outcomes, further emphasizing the need for effective and accessible instructional strategies.

Many students in the Horizon City School District, particularly English Learners, experience difficulty with the vocabulary and background knowledge required to comprehend grade-level texts or to produce written responses that meet state standards. Although the district implemented an explicit teaching model to improve instruction, the level of growth achieved was not sufficient to ensure that all students reached grade-level expectations in reading. These ongoing challenges reveal the need to explore additional evidence-based approaches such as the Picture Word Induction Model (PWIM), which fosters engagement, supports vocabulary development, and encourages positive reading attitudes among English Learners.

District structures also shaped these challenges. A uniform curriculum delivery model, intended to ensure consistency, limited teachers' ability to adapt instruction for the specific needs of their students, a pattern consistent with previous findings that standardized approaches can restrict instructional flexibility for English Learners (Darling-Hammond et al., 2020).

The shortage of paraprofessionals further complicated the delivery of reading interventions. Many fifth-grade classrooms did not have enough additional support to implement tier two and tier three interventions effectively. Teachers were often left to deliver interventions to entire classes or to use less targeted activities, which reduced the impact of these supports for students who required the most assistance (Giangreco et al., 2010).

These combined challenges, including the need for greater instructional flexibility, additional resources, and more targeted support, created barriers to literacy growth. There was a pressing need for evidence-based approaches that provided scaffolding, engaged students in meaningful literacy tasks, and encouraged a positive orientation toward reading and writing. This study investigated the Picture Word Induction Model (PWIM) as one such approach, focusing on its impact on fifth-grade English Learners' literacy outcomes as well as their attitudes, confidence, and engagement with literacy.

In summary, the Horizon City School District faced significant challenges in meeting the needs of its diverse and economically disadvantaged student population. The high percentages of English Learners and economically disadvantaged students, combined with administrative constraints and resource shortages, created barriers that limited literacy growth for many students. These realities underscored the need to reevaluate and adapt teaching strategies to better support student learning. Addressing these issues was essential for creating an inclusive and effective learning environment that could foster the academic success of all students.

## The Current Constraints

The Horizon City School District, a pseudonym for the actual district where the study took place, faced several constraints that shaped the delivery of English Language Arts (ELA) instruction. District leaders required teachers to follow a uniform curriculum delivery model, which ensured consistency but limited teachers' ability to adapt instruction to the specific needs of their students. Such rigid models have been shown to restrict differentiated instruction and responsiveness to student diversity (Darling-Hammond et al., 2020). As a result, most students demonstrated only one year of growth in ELA annually, which was not sufficient for English

Learners and economically disadvantaged students who needed accelerated progress to close existing gaps.

Another challenge was the shortage of paraprofessionals available to support classroom instruction. Many fifth-grade classes lacked additional staff to assist during reading interventions, making it challenging to provide targeted tier two and tier three supports. Teachers often had to deliver interventions to entire classes or substitute less targeted activities, reducing the effectiveness of support for the students who required the most assistance (Giangreco et al., 2010).

These administrative and resource constraints limited teachers' ability to fully implement alternative instructional strategies that might have enhanced literacy growth. Greater flexibility and additional support would allow teachers to provide individualized scaffolding, foster student curiosity, and encourage a love for reading and learning. This context highlighted the need to explore instructional approaches such as the Picture Word Induction Model (PWIM), which offered the potential to strengthen both literacy outcomes and student engagement in diverse and resource-limited classrooms.

## Where the Interventions are Taking Place

In the Horizon City School District, reading interventions were delivered within the classroom setting. Students often worked with partners in centers or participated in small groups, while the lowest-performing students worked directly with the teacher during a 30-minute intervention block. Although this structure provided some targeted support, it was often complicated by classroom logistics. For example, students in the same classroom were sometimes required to read four different passages aloud at the same time, creating distractions and limiting the effectiveness of the intervention.

## Where Interventions Could Occur

Interventions could be strengthened through inquiry-based learning approaches such as the Picture Word Induction Model (PWIM). PWIM provides a structured process for teaching students how to read and write by using pictures as a foundation for generating vocabulary, categorizing words, and constructing sentences (Joyce et al., 2015). This model encourages students to take on the role of "word detectives," building background knowledge and language comprehension through observation, categorization, and collaboration. Research has consistently shown that picture-supported approaches enhance vocabulary and comprehension for English Learners (Hennessy, 2021; Zhou et al., 2021).

Empirical studies further support the potential of PWIM to strengthen literacy outcomes. In a study of early learners, Lee et al. (2019) found that students demonstrated significant improvement in recall and retention of vocabulary words when taught through PWIM. Similarly, Wardini et al. (2021) observed that picture-word approaches increased engagement and promoted meaningful connections between words and concepts. Although several studies have explored PWIM in international contexts, relatively few investigations of its use with English Learners in the United States have been conducted, highlighting a gap that this study sought to address.

## The benefits of picture-word reading to students

A growing body of research affirms the benefits of picture-word strategies for student learning, particularly in the areas of vocabulary development, comprehension, and motivation. Korda (2016), Licul (2020), and Wardini et al. (2021), found that these approaches increased student motivation, strengthened vocabulary, and supported comprehension. Richardson et al. (2016) further reported that picture prompts could be more effective than gestures or verbal repetition for teaching skills beyond sight-word recognition, including the development of oral language. Together, these studies suggest that pictures serve as powerful scaffolds that connect concrete visual representations with abstract linguistic concepts, which is especially important for English Learners.

Beyond skill development, picture-word strategies have been shown to significantly influence students' engagement with literacy tasks. Wardini et al. (2021) observed that students became more responsible for their own progress, which translated into improved performance on assessments. Strauber et al. (2020) emphasized that the use of pictures reduced boredom, fostered a culture of reading in the classroom, and enhanced students' sense of enjoyment and ownership of learning. Engagement is a crucial factor in literacy development because students who are motivated to read are more likely to persist through challenges, practice regularly, and internalize positive reading habits. Picture-word interventions thus play a key role in transforming reading from a task to be endured into an activity that can spark curiosity and interest.

Equally important, research highlights the cognitive and comprehension benefits of picture-word strategies. Hartendorp et al. (2013) and Jian (2018) argued that using images alongside text supports memory, reasoning, and problem-solving by enabling students to build stronger mental connections. Boerma et al. (2016) demonstrated that mental imagery, or the ability to create visual representations of a story in one's mind, enhances comprehension by helping students construct more coherent and detailed mental models of what they read. Susanti (2021) found that images embedded in text provided concrete representations of abstract concepts, such as scientific relationships or part-whole structures, which supported both comprehension and long-term retention. These findings suggest that picture-word interventions do not simply make reading more enjoyable but also strengthen the underlying cognitive processes that contribute to literacy achievement.

Picture-word strategies have also proven valuable for teachers, as they provide insight into students' thought processes and comprehension strategies. Strauber et al. (2020), Strickland and Riley-Ayers (2006) and Tan and McWilliam (2009), noted that picture-based tasks allowed teachers to observe how students interpreted texts and responded to questions, which in turn informed instructional decisions. This approach also created opportunities for collaborative learning. Julien et al. (2018) found that inquiry-based strategies incorporating pictures encouraged group discussion and teamwork, both of which enhanced students' ability to retain new information and apply it in different contexts. Collaborative picture-word activities helped students learn from one another while giving teachers a clearer view of individual strengths and areas for growth.

Taken together, the evidence indicates that picture-word interventions positively influence literacy development in multiple ways. They increase student motivation and engagement, enhance comprehension and cognitive processing, and provide teachers with tools to better assess and support their students. However, despite these documented benefits, relatively few studies have examined the use of picture-word interventions with English Learners in U.S. classrooms. This gap underscores the importance of investigating the Picture Word Induction Model (PWIM), which may provide a structured and effective means of supporting literacy development for diverse learners in American schools.

### Flaws of the picture-word intervention program in teaching

Although research has documented many benefits of picture-word strategies, some scholars have noted potential challenges. Strauber et al. (2020) observed that pictures embedded in text could at times distract students from the intended focus of the reading. Students might become more fascinated with the images than with the written material, or they might interpret the pictures differently than the author intended. These findings highlight the importance of careful implementation. Teachers must ensure that pictures are not merely decorative but are integrated purposefully to support comprehension and align with instructional goals. While such observations do not negate the benefits of picture-word approaches, they underscore the need for further classroom-based research to determine how these strategies can be optimized for literacy instruction.

## Culture

Culture plays a key role in shaping how students experience picture-word interventions. Studies have shown that presenting books with pictures and text is an effective way of supporting foreign language learning because the visuals provide integration of meaning and context while also fostering cultural awareness (Jose & Dharma Raja, 2011; Lysaker & Sedberry, 2015; Richardson et al., 2016). Through pictures, students not only develop vocabulary and comprehension but also gain exposure to cultural norms, perspectives, and values embedded in the imagery.

At the same time, cultural differences can complicate the interpretation of pictures. Licul (2020) noted that students from different cultural backgrounds may interpret the same images in diverse ways, which may or may not align with the author’s intended meaning. LaManna (2021) observed that in linguistically diverse regions, such as North Carolina, the effectiveness of picture-based interventions can be challenged when students’ cultural lenses shape their interpretations in unexpected ways. Holodynski and Seeger (2013) added that culture, emotions, and activities all interact in the development of comprehension, suggesting that literacy instruction cannot be separated from the lived cultural experiences of students. Fasosin (2020) further emphasized that culture shapes self-esteem and personal identity, influencing how learners engage with text and images.

Although culture enriches literacy experiences, it can also complicate them. Licul (2020) noted that students from different cultural backgrounds may interpret the same images in diverse ways, which may or may not align with the author's intended meaning. LaManna (2021) observed that in linguistically diverse regions such as North Carolina, the effectiveness of picture-based interventions can be challenged when students' cultural lenses shape their interpretations in unexpected ways.

Taken together, these findings suggest that culture can both enrich and complicate the use of picture-word interventions. Students bring their cultural values and beliefs into their interpretations, which can lead to deeper understanding but also to varied perspectives that teachers must navigate. For this reason, examining the Picture Word Induction Model (PWIM) in a culturally and linguistically diverse U.S. classroom is especially important, as it provides insight into how such interventions function in real-world educational contexts.

### Student social factors (environment and social interactions)

Research has shown that student social factors play an important role in the effectiveness of picture-word interventions both in the classroom and at home. Romo (2018) found that students' social environments influenced their ability to develop comprehension skills, while Morris (2017) demonstrated that pictures in learning environments enhanced understanding by enabling students to connect images with words. Social interactions encouraged discussion, peer-to-peer learning, and the sharing of personal perspectives, all of which supported deeper engagement with texts.

At the same time, some scholars have noted potential challenges when social factors are not well aligned with instructional goals. Strauber et al. (2020) suggested that group dynamics or mismatched social contexts could occasionally interfere with cognitive processing and distract students from the intended focus of learning. These differing findings suggest that while social interactions are often supportive of picture-word interventions, their effectiveness depends on how they are structured and facilitated by educators.

### Effect of the educators in the picture-word reading interventions

Teachers play a central role in shaping the success of picture-word interventions. Jose and Dharma Raja (2011), Myers (2019), and Turner (2015) emphasized that educators create the classroom climate that influences how students engage with texts and images. For example, Myers (2019) and Turner (2015) found that when teachers encouraged questions and praised students for exploring pictures, learners gained confidence and became more willing to engage with texts. This confidence supported reflective thinking and helped students connect visual and textual elements more effectively.

In addition to fostering confidence, teachers promote independence in reading by guiding students to make their own choices and interpretations. Herrera et al. (2017) and Licul (2020) reported that when students were allowed to select books for independent or home reading, their motivation increased, and they developed stronger reading habits. Such practices extended the impact of picture-word interventions beyond the classroom, reinforcing literacy development in multiple contexts.

These findings underscore the importance of both social factors and teacher facilitation in implementing picture-word interventions. Because the Picture Word Induction Model (PWIM) relies on collaborative discussion and teacher guidance, understanding how these social and instructional factors function together is essential for evaluating its effectiveness with English Learners in diverse classroom settings.

## Delimitations

This study was bounded by several deliberate choices made by the researcher to define the scope and focus of the inquiry. These delimitations established the parameters within which the Picture Word Induction Model (PWIM) was examined and clarified what the study did and did not attempt to address.

A primary delimitation concerned the focus on reading intervention. Data collection was intentionally restricted to information relevant to evaluating the effectiveness of the PWIM in improving literacy outcomes and attitudes among fifth grade English Learners. Personal and family background data were not collected because the study's purpose centered on classroom learning experiences rather than sociocultural or home literacy variables. This focus allowed the research to maintain a clear emphasis on the instructional and affective dimensions of literacy development (Creswell & Creswell, 2018).

A second delimitation involved the exclusion of teacher assessment. Although teachers played a central role in facilitating the PWIM intervention, the study did not evaluate their performance, instructional styles, or pedagogical effectiveness. Instead, teachers functioned as implementers of the intervention within the framework provided by the researcher. This boundary ensured that the analysis remained directed toward student learning outcomes, attitudinal shifts, and behavioral engagement rather than teacher practice or professional development (Joyce et al., 2017).

Another delimitation related to the overall scope of inquiry. The investigation focused exclusively on student experiences and outcomes connected to the PWIM intervention. Broader contextual influences, such as socioeconomic status, district policies, or state level educational mandates, were recognized as important but fell beyond the boundaries of this particular study. This decision maintained analytic coherence and ensured that findings reflected the direct effects of the instructional strategy rather than external variables (Shadish et al., 2002).

Finally, the study was intentionally limited to fifth grade students. This grade level was selected because it represents a transitional stage in literacy development where students are moving from learning to read toward reading to learn. The results, therefore, may not be generalizable to other grade levels, since developmental differences influence how students engage with literacy instruction (Guthrie & Wigfield, 2000). Future studies might extend this research by exploring how PWIM operates across different age groups or proficiency levels to determine whether similar patterns of engagement and literacy growth occur.

## Conclusion

Reading is essential for developing comprehension, critical thinking, and overall academic success. Yet for many students, particularly those from non-English-speaking households, mastering literacy in English presents significant challenges (KSDE, 2024). These challenges underscore the importance of exploring instructional interventions that provide additional scaffolds for comprehension and engagement (Creswell & Plano Clark, 2017).

The literature reviewed in this chapter indicated that picture-word approaches can be highly beneficial for students. Such strategies build vocabulary, strengthen comprehension and retention, and support the development of cognitive processes involved in reading (Jian, 2018; Boerma et al., 2016; Smith & Kelly, 2015). They also foster student motivation, promote engagement, and provide teachers with insights into how students interpret and construct meaning from texts (Strauber et al., 2020; Wardini et al., 2021).

At the same time, research has identified factors that may influence the effectiveness of picture-word interventions, including cultural background, social environment, and the role of teachers in facilitating the learning process (Licul, 2020; Herrera et al., 2017; Jose & Dharma Raja, 2011). These factors can either enhance or constrain the success of interventions, depending on how they are structured and implemented (Strauber et al., 2020; Lysaker & Sedberry, 2015).

Taken together, these findings highlight both the potential and the complexity of using picture-word approaches in literacy instruction. While international research has demonstrated promising outcomes (Lee et al., 2019; Susanti, 2021), relatively little is known about the effectiveness of the Picture Word Induction Model (PWIM) with English Learners in U.S. classrooms (Joyce et al., 2017). This gap provides the rationale for the present study, which investigates how PWIM influences fifth-grade English Learners' literacy outcomes and their attitudes, confidence, writing, reading habits, and learning preferences. The following chapter reviews the broader body of literature that informs this investigation, situating the study within the existing research on literacy instruction, English Learners, and inquiry-based learning.

# Chapter 2 - Literature Review

## Introduction

Learning is an active, constructive process through which individuals build understanding from experience and reflection. Educational theorists such as John Dewey, Lev Vygotsky, and Jerome Bruner emphasized that learning occurs most effectively when students engage directly with their environment and interact socially with others. Dewey (1938) argued that meaningful learning arises from the interplay between experience and reflection, while Vygotsky (1978) highlighted the social and cultural contexts that shape cognitive development. Building on these ideas, Bruner (1966) proposed that learners actively construct new knowledge by connecting it to existing concepts and experiences.

These foundational theories support the understanding that literacy development is not a passive process of absorbing information but an active engagement with language and meaning. For English Learners (ELs), this process involves connecting new vocabulary, grammar, and structures of English to their existing linguistic and cultural knowledge. Instructional approaches that promote active engagement, collaboration, and inquiry therefore align with these theoretical perspectives.

The Picture Word Induction Model (PWIM) draws upon these principles by encouraging students to explore language through pictures, dialogue, and guided discovery. Students construct knowledge by generating vocabulary from visual stimuli, categorizing words, and forming sentences that describe what they observe. Through this process, PWIM supports both cognitive and linguistic development within a socially interactive learning environment (Joyce et al., 2017; Vygotsky, 1978).

The purpose of this literature review is to examine the theoretical foundations and empirical research that inform the use of PWIM as a literacy intervention. The review first discusses key learning theories that explain how students acquire language and literacy skills. It then examines studies on vocabulary instruction, visual learning, and picture-word strategies before considering the specific applications and outcomes of PWIM with English Learners. This synthesis establishes the conceptual framework for understanding how PWIM can promote literacy growth, engagement, and confidence among diverse student populations.

## Purpose of the Study

This mixed methods research aims to propose an alternative teaching approach to the current teacher-centered instructional methods in Southwestern Kansas. By combining the Picture Word Inductive Model (PWIM) with Cooperative Learning, this approach seeks to enhance elementary school students' English reading and writing literacy. Furthermore, this study investigates how instructors understand and implement this strategy in their classrooms.

This chapter reviews the literature on four major topics related to children's language learning:

1. **English as a Second/Foreign Language Acquisition**: This section will focus on the challenges and factors influencing children's acquisition of English as a second language (ESOL), considering social, pedagogical, and other aspects.
2. **The Success of the Picture Word Inductive Model (PWIM)**: This section explores the efficacy of Calhoun's PWIM, providing a theoretical overview and discussing its role in enhancing children's reading and writing development.
3. **The Use of Cooperative Learning in the Classroom**: This section examines the importance of Cooperative Learning in scaffolding and recasting ESOL learners' reading

ability, including a review of the historical foundations of cooperative learning and the essential characteristics of successful group work.

4. **The Implementation of Change in the Educational System**: This section addresses the viability of implementing educational reform, beginning with Freire's insights on change and including a description of Hall and Hord's (2017) Concerns-Based Adoption Model.

## English as a Second/Foreign Language Acquisition

One common misconception is that children effortlessly learn their native languages. However, research (Ellis, 2008; Levine & McCloskey, 2009; Melzi & Ely, 2009; Penfield & Roberts, 1959) shows that children have built an extensive vocabulary and can form sentences almost like adults by age five. However, the journey of learning a second or foreign language is a different one. Unlike their mother tongue, children must consciously acquire their second language through a series of lessons (Ellis, 2008; Geeslin et al., 2015; Levine & McCloskey, 2009). Some researchers (Ellis, 2008; Nicolas & Lightbown, 2008) differentiate between "child second language acquisition," which occurs before the age of four, and "adult second language acquisition," which occurs after the age of seven. Generally, "second language" refers to any language other than a person's first language. This term encompasses the intentional process of acquiring another language after mastering one's native tongue. Despite the fact that both names apply to learning a language other than one's native tongue, second language acquisition varies from foreign language acquisition. Unlike second language learners, foreign language learners often lack access to linguistic input from native speakers and seldom have opportunities to use the target language in their everyday lives, posing unique challenges.

According to Ellis (2008), a second language usually plays an "institutional and social role" (p. 6) in a society where both that language and the mother tongue are means of communication. In contrast, a foreign language is typically learned in a setting that is not widely spoken and only taught in schools. Garcia Mayo and Garcia Lecumberri (2003) state that learners in second language settings "have access to the L2 not only in the classroom but in the world in which they are daily immersed." In contrast, those in foreign language situations "have access to the input provided in the classroom and little else" (p. vii).

Although a distinction exists between second and foreign language acquisition, researchers agree that the cognitive processes involved in both are fundamentally similar, even if the surrounding circumstances differ (Ellis, 2008; Gebhard, 2006). Ellis (2008) explained that this distinction is best understood as sociolinguistic rather than psycholinguistic, meaning that the primary difference lies in the learner's exposure and access to authentic communication rather than in the mental mechanisms of language learning. In a second language environment, learners are surrounded by the target language in daily life and interact with native speakers regularly. In contrast, foreign language learners typically engage with the language primarily in classroom settings, where authentic communication opportunities are more limited. Regardless of the context, both groups depend heavily on meaningful interaction to acquire language effectively. Language learning is thus deeply social, requiring both linguistic input and opportunities for communication to build competence and fluency.

## Five Hypotheses about Second/Foreign Language Acquisition

Before learning another language, most people (children or adults) have linguistic competency in their original language. Individuals go through a process similar to learning their native language while trying to acquire a second or foreign language. Extending Chomsky's cognitive theory of Universal Grammar, which implies that many principles of grammar are shared by all languages and are thought to be innate to humans (Johnson & Johnson, 2017), Geeslin et al. (2015) believed that when children learn a language other than their native language, they will construct a series of their own grammatical rules through a process of hypotheses testing. This hypothesis-testing approach assists youngsters in creating and developing grammatical rules for the new language in a manner similar to their original language (Levine & McCloskey, 2009). Geeslin et al. (2015) presented five hypotheses that shed light on classroom instruction for English language learners by explaining children's second language acquisition as a natural process and stressing communication as the main aim of language training. In his 'Natural Approach,' he proposes five hypotheses: the acquisition-learning hypothesis, the natural order hypothesis, the input hypothesis, the affective filter hypothesis, and the monitor hypothesis, all of which underline the natural and inevitable nature of language acquisition.

**The Natural Order Hypothesis** speculates that when children learn a language, not their native tongue, they learn the 'grammatical rules' in a regular order. They must pass through several common transitional steps before reaching the target language forms. According to Geeslin et al. (2015), learners must grasp specific aspects of linguistic laws before progressing to the next level. For example, while studying English grammatical rules, youngsters or second-language adult learners will grasp the progressiveing ending and plural -s form considerably sooner than they will master the standard verb past tense or third person singular -s. Geeslin et al. (2015) believes learners' second languages are learned sequentially, echoing Chomsky's Universal Grammar (Johnson & Johnson, 2017). Johnson and Johnson (2017) expand on Geeslin et al. (2015) natural order hypothesis, stating, "if there is a natural order of acquisition, there must be a mechanism that processes the incoming information according to an intrinsic, universal, and rule-governed system" (p. 47). Though research findings suggest that learners' first language has some influence on their second language learning (Levine & McCloskey, 2009), Geeslin et al. (2015) asserts that teaching instruction will not affect the natural order of acquiring grammatical rules; in fact, this natural order of acquiring language properties transcends age, learners' native language, the target language, or the conditions under which the second language is being learned.

**The Input Hypothesis** proposes that language acquisition occurs only when learners understand and interpret the messages they hear. To that end, linguistic input should be somewhat beyond children's present understanding level so that they can learn anything. According to Levin and McCloskey (2009), "the optimal input *i* is language that is comprehended by the learner but goes a bit beyond the learner's present knowledge or competence, which is operationalized as *i*+1" (p. 10). Learners get intelligible information by listening to spoken language directed to them by interlocutors (teachers/instructors) and reading written materials surrounding them. Geeslin et al. (2015), like Vygotsky, believes that interlocutors play an essential role in second language learning because they give intelligible and relevant feedback to learners. He argues that the processes of second language learning are similar to those of first language acquisition; infants acquire the language's grammar via exposure to it, which is begun and controlled by parents or adults. According to Geeslin et al. (2015), the natural order of language growth occurs when second language learners attempt to grasp language input that includes structures that are somewhat above their present level of linguistic ability (Johnson & Johnson, 2017). The Picture Word Inductive Model and Cooperative Learning, in fact, share the same fundamental assumptions as Geeslin et al. (2015) Input Hypothesis. Calhoun's Picture Word Inductive Model is a teacher-directed strategy in which instructors serve as interlocutors to assist students in learning and ultimately become autonomous learners (Joyce et al., 2017). Similarly, adult assistance or cooperation with more competent peers promotes pupils' intellectual progress in a Cooperative Learning setting (Slavin, 1995).

**The Affective Filter Hypothesis** emphasizes that while comprehensible input is necessary for learners to acquire their second/foreign language, they must also be receptive to be successful in language learning. To be receptive, students need to be in a learning environment with low anxiety and high motivation. Geeslin et al. (2015) terms the obstacle between a learner and language input as the 'affective filter.' He defines the affective filter as "a mental block that prevents acquirers from fully utilizing the comprehensible input they receive for language acquisition" (as cited in Johnson & Johnson, 2017, p. 48). When the affective filter is on, negative emotional responses will occur, causing high learning anxiety and low self-esteem and motivation. Conversely, when the filter is off, it reduces stress, making learners more receptive to the input and increasing the chance of subconsciously acquiring a language. Only when learners feel less anxious and are highly motivated will their learning mechanisms efficiently process the comprehensible input and be more likely to master the language successfully. In a Cooperative Learning class, students have lower anxiety and feel more comfortable with learning while working with their peers (Chen, 1999; Ghaith, 2003; Johnson & Johnson, 2017; Roseth et al., 2008; Slavin, 1994, 1995).

**The Monitor Hypothesis** accounts for the operation of the learned knowledge. Geeslin et al. (2015) asserts that language acquisition's primary goal is not memorizing linguistic rules but communication (Levine & McCloskey, 2009). Whereas 'learning' represents a conscious study of linguistic form, 'acquisition' helps learners to produce natural, fluent, communicative speech. Geeslin et al. (2015) points out, "Our ability to produce utterances in another language comes from our acquired competence, from our subconscious knowledge. Learning, conscious knowledge, serves only as an editor or Monitor. We appeal to learning to make corrections, to change the output of the acquired system…" (as cited in (Johnson & Johnson, 2017, p. 47). This Monitor, a reflective process, helps learners examine their communication and correct minor errors; however, in order to access this reflective process, Geeslin et al. (2015) indicates that learners must have sufficient time to apply the learned competence and must be knowledgeable about grammatical rules (Johnson & Johnson, 2017; Levine & McCloskey, 2009).

Geeslin et al. (2015) hypotheses shed light on second/foreign language acquisition and have a significant impact on language teaching. His belief directs educators' and classroom teachers' attention to the primary goal of language acquisition through communication. By creating a learning environment with low anxiety but with high motivation, teachers enable children to acquire the language subconsciously and accelerate their development of language acquisition.

## Factors Affecting the Outcome of Second/Foreign Language Acquisition

Over the past half-century, hundreds of studies were conducted to investigate the process of children acquiring second languages. The findings of those studies (Ellis, 2008; Garcia & Garcia, 2003; Philp et al., 2008) indicate that various factors play an essential role in determining the success of children's second/foreign language acquisition. These factors can generally be categorized into the sociolinguistic aspect (the external factors) and the psycholinguistic aspect (the internal factors). The studies on learner-external factors aim to determine the importance of language input, social interaction, and pedagogies in children acquiring a second language. In contrast, research on learner-internal factors primarily focuses on children's internal mechanisms of constructing the information they get from the input and incorporating it into their mental system.

### Language Input.

Children are not expected to talk right after birth. Before children can acquire a language, they need to be immersed in the language environment for a certain period of time, actively engage in the ‘pool of talk,’ figure out the meaning and construct their own grammatical rules, interact with the sources of language around them, and finally be confident enough to use (speak) the language. Second/foreign language learners will go through a similar process before they can master the target language. Exposure to the target language is essential for the development of learners’ second/foreign language acquisition. As discussed earlier, Geeslin et al. (2015) emphasizes the importance of comprehensive input, which learners process for meaning and provides information to be learned (Ortega, 2009). That said, unlike the first language environment, which possesses abundant and frequent linguistic sources, the resources in a second/foreign language setting are usually limited. The second/foreign language input may be limited in a transmission-type classroom setting where teachers are the only providers of linguistic information. In a school where learners’ first language is spoken, students are rarely allowed to speak in their second/foreign language, and the comprehensible input is also reduced.

Without abundant language input, children can hardly learn a second language as effectively as they acquire their first language (Levine & McCloskey, 2009). In a class where this new approach that merges the PWIM with Cooperative Learning is implemented, learners have more chances to interact with their teacher and peers. Through guidance from and interaction with their teacher and classmates, students actively engage in the language learning process and gradually construct their knowledge of the target language.

### Interaction.

Researchers (Ellis, 1997, 2008; Kirsch, 2008; Ortega, 2009) believe that students acquiring a language need to be exposed to the language environment and engage in verbal interaction with others to practice the new words or linguistic structures in an actual context. Supporting Geeslin et al.'s (2015) proposal that language input must be comprehensible for language learners, and that learning only occurs through comprehension, Michael Long extended the concept in the early 1980s and proposed that one needs to be involved in the interaction to receive the comprehensible and attainable language input.

In her discussion of second language acquisition, Ortega (2009) built upon Long's interaction hypothesis by emphasizing that learners benefit most when input is adjusted during real-time communication. When an interlocutor, such as a teacher or peer, modifies their language in response to signs of misunderstanding, the resulting exchange becomes more comprehensible and meaningful for the learner. This type of interactive adjustment, often called negotiation for meaning, allows speakers and listeners to clarify, rephrase, and refine their messages until mutual understanding is achieved. Ellis (1997, as cited in Kirsch, 2008) described this process as the collaborative effort that occurs when communicative breakdowns arise, and speakers work together to repair them. Such negotiation is essential because it provides learners with immediate, context-based feedback that promotes comprehension and facilitates deeper internalization of the language. In both classroom and naturalistic settings, these negotiated interactions serve as a key mechanism through which learners develop linguistic accuracy and fluency.

Pica et al. (1996) found that when teachers encourage language learners to collaborate on communication tasks, the interaction itself supports second language development. Rather than hindering linguistic growth, cooperative exchanges among learners create opportunities for them to experiment with language, clarify meaning, and reinforce comprehension. Cooperative learning activities, such as small-group work, provide a setting in which learners can engage more actively and develop both confidence and motivation. Levine and McCloskey (2009) observed that students who participate in interactive group tasks that require the exchange of information tend to practice language more frequently and use a wider range of functions and grammatical structures. These learners also demonstrate greater accuracy, provide more corrective feedback, and engage in more negotiation for meaning than those in teacher-led classes. Similarly, Ortega (2009) emphasized that interactional adjustments during communication, such as repetition and clarification, can help learners achieve comprehension in a way that is personalized and responsive to their needs. Together, these findings demonstrate that authentic communication between speakers and listeners plays a crucial role in second language development by making linguistic input more comprehensible and helping learners apply their developing language skills in meaningful contexts.

## Pedagogical Effects

The approaches and pedagogical strategies used in classrooms have a direct influence on students' language learning achievement. Choosing appropriate instructional methods increases the likelihood of success because effective teaching aligns with how students acquire, process, and retain language. Geeslin et al. (2015) emphasized through the affective filter hypothesis that learners perform better in environments where anxiety is low and self-esteem is high, which means that the teacher's choice of methods helps determine the emotional climate of the classroom. Although no single approach can meet the diverse needs of all learners, effective teachers continually adapt their instruction to the unique dynamics of their students and the classroom context. Mitchell and Miles (1998, as cited in Kirsch, 2008) explained that teaching requires both artistry and professional judgment, as educators must interpret shifting classroom conditions and make instructional decisions based on their knowledge and experience. Research has also shown that traditional methods focused primarily on grammar and vocabulary often fail to develop communicative competence or accurate pronunciation, and that teacher-centered instruction can reduce students' motivation and interest in language learning (Kirsch, 2008).

Even though the perfect teaching method does not exist, the success of a particular teaching approach entirely relies on the students, the teachers, and the learning context. In general, to promote students' learning outcomes, successful teaching should incorporate learners' culture and experience in lessons; create a safe and comfortable learning atmosphere; promote cooperation among learners; provide comprehensible language input, respect learners' various needs, and foster individual autonomy (Kirsch, 2008; Levine & McCloskey, 2009). Although the PWIM is a teacher-directed approach, it is designed "to help students develop as independent learners and as independent readers and to foster confidence based on the knowledge that they secure for themselves as learners" (Calhoun, 1999, p. 30). When the PWIM is merged with Cooperative Learning, the chance for students to interact and cooperate with their peers increases, creating a safe and comfortable learning atmosphere. Then, their anxiety toward learning is lowered.

## Age

Researchers have long examined the influence of age on second and foreign language acquisition, focusing particularly on how early exposure affects ultimate language proficiency. The Critical Period Hypothesis (CPH) proposes that there is a biologically optimal window, generally before puberty, during which children acquire new languages more easily and with greater accuracy than adults (Kirsch, 2008; Lenneberg, 1967, as mentioned in Ortega, 2009; Penfield & Roberts, 1959). During this developmental stage, children's brains demonstrate heightened plasticity, which allows them to process linguistic input naturally and internalize multiple languages simultaneously. After this critical period, the brain's flexibility decreases, making the process of language acquisition slower and often less complete. Penfield and Roberts (1959) emphasized that this neurological shift limits adults' ability to acquire new languages with the same ease as children, suggesting that early and meaningful exposure is essential for achieving native-like fluency.

The hypothesis proposes that human brains are pre-programmed to attend to language experience early in life; before this period, learners are more likely to be successful in their language achievement. Based on a review of a range of research findings, Kirsch (2008) points out that the studies into the Critical Period Hypothesis concerning language learning are inconclusive and indicate that earlier is not necessarily better. Levine and McCloskey (2009) also confirm that children's cognitive ability develops with age. As it develops, it reaches a point that is optimal for second language learning. McCloskey (2009) explains

That the cognitive level of school-age children is much higher than that of an infant. Thus, higher cognitive abilities can facilitate the language-learning experience in school. If the EL (English Learner) has already acquired a first language and can read and write in that first language, the transition to a second language will be much smoother and more efficient. The ability to read in one language is an asset when learning to read in another (p. 15).

That said, age is still a critical factor that affects the acquisition of native-like pronunciation and syntactic structures. Adult learners are more likely to have an L1 (first language) accent when they learn a second/foreign language because they are more settled in the pronunciation of their native language. In other words, the massive previous experience with their first language affects how adults learn a second/foreign language.

Ortega (2009) concludes that, in terms of L2 (second language) ultimate attainment, most learners who begin acquiring the L2 before a certain age, typically before puberty, will develop levels of morphosyntactic and phonological competence that are very close to those of native speakers of that language. Post-pubertal learners, however, are not likely to perform in the native speaker range, and this holds true regardless of the number of years they have resided in the L2 environment (p. 28-29).

Although researchers continue to debate about whether or not an early start is beneficial for learners in terms of their success in language acquisition, Kirsch (2008) concludes that an early start in second/foreign language learning can improve learners' communication skills, promote their positive learning attitude, and develop their metalinguistic and metacognitive awareness, assuming that the instructional program and system are sound. No discontinuity exists between one level of education and the next.

## Motivation

Motivation is mainly understood as a will or desire to activate or energize certain behaviors. In the realm of second language acquisition, motivation usually refers to "the desire to initiate L2 (second language) learning and the effort employed to sustain it" (Ortega, 2009, p. 168). Recently, motivation has been believed to involve personal effort, enjoyment, and the investment that one makes in language learning. The genuinely motivated individuals will put much effort into learning, enjoy the learning process, and have a strong desire to succeed in mastering the language (Gardner, 2001). Because of varied purposes or intentions, motivation can be divided into different types.

Integrative motivation is the most researched one and is believed to be the highest and most facilitative form of motivation (Gardner, 2001). Integrativeness is defined by Gardner (2001) as “a genuine interest in learning the second language in order to come closer to the other language community” (p. 5). When individuals have high integrativeness, contribute enough effort, and embrace a positive attitude toward the learning situation, they are integratively motivated. Gardner (2001) indicates that integratively motivated learners will likely achieve native-like second language competence.

Of course, only some language learners want to think and behave like the L2 speaker and have a cultural interest in the L2 community. Some people learn a second/foreign language for more practical reasons, such as getting a good job or pursuing a higher level of education. This type of motivation is **instrumental motivation**, characterized by the desire to obtain a more practical or concrete goal from learning a second/foreign language (Hudson, 2000). For learners with instrumental motivation, their purpose of learning a second/foreign language is more utilitarian. Although both integrative and instrumental motivations are essential in determining the success of learners’ second/foreign language acquisition, integrative motivation maintains the long-term success of second/foreign language learning (Ellis, 2008; Gardner, 2001). Unfortunately, most students tend to be instrumentally motivated when learning a second/foreign language (Norris-Holt, 2001). Even though integrative motivation is often linked to the successful acquisition of a second/foreign language, Brown (2000) points out that most learners usually apply a combination of both types of motivations when learning a language other than their native one.

Motivation in second or foreign language learning can be categorized as either intrinsic or extrinsic, depending on whether the learner’s desire to study the language arises from personal interest or external factors. Ortega (2009) described intrinsic motivation as the drive that comes from within the learner, when engagement in a task is self-initiated and sustained by genuine enjoyment and curiosity. In contrast, extrinsic motivation occurs when learning is prompted by external pressures or practical goals, such as meeting academic requirements or gaining employment opportunities. Learners who are intrinsically motivated tend to show a stronger sense of autonomy and persistence, while those who are extrinsically motivated often depend on external reinforcement to maintain their effort. Understanding the balance between these two forms of motivation helps educators create learning environments that foster greater self-determination and long-term success.

In other words, intrinsically motivated behaviors are more self-determined and are initiated by self-satisfaction; on the contrary, extrinsically motivated behaviors are more instrumentally oriented and are externally regulated actions. Intrinsic motivation is more related to Gardner's integrative motivation because both lead to the satisfaction of the individual's innate psychological needs for competence and autonomy and likely result in high-quality learning.

Extrinsic motivation is considered to be the type of motivation that is less likely to lead to success because behaviors are performed for some separate consequence without anything to do with the second language itself. Importantly, however, undergoing the processes of internalization and integration, extrinsically motivated behaviors can become more self-determined (Ortega, 2009; Ryan & Deci, 2000).

## Individual Differences

For years, researchers and educators have been seeking the answer to the question of why some language learners do better than others. People generally do not differ in their cognitive abilities; however, they have different ways of perceiving and processing information (Ortega, 2009). Individuals have different cognitive or learning styles that they use to acquire the information or specific skills taught in class. Cognitive or learning styles refer to the unique characteristics of one's perception and storage of information from the environment. Brown (2000) states that " the way we learn things in general and the way we attack a problem seems to hinge on a rather amorphous link" (p. 113), and this link is referred to as cognitive style.

In contrast, learning style is regarded as "cognitive, affective, and physiological traits that are relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (Kagan & Kagan, 1998, p. 4). Various learning styles positively or negatively influence learners' learning outcomes. Tolerance for ambiguity, reflectivity, impulsivity, and visual and auditory styles are some examples of learning styles. As a matter of fact, there may be learning styles that are still unknown or have not yet been examined.

For example, Field Dependence/Field Independence tendency describes how the surrounding perceptual field influences the way people perceive, acquire, and comprehend information. The ways that field-independent and field-dependent learners perceive and understand knowledge are rather different. The learners with extreme field dependence are so much influenced by the surrounding environment that they cannot distinguish separate elements from the whole. On the contrary, those with extreme field independence tend not to be influenced by the whole environment, and they are so analytical that they can easily separate the elements hidden in the whole. Furthermore, those field-dependent learners tend to be more socially oriented; they love to work, cooperate with, and interact with others, and they need clear directions and instruction from peers and teachers to help them make a judgment and accomplish the learning tasks by receiving feedback from others. Field-independent learners are socially detached and task-oriented. They focus on the learning tasks rather than the people around them. These statements are supported by research. The study conducted by Johnson, Prior, et al. (2000) concludes that field-dependent L2 learners possess higher communicative abilities, while the results of Stansfield and Hansen's (1983) experiment point out that field-independent learners perform much better in second language test performance, especially those involving analytic abilities.

## The Picture Word Inductive Model and Improving Learners' Literacy

Researchers and educators have been striving to develop optimal approaches to facilitate learners' literacy for the past few decades. This section starts by discussing the important fundamentals of children's literacy development. Then, it elaborates on the essence of Calhoun's (1999) Picture Word Inductive Model and its implementation in promoting children's literacy proficiency. Many researchers (Clay, 1991, 2001; Galda et al., 1993, 1997; Teale & Sulzby, 1989) conclude that children's literacy learning should not be regarded simply as the development of cognitive skill but as a complex ongoing process that involves social interaction, linguistic awareness, and psychological growth. Teale and Sulzby (1989) propose that to portray young children as literacy learners, one needs to recognize five characteristics of children's literacy learning:

1. Literacy development begins long before children receive formal instruction.
2. Literacy learning is purposeful and part of the more extensive learning system.
3. Children's reading and writing abilities develop concurrently and interrelatedly.
4. Children develop their literacy proficiency through active engagement.
5. Adult scaffolding accelerates children's literacy development.

Synthesizing those findings of various educators and researchers in their *Language, Literacy and the Child*, Galda et al. (1997) summarize that six vital fundamentals need to be considered while attempting to illuminate the natural development of children's literacy. Children's literacy development begins during infancy and continues throughout their lives. Long before they enter formal schooling, young children begin interacting with print and written symbols found in their surroundings (Clay, 1991). Through observing signs, books, and written materials, they start to make sense of how language conveys meaning and gradually build foundational literacy skills through interaction with adults. Vygotsky (1998) explained that the social environment plays a central role in this process, as children learn the meaning of symbols and language through constant engagement with caregivers. From their earliest experiences, children's understanding of the world is shaped and supported by these social interactions. Similarly, Teale and Sulzby (1989) noted that early exposure to written language, such as when parents introduce alphabet toys or read aloud to their children, marks the beginning of a lifelong journey toward reading and writing. These early experiences form the basis for literacy growth and demonstrate that learning to read and write is both a social and developmental process.

While exploring the new information presented to them, children apply their existing but limited knowledge to the situation and try to make sense of it. Also, through interaction with and support from more competent peers and adults, children can gradually develop a higher level of skill in understanding the print that surrounds them.

Second, children's literacy and oral language develop at the same time. Instead of being considered a prerequisite for literacy development, children's oral language fluency co-exists with their literacy ability and accelerates the growth of four language skills. Though educators have believed that strong oral proficiency will facilitate literacy growth, it cannot be denied that children's reading experience also dramatically impacts their oral language development. While communicating with adults, children always make the connection between what they have heard or seen and what they are reading. For young children, "the language arts mutually reinforce one another in development" (Teale & Sulzby, 1989, p. 4); that is, children's oral language proficiency influences their development in reading, and their reading comprehension enhances their writing proficiency.

Children demonstrate a natural enthusiasm for literacy learning and are not passive recipients of instruction. Instead, they are active participants who engage intentionally in constructing their understanding of written language. Daily life provides many opportunities for children to interact with print, and through these experiences, they begin forming and testing ideas about how writing functions. Teale and Sulzby (1989) explained that as children encounter written materials, they explore the distinctions between drawing and writing, develop awareness of written language's structure and rhythm, and begin connecting written symbols to the sounds of spoken words. In the same way, Clay (1991) observed that when children search for meaning in print, they continually notice new aspects of words, symbols, and messages, linking these discoveries to their prior knowledge. These interactions illustrate that literacy learning is an active, exploratory process through which children construct meaning and deepen their understanding of language.

Fourth, literacy learning is a developmental process. Children search for strategies and ways to understand their day-to-day experiences. In general, most children reveal similar patterns of acquiring reading and writing proficiency; however, their strategies for understanding information might differ from one child to the next and also vary through time. Before children enter the classroom, they are already equipped to be able to learn language in their own ways. Clay (1991) points out that,

Before the child comes to school, he has already learned how to learn by making responses and getting feedback about their appropriateness. He has developed a complex, differentiated internal representation of his world. He had strategies for remembering, grouping, and problem-solving. He has constructed a complex system of language rules that enable him to understand and produce sentences in his language. He builds these rules by a process that is still not very well understood, but his language learning is innovative and rule-governed (p. 319).

Children, without question, have their own ways of exploring and interpreting the meaning in their environment, and adults help to facilitate the developmental process.

Storybook reading with adults contributes significantly to children's literacy development. When parents read and discuss storybooks with their children, they naturally turn words and pictures into prompts that invite questions and dialogue about print (Taylor & Strickland, 1986). Through these shared experiences, children learn more effectively than when reading alone because adult guidance helps them achieve the goals of comprehension and engagement. This type of interaction accelerates literacy growth by providing opportunities for modeling and feedback. Teale and Sulzby (1989) emphasized that storybook reading between adults and children has a powerful influence on literacy development and encourages children to revisit and retell stories independently. They also explained that the support adults provide during these interactions, often referred to as scaffolding, plays a vital role in helping young children develop independent reading and writing habits. Through these shared literacy experiences, adults help children connect words and illustrations to meaning and reinforce the understanding that printed language conveys ideas and stories.

Sixth, literacy learning is intimately connected to cultural background and family experiences. While exposed to a world rich in different print forms, such as visual images, signs, and television advertisements, children's first literacy learning always starts from contact with their family. Long before they receive school instruction, children develop a certain level of literacy ability through experiencing those print examples in their environment, even though these preschool learning experiences will be different from one family to the next and from one culture to the next. Children's awareness and understanding of this print world are primarily the result of their daily experiences and interactions with their families (Galda et al., 1993). Those six points indicate that children's literacy growth begins to germinate long before they enter schools and that it is a complex, ongoing developmental process involving visual-auditory engagement and social interaction.

## Language Learning as a Social Interaction

As indicated in the previous section, adult and peer interactions are important in determining children's language acquisition (Clay, 1991; Philp et al., 2008; Piaget, 2010; Vygotsky, 1998). In the first couple of years, children's language learning depends entirely on what people say to them, how much people talk to them, and how often the conversations occur. Adults model the language patterns that children follow, imitate, and then use to generate the language structures and rules by themselves (Clay, 1991).

Galda, Cullinan, and Strickland (1993) emphasized that children's language development thrives in social environments that prioritize active participation and child-centered interaction. In such settings, adults engage children in conversation, respond to their contributions, and provide guidance when needed. These interactions demonstrate language informally and encourage children to take part in shared communication. Clay (1991) observed that parents who are less responsive or child-centered tend to provide fewer opportunities for language expansion, leaving children with less exposure to structured and meaningful speech patterns. Adults naturally simplify their language when speaking directly with children, but their conversations with other adults are typically more complex. This difference can make it difficult for children to recognize the key elements that make spoken language coherent and meaningful. Regular opportunities for interaction help children test and refine their understanding of language rules, which they often do by initiating small conversations about their daily experiences. Through these exchanges, children practice forming sentences, expressing ideas, and developing confidence in their communication skills.

Calhoun's Picture Word Inductive Model (PWIM) provides students with structured opportunities to engage in language learning through interaction with both teachers and peers. Developed from the Language Experience Approach, the PWIM is a constructivist strategy that promotes literacy by encouraging learners to explore and analyze language in meaningful contexts. Calhoun (1990) described PWIM as an inquiry-based approach that uses pictures containing familiar objects and actions to help students connect spoken and written words. In classroom settings, teachers guide students to identify and label items in a picture, expand their sight vocabulary, and explore the relationships between letters, sounds, and word patterns. As they participate in these activities, students develop phonetic awareness, discover structural principles of language, and apply these understandings in their reading and writing. The process naturally leads to sentence construction, paragraph development, and eventually the creation of short written compositions that reflect their learning.

Language learning develops naturally through interaction and guided support from teachers, adults, and peers. This principle aligns with Vygotsky's concept of the zone of proximal development, which emphasizes the essential role of adults as social partners who help children extend their learning beyond what they can achieve independently (Glassman, 2001; Vygotsky, 1998). Within this framework, the adult serves not only as a facilitator but also as a representative of the broader social and linguistic community, introducing learners to the conventions and structures of language through meaningful interaction.

In addition to adult support, peer interaction plays an equally significant role in language acquisition. Philp, Mackey, and Oliver (2008) observed that peers often engage in exchanges that differ from adult-child communication because their relationships are more balanced in terms of power and participation. These interactions encourage negotiation, mutual understanding, and shared learning, all of which contribute to language development. Although adults tend to provide more structured scaffolding and corrective feedback, peers create opportunities for authentic language practice and social engagement. Through these exchanges, children learn to express themselves, clarify meaning, and refine their understanding of language. Philp et al. (2008) further explained that children actively shape their learning experiences by choosing how to participate in conversations and by defining their roles within peer and adult relationships. Together, these dynamics highlight that both adult guidance and peer collaboration are vital components of language development and that learners play an active role in constructing their linguistic knowledge through social interaction.

With the teacher's and their peers' assistance, learners can gradually incorporate knowledge about written language into their mental repertoire. This scaffolded instruction in which teachers, working with children around a literacy task, provide support as the learners are in need and withdraw the assistance as learners become able to function independently, has been proven to be effective in improving ESL student's English proficiency (Watts-Taffe & Truscott, 2000).

## Language Learning as a Natural Development

Children's language development progresses naturally from oral language, which involves listening and speaking, to written language, which involves reading and writing. To develop these skills, children need continuous exposure to rich language environments where they can hear, imitate, and interact with others. Galda, Cullinan, and Strickland (1993) noted that when children are immersed in conversation, they actively construct their own meaningful and rule-governed language systems. They also emphasized that although literacy development begins at birth, the years before formal schooling serve as a preparation period during which children acquire the foundational skills necessary for later reading and writing. These early experiences allow children to develop oral proficiency, which forms the foundation for literacy growth. Teale and Sulzby (1989) similarly explained that strong oral language abilities support and predict later success in reading and writing. The structure of the Picture Word Inductive Model (PWIM) aligns closely with this developmental sequence by helping children connect spoken words to their written forms. Through observation, discussion, and labeling, PWIM provides opportunities for learners to bridge their oral and written language, reinforcing both comprehension and expression.

While the teacher helps children to identify the items by spelling the words out, they witness the process in which the oral form of the language is turned into a written one. This process supports transitioning from oral (listening/speaking) to written (reading/writing) language. Building on learners' listening and speaking knowledge, the model facilitates further expansion of their communication repertoire by promoting literacy development. Calhoun (1999) mentions, “The PWIM is designed to enable students to be immediately successful as language learners in the formal school setting and to immerse them in how language works” (p. 25). She further explains that:

A major principle of the model is to build on children’s growing storehouse of spoken and understood words and syntactic forms and facilitate the transition to writing and reading. Most children want to make sense of the language around them, and they eagerly engage in unlocking its mysteries. A corollary principle of the PWIM is that the approach respects the children’s language development: their words are used, and their ability to make connections is central to the learning process and the model (p. 26).

Students listen to words, say them repeatedly, and communicate with their peers and instructors, which encourages learning. This process enhances learners’ recognition of language and enlarges their mental dictionary, which is essential for the subsequent development of reading and writing.

## Vocabulary Learning Through Pictures

Vocabulary plays a central role in determining how effectively a learner can read and comprehend text. Fluent reading requires a broad vocabulary because the greater the number of words children know, the more readily they can recognize and understand language in context. Newman (2006, as cited in Wong, 2009) emphasized that children who develop a large vocabulary can think more critically, articulate their ideas more clearly, and acquire new knowledge more efficiently. One effective way to expand vocabulary is through the use of pictures, which provide visual stimuli that prompt word recall and association. Images and symbols appear throughout daily life in forms such as books, posters, and environmental print, offering natural opportunities for language learning. Burmark (2002) explained that such visual representations evoke memories, emotions, and experiences that connect directly to meaning. By engaging with pictures, learners can link visual perception with linguistic expression, reinforcing vocabulary growth and comprehension.

Visual images convey meaning and have become a significant mode of communication in modern literacy. To be fully literate, individuals must be able to interpret and construct meaning from both written text and visual representations, recognizing how the two interact to convey explicit and implicit messages (Burmark, 2002; Comacchio, 2006). Sinatra (1986) explained that visual forms such as pictures, films, and illustrations present information in ways that are immediate and concrete, allowing viewers to access ideas more directly than through written language alone. Similarly, Duchastel (1978, as cited in Sinatra, 1986) identified three primary roles of images within text: they capture and sustain the reader's attention, represent concepts that are difficult to describe in words, and support understanding and memory retention. Together, these perspectives highlight the integral role of visual elements in communication and underscore the importance of teaching learners to interpret and use images as part of their overall literacy development.

Gardner's (1993) theory of multiple intelligences proposes that individuals possess various forms of intelligence, each contributing uniquely to learning. Traditional instruction often emphasizes linguistic, logical-mathematical, and intrapersonal intelligences, which focus on language, reasoning, and self-reflection. However, Gardner argued that learners perform more effectively when additional intelligences, such as interpersonal, visual-spatial, musical, bodily-kinesthetic, and naturalist, are also engaged. Spatial intelligence involves the ability to perceive and interpret visual information accurately, transform and manipulate visual details mentally, and recall visual experiences even when the original stimuli are no longer present. Research supports the importance of this skill, showing that visual imagery assists learners in remembering linguistic information and strengthening comprehension (Pavio, 2010; Piro, 2002; Rakes, 1999; Sinatra, 1986). Gardner further maintained that spatial intelligence should be regarded as equally significant to linguistic intelligence because both operate in ways that can complement or function independently of each other.

Building on Gardner's concept of multiple intelligences, Pavio's (2010) dual coding theory proposes that the brain processes verbal and visual information through two distinct yet complementary systems. Verbal input is primarily managed by the brain's left hemisphere, which is associated with language processing, while visual input engages the right hemisphere, which interprets imagery and spatial relationships. When learners encounter the same information in both verbal and visual forms, the two systems work together to reinforce comprehension rather than compete for cognitive resources. This integration enhances learning performance by creating multiple pathways for recall and understanding. Rakes (1999) supported this perspective, explaining that brain activity increases when learners engage with both visual and verbal materials simultaneously. The use of images alongside text therefore extends beyond simple decoration, serving instead as a meaningful instructional tool that strengthens comprehension and retention through dual coding.

Individuals perceive and interpret the same visual image differently because their understanding is shaped by their prior knowledge, intentions, and life experiences. Burmark (2002) noted that without firsthand experience or shared context, viewers cannot fully grasp the story or emotions represented in an image. Sinatra (1986) explained that interpretation is influenced by both the organization of the picture and the experiences and motives of the viewer. The language individuals use to describe what they see reflects their personal background and the meaning they assign to the image. Sinatra (1986) further proposed that sequences of pictures can stimulate a range of cognitive responses, encouraging both focused and creative thinking depending on each viewer's experience and perspective. For example, an image of a snowy landscape may be unfamiliar to someone who has never experienced snow, making it difficult for that viewer to understand the deeper symbolic meaning of the scene. In contrast, a person who has lived in snowy regions can relate the image to personal memories and interpret its emotional or cultural significance more easily. Similarly, when people view a new film by a director whose work they already know, their prior exposure informs their expectations, interpretations, and level of critical engagement. These examples illustrate how personal history and experience shape how individuals construct meaning from visual media.

Picture books often represent children's earliest encounters with literacy. The meaning conveyed through these books depends not only on the sequence of images but also on how readers imagine and interpret them. Whitehead (2004) observed that the apparent simplicity of picture books actually places complex demands on readers because they must construct the story themselves rather than rely solely on text. The limited or absent written language invites readers to become co-creators of the narrative, filling in gaps and interpreting the visual cues that suggest plot, character, and emotion. This process requires careful attention and imagination, as readers must interpret the possibilities suggested by both the illustrations and any accompanying text. Through this form of active engagement, children learn to infer meaning, make connections, and develop essential comprehension skills that support later reading development. When children are exposed to pictures, they become active readers and interpret the illustrations using their imaginations. They must search for picture clues to identify the characters and themes. By applying careful analysis and examination, children predict the events implied in the images and sequence the pictures to create a vivid story.

The Picture Word Inductive Model (PWIM) recognizes the important role of visual imagery in supporting children's literacy development. By encouraging students to observe, deconstruct, and interpret selected pictures, the PWIM demonstrates that visual images can serve as a form of reading and communication (Calhoun, 1999; Wong, 2009). Within the PWIM framework, pictures act as key stimuli that connect students' real-life experiences to language learning in the classroom. Visuals help children engage with a range of literary forms and prepare them for literacy by linking meaning with imagery (Whitehead, 2004). Both Calhoun (1999) and Astorga (1999) emphasized that pictures provide concrete references for learning new words, phrases, and sentences. Astorga explained that pictures make the decoding process easier by transforming the language of a story into something more understandable and memorable. When children identify the objects and actions within a picture, teachers can use those connections to expand their vocabulary and strengthen comprehension.

Not all images, however, are equally effective for this purpose. The pictures used in instruction should portray familiar scenes or items that children can relate to. When students engage with pictures that reflect their own experiences, they draw on background knowledge to interpret the images and anticipate what might happen next, which helps them construct meaning and narrative coherence. Whitehead (2004) observed that because readers must actively construct the meaning of picture books, they naturally make personal connections between the images and their own experiences. She further noted that these connections stimulate imagination and expand the child's ability to make predictions, enriching their understanding of stories and enhancing their future interactions with books. Through such experiences, children learn to "read" visual texts as dynamic and meaningful components of literacy.

Taylor and Strickland (1989, as cited in Galda et al., 1993) emphasized that children develop literacy most effectively when it is grounded in the social and cultural contexts of their everyday lives. Although classroom learning cannot replicate family experiences, teachers can build on the social realities that children bring with them to school and use those experiences as a foundation for instruction. Integrating familiar cultural themes and topics into literacy activities increases students' motivation and engagement (Reeves, 2009). When children recognize objects and activities from their daily lives in instructional pictures, they can connect new vocabulary to the words and phrases already stored in their developing mental lexicon. These familiar references make language learning more meaningful and relevant.

Calhoun (1999) explained that children's understanding of pictures that depict familiar items and actions helps them move from oral language to written language. This view aligns with Piro (2002), who noted that as children analyze pictures to understand how images communicate meaning, they begin to translate visual information into language. Through guided discussions and teacher support, children expand their sight vocabulary and strengthen the link between spoken and written words. These experiences lay the foundation for literacy by helping learners connect the concrete world of images to the abstract symbols of written text.

## Thinking Inductively

The Picture Word Inductive Model (PWIM) is built on children's natural ability to reason inductively. Joyce et al. (2017) described children as natural conceptualizers who learn about the world by observing, classifying, and comparing what they encounter. From an early age, children recognize patterns and distinctions in their environment. For example, when they first see a cat and a dog, they can identify the differences between the two animals. When they encounter multiple cats, they begin to notice shared features that define cats as a category, while also recognizing individual variations. Comparing and contrasting objects, events, or experiences helps children focus on key concepts, understand relationships, and develop deeper knowledge.

In traditional classrooms, learning often occurs deductively, where students apply established rules or formulas to specific examples. In contrast, inductive instruction encourages learners to discover general principles by examining patterns and regularities across multiple examples. When teachers design learning experiences that invite students to observe, classify, and reflect, they nurture children's natural tendency to conceptualize and strengthen their ability to think inductively.

According to Joyce et al. (2017), induction occurs when students construct knowledge for themselves and then test that knowledge through experience and by comparing it with the insights of others (p. 43). Inductive reasoning involves discovering regularities by identifying similarities and differences. This process includes three interrelated stages: discrimination, in which learners perceive how objects or ideas are similar or different; generalization, in which they recognize shared characteristics; and formulation, in which they organize these patterns into systems or conceptual frameworks.

By examining similarities and differences, learners engage in a cognitive process that enables them to identify patterns and discover regularities. Bennett and Rolheiser (2001), in Beyond Monet: The Artful Science of Instructional Integration, explained that inductive thinking assists learners in several important ways. First, it helps them organize and interpret large amounts of information by dividing it into meaningful parts and identifying relationships among those parts. Second, it helps students deepen or refine their understanding of specific concepts.

Third, it allows teachers to address different learning styles and intellectual strengths, supporting a more inclusive classroom environment.

Lauth and Wiedl (1989) found that training students in inductive thinking strengthens complex cognitive skills that are essential for academic success. The inductive approach develops logical reasoning and increases learners' awareness of how knowledge and language function. Joyce et al. (2017) further clarified that the inductive model plays a central role in the classroom by helping students construct understanding through inquiry, reflection, and active participation.

The inductive model encourages students to gather information, analyze it carefully, organize it into meaningful categories, and apply what they learn to broader concepts. Joyce et al. (2017) explained that when students practice this process regularly, they become more efficient at forming concepts and develop the ability to view information from multiple perspectives. They also noted that inquiry-based instructional models are particularly effective for learners who begin school with limited skills or who have struggled academically in the past. By consistently engaging in inductive reasoning, students learn to draw on diverse data sources, examine information from different angles, and identify relationships among ideas. Through this process, children learn to uncover patterns and principles for themselves, which promotes intellectual growth and deeper understanding. Calhoun (1999) emphasized that the Picture Word Inductive Model (PWIM) supports learners in forming generalizations that lead to phonetic and structural analysis of language. The model encourages students to think critically about linguistic patterns and to use those observations to master the conventions of written and spoken language.

Instead of asking students to memorize the rules as teachers in Southwestern Kansas do, the PWIM encourages students to classify the words and to establish their own rules, which they can then implement to decode and intuit the meaning of new and unfamiliar words. The more frequently learners use the model, the stronger their concepts of language will be, and the more quickly their language literacy will be promoted.

## Connections Between Reading and Writing

Reading and writing provide access to literacy. Children start to explore the world in print very early. Their curiosity about the environment around them turns into the desire to communicate. They first learn to communicate through oral language, which eventually triggers the development of their reading and writing proficiency. According to Anderson's schema theory (1984), reading comprehension and composition writing are interactive processes. Schema (or schemata) refers to "highly organized, generic knowledge structures composed of slots or placeholders for each component" (Kitao, 1989, p. 2). It emphasizes that learners' prior knowledge is essential for the comprehension of new information, as well as the construction of messages for communication. One type of schema is *event schema*, or called *script*, which refers to specific information about some stereotypical event or ordinary experience in our daily lives. For instance, the schema or script for going to a supermarket would include information about shopping lists, different sections of food, price tags on the items, paying for bills, and so on. The event schema would also contain the information that there might be a shopping list, that there must be some male or female cashiers, that the food items will have a price tag on them, and that different types of food will be stored or displayed in different sections. Based on the schema or script knowledge, shoppers will know what to expect or what might happen when they go to a supermarket.

Similarly, while reading a text, learners will relate the previously learned knowledge existing in their mental corpus to the text, reconstruct the meanings in the text, and then add these constructs to schemata in their memory. Going through the same process, students retrieve, coordinate, and structure the information in their memory and then compose texts to communicate with their intended readers. Heller (1995), in her *Reading-Writing Connections,* points out that 'script knowledge' is an essential source of previous knowledge that already exists in memory. Children rely on these daily experiences to make sense of the texts they read and write.

Uribe and Nathenson-Mejia (2008) emphasized that effective language instruction begins with concepts and experiences familiar to learners. Selecting familiar themes enables teachers to immerse students in content they already understand, creating a sense of comfort and confidence that supports language development. Within the Picture Word Inductive Model (PWIM), this principle is applied by using students' existing knowledge and experiences as a foundation for literacy growth.

Calhoun (1999) explained that teachers who implement the PWIM engage students in using all components of the language system while drawing on what they already know. This integration of prior knowledge accelerates the process of language learning by allowing students to connect new vocabulary and structures to familiar ideas. As students participate in PWIM activities, they begin to see how oral language relates to written expression. They watch their own words, phrases, and sentences take shape in print, reinforcing the symbolic relationships among images, spoken words, and written text. Through continuous engagement in speaking, reading, and writing, students come to understand that pictures represent real objects or events, words represent ideas, and sentences can convey stories or descriptions of reality. This process helps learners internalize the connections between visual, oral, and written language, strengthening both comprehension and expression.

By presenting pictures of scenes and objects that students are familiar with and helping them 'shake out' not only the apparent words connected to the items in the pictures but also the inferable or predictable vocabularies related to the pictures, teachers assist learners in retrieving their prior knowledge or the 'script knowledge' from their memory. Wong (2009) states that "while the PWIM is undergoing, the process of eliciting the words and spelling the words alone brings awareness to the letters in the word and connection between the spoken words onto written text" (p. 9). When spelling out and writing down these words on the picture word chart, instructors lead children into the primary writing stage. With the assistance of teachers and peers, children start to write short sentences and, later, longer ones about the pictures after they become more familiar with this mode of instruction. Gradually, these sentences will be stored in students' memory and eventually become a part of their prior knowledge, which will be implemented to analyze new reading and writing of texts (Calhoun, 1999).

In addition, teachers lead students into a metacognitive process while discussing and selecting proper titles for the pictures. Flavelle (1976) defines 'metacognition' as "one's knowledge concerning one's cognitive processes and products or anything related to them" (as cited in Heller, 1995, p. 209). Paris and Winograd (1990) also emphasize that "metacognition provides students with the knowledge and confidence to manage their learning and to be inquisitive and zealous in their pursuits" (as cited in Wong, 2009, p. 15). Thinking or acting metacognitively requires children to express what they know or do not know about a subject. When elaborating on the notion that learning is strategic, Galda, Cullinan, and Strickland (1993) also point out, "Effective learners are involved in what they are doing, feel responsible for the success (or failure) of what they are doing, and think about what they are doing (metacognition) to plan and monitor their use of strategies" (p. 11). Their discussion indicates that metacognition is essential to language learners' literacy development.

The Picture Word Inductive Model (PWIM) fosters metacognitive awareness by encouraging both teachers and students to reflect on their knowledge, monitor their understanding, question existing ideas, and construct new meaning (Calhoun, 1999). When guiding students to choose a title for a picture, the teacher helps them consider which title best captures the central idea, appeals to the audience, and connects logically with the content. This process requires students to evaluate their thinking and make purposeful decisions about how language communicates meaning.

As students compose sentences and paragraphs, they continue to engage in metacognitive thinking by considering what they want to express, what key information readers should understand, and how to organize their writing effectively. Calhoun (1999) explained that these activities strengthen the relationship between reading and writing, helping students become more intentional and strategic in their literacy practices. Through repeated experiences with this model, children gradually develop independence as learners and readers. Over time, their growing confidence enables them to apply prior knowledge when interpreting new texts, leading to steady and sustained literacy improvement.

## The Process of the PWIM in Class

The Picture Word Inductive Model (PWIM), although teacher-facilitated, is a constructivist strategy that has proved to be an effective instructional tool for helping children acquire vocabulary and develop language literacy (Swartzendruber, 2007). This inductive instructional method begins with a picture or photograph of familiar scenes and everyday objects, which serves as the foundation for the lesson. Under the teacher's guidance, students identify items in the picture and "shake out" the words to describe what they see. These include obvious objects as well as inferences, predictions, and emotions associated with the image. Teachers then label each identified part of the picture by drawing a line to connect the object to the corresponding word (Calhoun, 1999). Students are encouraged to engage actively with the new vocabulary by spelling and saying the words aloud, discussing their meanings, and reviewing the collaboratively created word charts. With continued support from teachers and peers, learners participate in activities such as sorting words into categories based on phonetic or structural patterns, selecting an appropriate title that captures the picture's main idea, and composing sentences or paragraphs that describe the image (Joyce et al., 2017). Through repeated practice, students expand their vocabulary, strengthen their comprehension, and build the critical link between reading and writing (Calhoun, 1999).

Although the PWIM was originally designed for whole-class instruction, it can also be adapted for small-group or individual learning contexts. Calhoun (1999) explained that the model promotes the development of a cooperative classroom community in which teachers and students inquire into reading, writing, and thinking together. This collaborative environment encourages learners to exchange ideas, reflect on their thought processes, and support one another's growth as readers and writers. The model also reflects Langer's (1986, as cited in Calhoun, 1999) perspective that language learning is inherently interactive and shaped by the social and cognitive contexts in which it occurs. Through dialogue with peers and teachers, students not only strengthen their linguistic knowledge but also learn to use language as a tool for authentic communication (Joyce et al., 2017). The PWIM approach has been successfully implemented in a variety of educational settings, including the Thames Valley District School

Board in London, Ontario, and the York Region District School Board in Ontario, where it continues to enhance literacy instruction and classroom engagement (Swartzendruber, 2007).

Building upon the collaborative and inquiry-based nature of the Picture Word Inductive Model, Cooperative Learning extends this interactional framework by emphasizing structured teamwork, mutual accountability, and positive interdependence among learners (Johnson & Johnson, 2017; Slavin, 1995). While PWIM focuses on developing individual literacy through observation and inductive reasoning, Cooperative Learning complements it by creating social learning environments where students can negotiate meaning, share diverse perspectives, and construct understanding collectively (Gillies, 2016). Together, these approaches highlight the importance of both cognitive and social dimensions of learning in promoting literacy growth among English Learners. The following section explores the theoretical foundations of Cooperative Learning and its application to literacy instruction in diverse classroom contexts.

## Learning Together in a Cooperative Learning Classroom

Csikszentmihalyi's (1990) research on the concept of "flow" highlights that relationships with others are a central factor influencing overall life satisfaction. He emphasized that humans are naturally drawn to connect with one another and that the quality of these relationships directly shapes individual happiness. Schools serve as microcosms of society where students from diverse backgrounds learn to interact, collaborate, and coexist, making them essential spaces for developing interpersonal and social understanding.

Dewey (1915, 1971) similarly argued that education should extend beyond rote memorization and the passive study of past achievements. He believed that learning should help children adapt to their social environments and develop the ability to work cooperatively within a community. Dewey was critical of traditional schooling models that emphasized competition as the primary measure of success, where achievement was determined by comparing students' test results or the quantity of information they retained. Instead, he envisioned education as a process that fosters collaboration, mutual respect, and the development of skills that prepare learners for democratic participation and lifelong learning.

Vygotsky suggested that individuals develop their sense of self through social interaction and participation in cooperative activities (Glassman, 2001). Engaging with others is therefore a fundamental process through which human beings grow intellectually and emotionally. As discussed previously, collaboration with adults and peers plays a central role in children's language and cognitive development (Ellis, 2008; Galda et al., 1993, 1997; Philp et al., 2008). Schools, accordingly, should serve as environments where children learn to communicate, share ideas, and work productively with one another.

Dewey (1971) believed that schools should reflect the principles of a democratic society, where each individual contributes to shared goals through cooperative effort. He argued that education should foster the belief that helping others enriches both the giver and the receiver, creating a classroom atmosphere grounded in open communication, shared reflection, and mutual support. When students exchange ideas and experiences freely, learning becomes a collective process that benefits all participants.

Research consistently supports the academic and emotional benefits of cooperative learning. Studies have shown that working collaboratively enhances motivation, self-esteem, and academic achievement (Johnson & Johnson, 2017; Roseth et al., 2008; Slavin, 1994, 1995). Johnson and Johnson (2017) proposed that teachers can promote cooperation by organizing students into small groups that depend on one another to achieve shared learning goals. These structured interactions help students develop empathy, responsibility, and respect for diverse perspectives.

Cooperative learning is based on several guiding principles. First, the positive energy generated in cooperative settings leads to higher motivation and a stronger sense of connection among learners than is typically found in individual or competitive environments. Second, collaboration reduces feelings of isolation and fosters meaningful relationships. Third, engaging with others and considering different perspectives promotes cognitive and intellectual growth. Finally, cooperative experiences help students build confidence, strengthen self-esteem, and reduce anxiety, creating a more supportive and inclusive classroom culture.

## Theoretical Roots of Cooperative Learning

Like most instructional approaches and methods, Cooperative Learning has a long history and broad theoretical background. Much research (Johnson & Johnson, 2017; Slavin, 1995) has been done to investigate the principles and develop the theories that support the superiority of cooperation and interaction in intellectual development. In general, Cooperative Learning can be traced back to three different theories: Social interdependence theory, cognitive-developmental theory, and motivational theory.

### Social Interdependence Theory

Social interdependence theorists maintain that interactions among individuals influence how they pursue and achieve goals. Lewin's (1935) theory of group dynamics established that members of any group are interdependent, meaning that their actions and outcomes affect one another. Building on this idea, Deutsch (1949a) identified three forms of interdependence: positive, negative, and nonexistent. Cooperative learning occurs when positive interdependence is present, because group members understand that their success depends on the success of others

(Johnson et al., 1994; Johnson et al., 1998; Jacobs et al., 2006). When students share this sense of mutual responsibility, the accomplishments of one benefit all, and the efforts of each individual contribute to the collective achievement of the group. In such classrooms, students are encouraged to support one another's learning, attend regularly, and celebrate shared progress (Slavin, 1995).

In contrast, negative interdependence arises in competitive environments where one student's success diminishes the chances of success for others. Slavin (1995) observed that in these settings, high-achieving students are often stigmatized or ridiculed, which undermines collaboration and motivation. The absence of interdependence occurs in individualistic learning contexts, where students work independently toward separate goals and have little reason to interact or assist one another. In this situation, each learner focuses exclusively on personal outcomes without considering the progress of peers.

Johnson, Johnson, and Holubec (1994) summarized these relationships by explaining that positive interdependence promotes active interaction in which individuals encourage and facilitate one another's efforts. Negative interdependence leads to opposition and competition, while the absence of interdependence results in isolation and limited engagement. Understanding these dynamics underscores why cooperative learning environments, which cultivate positive interdependence, tend to produce stronger academic and social outcomes for students.

## Cognitive-Developmental Theory

While social interdependence theory emphasizes the importance of positive interdependence in successful cooperative learning, cognitive-developmental theory focuses on how collaboration and interaction foster intellectual and linguistic growth. Language development is inherently a social process, emerging from communication and shared activity within meaningful contexts. From this perspective, theorists such as Jean Piaget and Lev Vygotsky contended that children's cognitive progress depends on cooperation with others rather than on isolated individual work. Through social engagement, learners build upon prior experiences, refine existing concepts, and construct new understanding in partnership with their peers and teachers.

Vygotsky's contributions are foundational to understanding how cooperation advances learning. He asserted that children's mental development is not an automatic or natural process that unfolds on its own, but rather one that occurs through purposeful social interaction, particularly in educational contexts (Glassman, 2001). His theory of the zone of proximal development (ZPD) defines the distance between what a child can achieve independently and what can be achieved with the guidance of a teacher or a more capable peer (Slavin, 1995; Lantolf & Thorne, 2006). The ZPD represents the learning potential that is actively developing, encompassing emerging abilities that have not yet matured but are in the process of formation. Within this zone, instruction and interaction serve as catalysts that move children from assisted to independent performance.

Vygotsky (1998) further argued that the knowledge and skills children acquire through cooperation are first external and social before they become internalized as individual understanding. He emphasized that when children engage in guided problem-solving or collaborative learning, they develop the ability to think critically, regulate their behavior, and apply concepts independently over time. Cooperation therefore serves not merely as a social activity but as the primary mechanism for intellectual maturation. This idea has clear implications for classroom practice, suggesting that structured collaborative tasks, teacher scaffolding, and peer dialogue are essential for promoting meaningful cognitive growth. In models such as the Picture Word Inductive Model (PWIM), teachers facilitate this process by providing visual and linguistic stimuli that invite discussion, shared reasoning, and reflection—key conditions for activating the ZPD.

Piaget's theory complements Vygotsky's framework by emphasizing the role of peer interaction in promoting independent thought and moral reasoning. Piaget (2013) viewed cooperation as a constructive and liberating force that enables children to move beyond dependency on adult authority and to begin forming their own judgments. He argued that through collaboration, children encounter perspectives that challenge their assumptions, prompting them to reevaluate and reconstruct their understanding. This process of cognitive conflict and resolution drives intellectual development by encouraging flexibility, curiosity, and reflective thinking.

For Piaget, education should create environments that allow for both individual discovery and shared inquiry. He maintained that teachers should act as collaborators rather than as authoritarian figures, guiding students in ways that respect their autonomy while promoting cooperative exploration. Piaget (2010) also connected cooperation to moral development, asserting that interacting with others teaches respect, reciprocity, and empathy. He envisioned schools as democratic communities where students learn to balance independence with social responsibility, and where moral and cognitive growth occur simultaneously through dialogue and collective engagement.

Together, the theories of Vygotsky and Piaget underscore the centrality of social interaction in learning. Both theorists recognized that knowledge is constructed through engagement with others and that cooperation enhances not only academic performance but also motivation, self-regulation, and interpersonal awareness. Within the context of literacy instruction, these ideas directly inform the PWIM approach. The model's emphasis on shared exploration of pictures, collaborative vocabulary generation, and group discussion mirrors the processes of guided participation and peer cooperation described by both theorists. As students interact, reason, and reflect together, they internalize linguistic structures and develop the metacognitive skills that enable them to transfer learning to new contexts.

He also suggests that positive socio-cognitive conflict occurs during cooperation with others, followed by one's 'cognitive disequilibrium,' which stimulates cognitive development (Johnson et al., 1998). In his *The Language and Thought of the Child*, Piaget (2010) demonstrates the true dialogues that occur when children collaborate and listen to the other person's point of view. Interactions with others move children from the egocentrism of the early stages of life, in which they confine themselves to their own point of view, to the stage of cooperation, where they listen to and understand others' opinions. When children try to explain themselves during the interaction and collaboration with others, "there is, after all, an effort to adapt oneself to the external world, an effort to objectify, and, one might almost say, to depersonalize one is thought" (Piaget, 2010, p. 239). It is, in fact, a process of cognitive development.

Cognitive theorists build upon developmental perspectives by emphasizing the mental processes involved in learning, memory, and knowledge construction. They argue that for learners to retain new information and integrate it into their existing cognitive frameworks, they must engage in processes of restructuring, organizing, and elaborating on what they learn (Johnson & Johnson, 2017; Slavin, 1995). These mental operations allow students to form meaningful connections between new content and prior knowledge, which strengthens understanding and long-term retention.

In the context of language acquisition, Donato (1994) described scaffolding as the supportive structure that allows a learner to extend their abilities through social interaction with a more knowledgeable partner. He explained that in such interactions, experienced participants use language strategically to create conditions that enable novices to participate actively, gradually increasing their competence through guided engagement. This concept reflects Vygotsky's belief that learning occurs first in a social context before becoming internalized as individual understanding.

Baloche (1998) expanded on this perspective by explaining that information is retained and transferred into long-term memory through three key processes: oral rehearsal, semantic organization, and elaboration. Oral rehearsal occurs when learners repeat information aloud to reinforce memory. Semantic organization involves restructuring new material so that it fits logically within an existing framework. Elaboration takes place when students link new ideas to prior experiences, enabling deeper comprehension. These cognitive strategies are naturally fostered during cooperative learning, as students explain, clarify, and negotiate meaning with their peers.

Slavin (1995) found that cooperative learning environments are particularly effective because students who provide detailed explanations to one another often demonstrate the greatest academic gains. By verbally articulating concepts and teaching peers, learners engage in cognitive restructuring, which requires them to organize and internalize knowledge in ways that strengthen understanding. Repetition and collaborative discussion therefore transform passive learning into an active and reflective process, promoting both mastery of content and development of higher-order thinking skills.

Holding a similar point of view as the cognitive theorists, controversy theorists believe that learners participating in cooperation might be confronted with disagreements. This situation creates conflict among group members. To reach an agreement or a shared conclusion, learners need to engage in "deliberate discourse" by discussing the advantages and disadvantages of the proposed opinions (Johnson & Johnson, 2017; Johnson et al., 1994). Johnson et al. (1994) indicate that "controversy theorists suggest that being confronted with opposing points of view creates uncertainty, or conceptual conflict, which, in turn, creates a reconceptualization and an information search that results in a more refined and thoughtful conclusion" (p. 14). While reaching an agreed conclusion or action, learners reconceptualize the issue by synthesizing and integrating all parties' different information and perspectives.

### Motivational Theory

Opposed to Social interdependence and Cognitive-development theorists, Motivational theorists aim to figure out the answer to the question: "What makes the group perform better?" They focus on the impact of reinforcement or rewards on group performance. Skinner (1953) asserts that the consequences of events decide human behaviors. Desired behaviors can be maintained by positive reinforcement (reward), while unwanted actions can be avoided by negative reinforcement (punishment). Since not everyone is likely to cooperate or work with others, positive reinforcement or incentive is the key to shaping cooperative behaviors or actions in a group. Slavin (1995) also emphasizes that group performance will be promoted and motivated by some incentives, such as group rewards. This statement is affirmed by Johnson et al. (1998), who explain that "cooperative learning is designed to provide incentives for the members of a group to participate in the group's effort" (p.29). Csikszentmihalyi (2009) also confirms that, no matter what the original motivation is, people will not do or will continue to do certain activities unless they receive extrinsic rewards or unless external benefits/punishments intervene. Motivational theorists underscore the importance of positive reinforcement or incentives in promoting cooperation in group performance.

Social interdependence and cognitive development theorists consistently demonstrate that children's academic performance and cognitive growth are enhanced through collaboration with peers. While these frameworks highlight the importance of shared problem-solving and mutual dependence, motivational theorists emphasize that cooperation can also be encouraged through positive reinforcement such as praise, recognition, or rewards. Together, these perspectives suggest that cooperation is not only a cognitive and social process but also an emotional one, influenced by students' perceptions of support and acknowledgment within the group.

Beyond these theoretical perspectives, other scholars have also underscored the vital role of cooperation and interaction in human learning and development. Gardner (1993) identified interpersonal intelligence as the capacity to perceive and understand differences among individuals, including their emotions, motivations, and intentions. He argued that people with well-developed interpersonal intelligence are better able to influence and collaborate with others, making this form of intelligence a key factor in personal and professional success. In Extraordinary Minds, Gardner (1997) extended this idea by describing four forms of human extraordinariness, each grounded in different combinations of intelligences—such as musical, bodily-kinesthetic, logical-mathematical, spatial, and intrapersonal. Despite their diverse talents, these extraordinary individuals share one common strength: a refined ability to understand and connect with others through interpersonal intelligence.

Csikszentmihalyi's research complements Gardner's theories by emphasizing the evolutionary and psychological significance of cooperation. He noted that while competition plays a natural role in evolution, cooperation has consistently proven to be an essential mechanism for survival and adaptation across species (Csikszentmihalyi, 2009). In his theory of creativity, Csikszentmihalyi (1996/2013) proposed that social interaction is a crucial factor in fostering intellectual growth and creative potential. He found that opportunities for collaboration and dialogue not only enhance cognitive development but also contribute to emotional well-being. Later studies supported this connection, showing that adolescents experience greater happiness and motivation when they are socially engaged, whereas isolation often leads to apathy and sadness (Asakawa & Csikszentmihalyi, 2000).

Collectively, these theories affirm that human development, creativity, and achievement are deeply rooted in social interaction. Collaboration allows individuals to refine ideas, expand perspectives, and build emotional resilience. Whether through classroom cooperation, intellectual partnerships, or creative exchanges, interaction serves as the foundation of both individual growth and collective progress.

## Essential Components of Cooperative Learning

Cooperative Learning is never just a seat arrangement or merely asking students to sit together and work on the same project. It also never occurs when one student in the group finishes all the group work, and the others just sign their names on the group project. Johnson and Johnson (2017) explain Cooperative Learning as the action of "working together to accomplish shared goals" (p. 3). Similarly, Slavin (1994) defines *Cooperative Learning* as "an instructional method in which students work together in a small group to help each other learn" (p. 284). *Cooperative Learning* is a learning process in which children work with their peers to obtain knowledge to achieve a shared learning goal. According to Johnson and Johnson (2017), Cooperative Learning can be successful only when five essential elements are included in small group interaction: Positive Interdependence, Promotive/Face-to-Face Interaction, Individual Accountability/Personal Responsibility, Interpersonal/Small Group Collaborative Skills, and Group Processing.

## Positive Interdependence

Positive interdependence exists when learners understand that their individual success is directly tied to the success of their group members. Once this understanding is established, cooperation naturally follows, as students recognize that achieving the learning goal requires shared responsibility and mutual support. The principle "we sink or swim together" reflects the essence of cooperative learning: each member must contribute to the group's progress, assist others in overcoming challenges, and celebrate collective achievement. In this environment, the success of the group depends on the success of every participant. Researchers have identified several strategies that teachers can use to establish positive interdependence in classrooms (Bennett & Rolheiser, 2001; Johnson & Johnson, 2017; Kagan, 1994; Slavin, 1995).

Positive Goal Interdependence. This type of interdependence occurs when students realize that they can achieve their goals only if their teammates also achieve theirs. According to Bennett and Rolheiser (2001), defining a clear and meaningful group goal is a critical component of effective collaboration. Shared goals motivate students to assist one another, sustain effort, and strive collectively toward success. Group accountability strengthens motivation, promotes engagement, and results in higher levels of productivity (Johnson & Johnson, 2017; Slavin, 1995).

Positive Reward Interdependence. Under this structure, all group members receive a shared reward once the team has achieved its collective goal. For example, when every member of a group scores above a predetermined threshold on an assessment, the teacher may grant bonus points to the entire team. This shared outcome encourages students to help one another, offer explanations, and ensure that all members contribute to the group's success.

Positive Task Interdependence. Sometimes called sequential interdependence, this approach divides a learning task into multiple components, assigning each student a specific portion of the work. Each student's individual effort becomes essential to completing the overall project. When the contributions are combined, the group achieves the learning objective as a unified whole.

Positive Resource Interdependence. In this form, each student receives a unique piece of information or material necessary to complete the task. Because no individual possesses all the required information, students must collaborate, share their knowledge, and synthesize information to reach a collective understanding.

Positive Role Interdependence. Teachers may assign complementary roles, such as recorder, encourager, or accuracy checker, to ensure that every student has a clear and essential responsibility within the group. These defined roles promote accountability, balance participation, and strengthen collaboration.

In addition to these strategies, teachers may develop other structures that encourage students to rely on one another and recognize that their achievements are interconnected. When positive interdependence is cultivated, cooperation follows naturally, resulting in stronger academic outcomes, improved social relationships, and greater student engagement.

## Promotive/Face-to-face Interaction

A traditional classroom often has little to no interaction between teacher/students or students/students. In this learning environment, students take less responsibility because they must listen quietly and take notes. However, in a Cooperative Learning classroom, students are encouraged to interact with their teammates or classmates, the positive interdependence results in promotive interaction among students. In a promotive interaction scenario, group members encourage and facilitate each other's efforts to accomplish the learning task and transfer skills acquired from teachers to one's group members (Johnson & Johnson, 2017). Once teachers set the group goal, students must work together to accomplish the learning task. Importantly, however, students are likely to have off-task conversations; they could be engaged in free chatting unrelated to the learning task. Having off-task conversations can hardly help students develop their learning abilities. Hence, teachers have to make sure that students always have on-task interaction.

### Individual Accountability/ Personal Responsibility

Individual accountability is a critical component of effective cooperative learning. Putnam (1998) emphasized that when each student is held responsible for contributing to the group's success, it prevents situations in which only a few individuals complete most of the work while others benefit without contributing. In a cooperative learning environment, every group member is expected to participate actively in achieving the shared goal.

Bennett and Rolheiser (2001) explained that cooperative learning only functions effectively when students cannot hide behind the efforts of others or dominate the group's work. Productive collaboration occurs when each participant takes ownership of their portion of the task and supports others in doing the same. If one or more students neglect their responsibilities and allow others to complete the assignment alone, the process no longer represents true cooperative learning.

Thousand, Villa, and Nevin (2002) noted that cooperative structures naturally introduce additional layers of observation and accountability. When students work in teams, they not only share the workload but also monitor one another's progress and provide feedback on planning, implementation, and evaluation tasks. This interdependence fosters a sense of shared responsibility and ensures that all members contribute meaningfully to the group outcome. Through this approach, cooperative learning promotes fairness, engagement, and a collective commitment to success.

## Interpersonal/Small Group Collaborative Skills

For cooperative learning teams to function effectively, all members must work together cohesively and share responsibility for the group's success. However, disagreements and conflicts may occasionally arise, requiring students to negotiate and persuade one another to reach solutions. Collaborative skills are therefore essential, as they help transform a collection of individuals into a truly cooperative team. Not all students naturally possess or apply these skills, and some may feel hesitant to express their opinions or engage socially with peers. To ensure that cooperative learning works effectively, students should receive explicit instruction in communication, negotiation, respect for differing perspectives, and active listening (Bennett & Rolheiser, 2001; Johnson & Johnson, 2017; Slavin, 1995; Thousand, Villa, & Nevin, 2002). Teaching these social and interpersonal skills in advance supports positive interaction and creates a foundation for teamwork. Perhaps most importantly, students should learn how to manage and resolve conflict constructively. When conflict is viewed as an opportunity for dialogue, growth, and understanding, it becomes a valuable part of the learning process rather than an obstacle to collaboration.

Furthermore, they must learn how to manage their feelings to reach an agreement. Johnson and Johnson (2017) conclude that "the more socially skillful students are, and the more attention teachers pay to teaching and rewarding the use of collaborative skills, the higher the achievement that can be expected within cooperative learning groups" (p. 32). Students will start trusting their group members and communicating accurately when taught proper collaborative skills. Then, cooperation can begin, and students' learning achievement will improve.

## Group Processing

Group processing refers to the reflective stage of cooperative learning in which students analyze their behaviors, participation, and group performance to determine which actions contributed to success and which should be improved or avoided in future collaborations. Through this process, students learn to evaluate their contributions critically, identify strengths, and set goals for improvement. Bennett and Rolheiser (2001) explained that group processing involves assessing both academic and social interactions, allowing learners to recognize how their collaboration affected the group's overall progress. Without structured opportunities for reflection, cooperative groups do not develop as effectively over time, and the absence of this reflection can hinder both academic achievement and social growth.

Johnson and Johnson (2017) emphasized that group processing is essential for helping students internalize effective collaboration habits and learn from their shared experiences. It promotes accountability, self-regulation, and metacognitive awareness, enabling students to monitor their participation and make intentional adjustments to improve future performance. Slavin (1995) similarly noted that reflection and feedback within groups lead to stronger cohesion and a deeper understanding of content, as learners actively examine how their interactions influence learning outcomes.

Teachers can implement two main types of group processing: small-group processing and whole-class processing (Johnson & Johnson, 2017; Kagan, 1994). In small-group processing, students reflect together on their group's performance, discuss areas for growth, and suggest practical strategies for improvement. This form of reflection allows students to take ownership of their learning while developing communication and problem-solving skills. Whole-class processing occurs when the teacher facilitates a discussion with the entire class, providing observations on group interactions, reinforcing positive behaviors, and addressing unproductive patterns that should be modified in the future. Thousand, Villa, and Nevin (2002) highlighted that both forms of processing cultivate self-awareness and interpersonal responsibility by allowing students to evaluate their progress collectively and individually.

These reflective practices contribute directly to the overall success of cooperative learning. Johnson and Johnson (2017) identified five essential elements that must be present for cooperative learning to succeed: positive interdependence, individual accountability, promotive interaction, interpersonal and small-group skills, and group processing. Teachers should recognize the importance of these components and integrate them systematically when designing cooperative learning experiences. Adhering to these principles becomes especially valuable when the Picture Word Inductive Model (PWIM) is implemented through small cooperative groups, as it ensures that students not only develop literacy skills but also learn to collaborate effectively and reflect thoughtfully on their learning process.

## Pitfalls of Implementing Cooperative Learning in Class

As noted earlier, cooperative learning can only succeed when the five essential elements, positive interdependence, promotive face-to-face interaction, individual accountability, collaborative skills, and group processing, are consistently incorporated into each lesson. However, teachers often face challenges in implementing and maintaining these elements effectively in classroom practice (Kessler, 2004). The following issues are among the most common obstacles.

Existence of Negative Interdependence in Groups. The foundation of cooperative learning is the belief that all members of a group share a common purpose and are collectively responsible for success. Johnson and Johnson (2017) identified several strategies for promoting positive interdependence, including shared materials, interdependent information, and common goals. However, as Kessler (2004) observed, it can be difficult to ensure that students who are accustomed to traditional competitive or individualistic learning environments fully embrace cooperation and mutual support. When group members fail to adopt a cooperative mindset, negative interdependence can arise, leading to disengagement or conflict.

The Free-Rider Effect. When cooperative activities are poorly structured, one or two students may assume most of the responsibility while others contribute minimally. This imbalance, known as the free-rider effect, undermines both fairness and learning outcomes. Slavin (1995) explained that this problem is most likely to occur when groups are assigned a single product, such as a report or project, which can allow some members to rely on others' efforts. Baloche (1998) added that cooperative learning should never be viewed as an opportunity for students to reduce their effort or rely on teammates to complete the work. Effective cooperative learning depends on each student contributing their best effort, recognizing that the group's success depends on the engagement and accountability of every member.

Off-Task Interaction. Another challenge arises when students engage in conversations unrelated to the task at hand. Johnson et al. (1994) described cooperative learning as a dynamic process of interaction and verbal exchange among students. However, as Pate-Clevenger et al. (2008) noted, maintaining focus can be difficult, and off-task discussions may interfere with learning. Teachers can address this issue by actively monitoring groups, providing timely feedback, and reinforcing expectations for purposeful communication. Classroom mobility and frequent check-ins help sustain engagement, but they also require careful balance so that teachers can effectively oversee multiple groups at once.

Assessment of Group Work. Evaluating student performance in cooperative learning environments is one of the most persistent challenges. Johnson and Johnson (2017) proposed several approaches to assessing group work, but some methods raise concerns about fairness. For instance, assigning a single group grade may not accurately reflect individual contributions, since all members receive the same score regardless of effort or performance. Kagan and Kagan (1998) argued that group grades violate the principle of individual accountability, as two students with identical abilities and work ethic could receive different grades depending on their teammates' performance. Similarly, evaluating only one member's work at random can generate frustration and tension within groups (Vermette, 1998). To ensure fairness, assessments should include both group and individual components that reflect collaboration, effort, and personal achievement.

These challenges demonstrate that while cooperative learning has strong theoretical and empirical support, its successful implementation requires thoughtful planning, structure, and reflection. Teachers must anticipate these potential obstacles and use evidence-based strategies to maintain the five essential elements of cooperative learning. Doing so ensures that cooperation remains productive, equitable, and conducive to both academic and social growth.

## Effectiveness of Cooperative Learning Approach in the Classroom

Research findings show that, when properly implemented, Cooperative Learning is effective in improving both learners' academic performance and their affective attitude toward learning. For example, the results of the research done by Yang and Liu (2005) show that cooperative learning helped thirty-one elementary school students master computer skills and positively impacted attitudes toward learning and group interaction.

Similarly, Ghaith's study (2003) concludes that fifty-six English Foreign Language Learners high school learners' English reading achievement was significantly promoted after ten weeks of instruction using the Cooperative Learning model in class. In an experiment conducted by Johnson, Johnson, and Taylor (1993), thirty-four high-ability students were assigned to either a cooperative or individualistic learning environment. They were taught the same science lessons in six 55-minute instructional sessions. The research findings reveal that high-ability learners in a cooperative learning environment perform better than their counterparts in an individualistic learning situation on recall and higher levels of reasoning measures. Wilson-Jones and Caston (2004) interviewed 16 African American grade three male students to investigate the effect of Cooperative Learning on learners' academic success. The interview results show that cooperative learning significantly enhances students' desire to learn and eventually promotes these participants' academic achievement.

A substantial body of research demonstrates that cooperative learning significantly enhances students' literacy development. Huebner (2009) synthesized numerous studies on English language learners and concluded that small-group instruction leads to sustained improvement in student achievement, particularly when instruction emphasizes explicit and interactive literacy teaching. Similarly, Larson (2009) found that when students collaborated to discuss literature, they formed communities of inquiry in which varied prompts and perspectives encouraged deeper analysis and appreciation of diverse viewpoints. These findings suggest that cooperative learning environments promote active engagement, critical discussion, and respect for multiple perspectives, all of which enrich students' literacy experiences.

Whisnant (2006) investigated instructional strategies for improving literacy among Hispanic English learners in elementary schools and found that teachers identified cooperative learning as one of the most effective methods for increasing literacy success. Morrow et al. (1997) obtained similar results in a study of students in grades one through three, reporting that those taught through cooperative literacy programs outperformed their peers in reading comprehension, storytelling, and rewriting tasks. In a related study, Rojas-Drummond, Hernandez, Velez, and Villagran (1998) demonstrated that cooperative learning fosters the development of self-regulatory strategies essential for functional literacy, such as comprehending and producing text independently. These studies collectively underscore that collaboration helps students become more autonomous readers and writers by providing consistent opportunities for meaningful interaction and shared reflection.

Jacob et al. (1996) further confirmed that cooperative learning offers learners multiple opportunities to acquire academic English through mutual assistance and peer feedback. They found that students engaged in collaborative tasks developed stronger lexical and conceptual understanding, which they applied in both individual and group contexts. Similarly, Ortiz, Johnson, and Johnson (2017) examined the influence of positive goal and resource interdependence on individual performance and discovered that students working under conditions of positive interdependence performed significantly better than those in independent learning environments. In addition, Nevin, Polewski, and Skieber (1984) demonstrated that cooperative learning strategies improved the mathematical performance of low-achieving tenth-grade students and strengthened their positive interactions with peers.

Together, these findings provide compelling evidence that cooperative learning enhances literacy and overall academic performance across diverse age groups and learning contexts. By emphasizing shared goals, structured interaction, and positive interdependence, cooperative learning enables students to construct meaning collaboratively, develop critical thinking skills, and cultivate the social competencies necessary for lifelong learning.

Besides the positive effect on learners' academic performance, the Cooperative Learning approach has also been effective in promoting students' relationships with their peers. The study done by Johnson and Johnson (2017) indicates that interpersonal attraction, social acceptability, and self-esteem between disabled and non-disabled students are positively promoted when cooperative learning strategies are used continually. The findings of the experiment conducted by Ellison, Boykin, Tyler, and Dilihunt (2005) investigating learners' learning preferences show that most elementary school students prefer cooperative learning to competitive and individualistic learning. Roseth, Johnson, and Johnson (2017) also conducted research that showed that more positive peer relationships happen in cooperative rather than competitive or individualistic settings. Cooperative Learning strategies make use of students' different ethnic backgrounds and varying levels of abilities to enhance intergroup relations (Slavin, 1995).

Several studies also report that students are highly motivated toward learning and willing to put more effort into accomplishing learning tasks when working in groups. Luo (1998) conducted a self-report survey, showing that cooperative learning may significantly reduce students' anxiety and motivate them to learn English. The findings of the research done by Yang and Liu (2005) hold a positive view of integrating Cooperative Learning strategies in computer curricula because they help promote students' learning attitude toward mastery of computer competence and skills. Shaaban (2006) concludes that students in a cooperative learning environment were highly motivated to read, and their perception of the value of reading was also improved. In addition, the research done by Ciani et al. (2008) further affirms that students tend to be more motivated to perform learning tasks when they realize that their peers are committed to the group and willing to contribute to their accountability.

### Implementing Change in Educational Settings

The focus of this research is to bring about a change in the current English teaching in Southwest Kansas elementary schools by initiating a new way of literacy teaching and then ascertaining perspectives from the participating teachers and students on this proposed approach. In the early 1960s, carrying out literacy experiments in which illiterate Brazilian adult workers were taught to read and write, Freire experienced the obstacles of implementing innovations and realized that people could prepare and participate in programs to change society (Shor & Freire, 1987). Freire (2017) begins *Pedagogy of Indignation* by discussing the inevitability of change and pointing out that 'change' is indispensable to a culture or history.

Human beings can become active participants in the world only when they recognize their responsibility to engage with it, influence it, and work to transform it for the better. Education serves as the most powerful means for fostering this engagement. Freire's philosophy emphasizes that education is not a passive act of transferring knowledge but an active process of transformation. Similarly, Benjamin's (1939/2004) Saber-Tooth Curriculum, a satirical reflection on outdated educational practices of the 1930s, underscores the necessity for education to evolve as society evolves. The satire remains relevant today, reminding educators that curriculum design must go beyond teachers' personal experience or tradition and instead focus on equipping students with the knowledge, skills, and adaptability necessary to succeed in an ever-changing world.

Unfortunately, as described in Chapter One, many teachers in Southwestern Kansas continue to resist such transformation. Like the "Paleolithic professors" in Benjamin's satire, they may adopt new materials or textbooks but continue to rely on traditional, teacher-centered methods. True reform requires more than the superficial addition of new resources; it demands a shift in mindset and practice. The Ethical Standards for Teachers (n.d.), established by the Board of Teacher Registration in Queensland, stress the importance of continuous professional growth. Teachers have a professional and moral obligation to engage in lifelong learning and to continually refine their pedagogical approaches. Without such renewal, educators risk allowing their instruction to become as outdated as the "saber-tooth" curriculum that Benjamin critiqued. Remaining open to change and maintaining enthusiasm for improvement are therefore essential qualities of effective educators.

Freire's perspective on change reinforces this idea. Speaking at a 1997 conference, he reminded educators that transformation, while difficult, is both possible and necessary. Freire (2017) argued that what distinguishes human beings from other species is their ability to recognize potential and to work collectively to realize it. He described change as a slow and ongoing process that cannot occur through a single act or declaration but rather through sustained effort and reflection. Freire et al. (2007) further explained that transformation emerges through human interaction, communication, and the shared construction of meaning. Although change is never effortless and often constrained by social and institutional forces, it remains an attainable and essential pursuit. For Freire, authentic education is inseparable from this process because learning itself represents both the recognition of what can be transformed and the collective effort to make that transformation real.

Change implies growth and improvement; that said, change also brings up resistance: "a slow-motion response to meet agreements or even a complete refusal to cooperate with change" (O'Connor, 1993, p. 30). As an old saying goes, "Old habits die hard." Interestingly, even though people are aware of the benefits of innovation, they still have doubts about change and are unwilling to take action. In a school setting, teachers may believe that change in an educational practice might benefit students in their learning and intellectual growth, yet will still cling to their existing practice. Given that this doctoral research initiates a new way of literacy teaching in elementary schools in Southwestern Kansas, the participating teachers' fear of and resistance to changing their current approaches are expected and understandable.

## Reasons for Resistance to Change

As discussed in the previous chapter, many teachers tend to be conservative toward change, valuing stability and familiar routines over uncertainty and innovation. This tendency often influences how they respond to new instructional methods or educational reforms. Evans (1996) observed that although people understand that adaptation is necessary and may even wish for improvement in certain circumstances, they generally hold tightly to established patterns and resist disruption. Building on Marris's (1986) work, Evans explained that resistance to change is a universal human experience. Whether the change is planned or unexpected, personal or professional, it typically provokes ambivalence, hesitation, and anxiety.

Evans (1996) further noted that change, regardless of its nature, alters familiar patterns, introduces new roles and relationships, and challenges individuals' sense of security. This uncertainty often explains why educators struggle to implement new ideas. Within school systems, policies or instructional innovations are particularly difficult to introduce when teachers fear losing control, authority, or stability in their classrooms. Such fears can manifest as reluctance to adjust teaching strategies or skepticism toward novel approaches.

Shor (1987), in conversation with Freire, described how this apprehension extends to pedagogical reform. He observed that many teachers fear professional or institutional consequences when adopting liberatory or student-centered pedagogies that challenge traditional norms. Some educators worry that embracing transformative education may be perceived as oppositional or risky within hierarchical institutions. This fear reinforces a cycle in which teachers rely on established methods, even when they recognize the need for change.

Understanding this resistance is critical because it underscores the importance of supporting teachers through professional development, collaborative reflection, and safe environments for experimentation. As Freire's dialogic model suggests, meaningful educational transformation occurs only when educators themselves are empowered to question, adapt, and grow. Encouraging openness to change is therefore essential to cultivating classrooms that model critical thinking, creativity, and lifelong learning.

That said, resistance to change provides teachers or school authorities who are planning to implement change in educational settings with essential issues to consider. To make the change happen, people should realize why they resist change. Specifically, resistance to change might arouse the fear of loss and incompetence and also create uncertainty and conflict in either individuals or organizations (Evans, 1996; Hall & Hord, 2006; O'Connor, 1993). Appropriate interventions are required to reduce those concerns and resistance toward implementing change.

First, change and conflict are inevitable and are relentless and constant parts of life. Certainly, most people seem to be content with stability and the status quo. They are inherently conservative with respect to change and tend to resist different and new environments because an adjustment needs effort, which always comes with pain and discomfort. The anticipated pain of the transition seems to be more immediate than the distant destination that is supposed to be desirable. Change is always uncomfortable and stressful because getting used to the new takes time and effort. Evans (1996) reveals that "it is now axiomatic that the greater the degree of change one faces the more likely one is to develop physical or psychological symptoms of stress (p. 27). In this case, people are likely to sabotage the effort to change actively to avoid discomfort or stress. O'Connor (1993) points out that 'the Saboteur' will undermine change while pretending to support it. Some are motivated simply by a wish to minimize disruption and discomfort. They believe the initiative will go away by verbally supporting the change and then doing nothing. Others have a more sinister motive. These individuals intend to sabotage the company or an individual's plans for their own gain. (p. 32).

People often resist change because it creates discomfort and uncertainty. Adjusting to a new policy or environment requires a transition period that may feel unsettling or difficult, even though such adjustment is both inevitable and necessary for growth. Hall and Hord (2006) observed that while change can be painful, the process does not have to be negative if it is properly supported. When guided effectively, change can become engaging and even enjoyable. However, it is natural for individuals to experience frustration or grief over what is lost in the process. For this reason, change facilitators must help minimize discomfort and provide reassurance and structure to assist those who struggle to adapt.

Another source of resistance is the sense of loss that often accompanies change. Teachers who are comfortable with established routines may perceive new practices as a threat to their stability or competence. Evans (1996) explained that when change occurs, familiar systems lose meaning, continuity is disrupted, and individuals may feel that their security has been shaken. This disruption can make it difficult for educators to cope with new expectations, leading them to avoid or reject the change altogether.

Age and experience can also influence the degree of resistance. Evans (1996) noted that as people grow older, they accumulate more experiences that shape their identity and worldview.

Because these experiences become deeply integrated into their sense of self, altering them can feel like a personal loss. This helps explain why older adults often find it harder to give up long-held habits or possessions, even when others see little value in them. Similarly, in educational settings, experienced teachers may resist new policies or instructional strategies because they fear that change could undermine their professional identity, authority, or confidence in the classroom. Understanding this dynamic is essential for implementing reform in a way that honors teachers' expertise while guiding them toward innovation.

A third reason individuals resist change is that it often challenges their sense of competence. Implementing a new policy or innovation can make experienced professionals feel uncertain about their ability to perform effectively. O'Connor (1993) observed that resistance is not always rooted in stubbornness or opposition but sometimes in genuine concern for maintaining success and stability within an organization. Many teachers, for example, have spent years refining their instructional methods. They know their routines, understand their responsibilities, and feel confident in their performance. Although these teachers may no longer find their methods stimulating, they continue to rely on them because familiarity ensures a sense of mastery and control.

When educators are asked to adopt new instructional practices or to teach in unfamiliar ways, their confidence can be shaken by the fear of failure. Evans (1996) explained that changes to established procedures can make individuals feel inadequate or insecure, particularly when they have performed their work successfully in the same manner for many years. This reaction does not necessarily reflect a lack of skill but rather the natural discomfort that occurs when expertise is redefined. Even when administrators introduce a new method without criticism of prior practices, the very act of endorsing a different approach can imply that previous methods are outdated.

Evans (1996) further noted that professionals construct a strong occupational identity based on the accumulated wisdom of personal experience, mentorship, and collective learning within their field. When change is introduced, that identity may feel devalued or threatened, as if years of experience no longer carry the same meaning. This perceived loss of competence can provoke anxiety and self-doubt, leading educators to cling more tightly to familiar routines. Understanding this reaction is crucial for those leading change in education, as it highlights the need for empathy, reassurance, and professional development that validates teachers' existing expertise while supporting them in developing new skills.

The quotation states that most people, especially teachers, are hesitant about changing or adopting something new because change may threaten their confidence and may appear to devalue their competence. Most teachers, especially seniors, are confident in their teaching methods, resulting from a combination of wisdom and years of experience. Innovations and change then sound like indirect negative criticisms of their competence. Senior teachers are hard to convince and more likely to resist any change.

A fourth reason individuals resist change is the uncertainty that accompanies it. Hall and Hord (2006) explained that resistance often arises from doubts about whether new practices will genuinely lead to improvement. These doubts may stem from limited understanding of the innovation or from legitimate concerns based on evidence and prior experience. People may recognize the potential benefits of change, yet uncertainty about the outcome can make them hesitant to commit fully. When individuals cannot predict whether a new initiative will succeed or fail, they tend to cling to familiar routines that feel more reliable and less risky.

Evans (1996), drawing on Bolman and Deal's (1991) analysis, described how uncertainty during transitions can disrupt the stability of established systems. As change unfolds, employees may feel unclear about their roles, their relationships with others, and the distribution of authority. This ambiguity often replaces the clarity and predictability that people rely on in their daily work. As a result, individuals can feel disoriented and perceive a loss of control, sometimes believing that informal influences or institutional politics rather than transparent policies now guide decisions. Such perceptions of instability heighten anxiety and further strengthen resistance to change.

Recognizing and addressing this uncertainty is essential for leaders guiding educational reform. Providing clear communication, structured support, and consistent feedback can help teachers regain a sense of direction and confidence. When educators understand the purpose, process, and expected outcomes of a new initiative, they are more likely to engage actively and view the change as an opportunity for growth rather than a source of confusion or threat.

Most people seem to be used to their own routines and that they are content with the status quo; they do the things that are meaningful to them. However, when they are required to change and do something entirely different, questions and doubts might be raised, leading them to lose the directions they used to follow and become confused and distressed. Although the plans for change might sound wonderful and beneficial, people, without proper instructions or guidance, are mostly left wondering what they need to do. So, change mostly arouses doubt and uncertainty, leading to distress and upset.

Finally, change often leads to conflict. Although reformers typically view innovation as beneficial for everyone involved, those affected by it may experience tension or disagreement during implementation. Differences in perspective between administrators and teachers can create friction, particularly when educators feel that new policies have been imposed without adequate consultation. O'Connor (1993) noted that some employees resist change not out of self-interest but because they genuinely believe their opposition protects the organization from poor decisions. These individuals, often described as "protesters," highlight the need for reformers to listen carefully to concerns rather than dismiss them as simple resistance.

Evans (1996) emphasized that conflict is an almost inevitable part of the change process because it initially produces both perceived winners and losers. Teachers may view new initiatives as disruptions that complicate their classroom routines, while administrators may see them as opportunities for improvement. This divergence in perspective is often intensified in schools with a history of mistrust between faculty and leadership. When teachers perceive that reforms are introduced primarily to serve administrative interests, their skepticism grows, further straining professional relationships.

Evans (1996) also warned that ignoring or suppressing these conflicts can undermine the success of reform efforts. When genuine disagreements are dismissed or hidden, they do not disappear; rather, they resurface later in ways that can increase division and resistance. Productive change requires open dialogue in which differing viewpoints are acknowledged and addressed. By confronting tension directly and constructively, school leaders can transform conflict into collaboration and ensure that innovation strengthens rather than fractures the educational community.

### Stages of 'Concerns' about Change in the Concerns-Based Adoption Model

People tend to have specific concerns when encountering the challenges of change and alteration. Given that the proposed teaching approach in this doctoral research is the first to be introduced in elementary schools in Southwest Kansas, the participating teachers will inevitably have worries and concerns about implementing the new teaching method in their classes. Hall and Hord's (2006) Concerns-Based Adoption Model is applied in this research to analyze the teachers' concerns and their levels of use. Hall, George, and Rutherford (1979) define *concern* as "the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task" (as cited in Hall & Hord, 2006). Depending on their knowledge, background, and expertise, individuals may experience different levels or natures of concern. Those concerns might have an impact on people's behaviors positively and then spontaneously help them become successful in the use of innovations. Contrarily, concerns might also affect people negatively and lead them to resist change. Analyzing her student teachers' concerns about an introductory course on educational psychology, Frances Fuller (1969) proposed that individuals' concerns would move through four different levels (unrelated, self, task, and impact) and subsequently concluded that people's background and experience have a significant effect on their levels of concern (as mentioned in Hall & Hord, 2006).

According to Fuller's hypothesis, those student teachers with no direct teaching experience are likely to have *unrelated concerns*, which are more about themselves as a student rather than a teacher. *Self concerns* tend to appear when student teachers just start their teaching. On this level, the student teachers have concerns related to teaching, mainly focusing on themselves rather than on the act of teaching or the needs of children. That said, task concerns soon materialize when teaching becomes part of the student teachers' lives. At this point, student teachers are mainly concerned about teaching itself, from grading to lecturing in class. The last level is *impact concerns*. When reaching this level, the concerns primarily focus on the relationship between teachers and students. At this stage, teachers aim to know how to improve their teaching, satisfy students' various needs, and help children learn better and more effectively.

Hall and Hord (2006) observed that individuals tend to experience similar types of concerns when navigating innovation or organizational change. Building on Fuller's (1969) original three categories of teacher concerns, self, task, and impact, they expanded the framework into seven progressive stages of concern that reflect how people think and feel as change unfolds. These stages provide valuable insight into the psychological and professional transitions educators experience when adopting new instructional approaches.

The first stage, *Awareness*, corresponds to Fuller's "unrelated" concern. During this phase, individuals have been informed of the innovation but show little personal interest or engagement with it. They may acknowledge that change is occurring but remain indifferent to how it might affect them or their professional practice. At this stage, educators typically do not consider whether the innovation could benefit their teaching or their students (Hall & Hord, 2006).

Next are two *Self-Concern* stages: *Informational* and *Personal*. At the *Informational* stage, individuals begin to show curiosity about the innovation and seek details about its purpose, procedures, and potential outcomes. In an educational context, teachers might wonder how the new approach will influence student learning or how it can be integrated into existing lessons (Hall & Hord, 2015). The *Personal* stage reflects a deeper, more introspective concern. Here, individuals question their own ability to implement the innovation successfully. Teachers may worry about whether they possess the necessary skills, whether they can meet expectations, or whether the change will disrupt their established competence and professional identity (Hall & Hord, 2020).

The next stage, *Management*, extends Fuller's task concerns. During this period, individuals focus primarily on the logistical aspects of implementation. Their attention centers on organizing resources, developing efficient routines, and managing time effectively to make the innovation work in practice. Teachers in this stage might concentrate on lesson planning, scheduling, and ensuring they have the materials or administrative support necessary to carry out the new instructional strategy (Hall & Hord, 2015).

Hall and Hord (2006) further divided Fuller's impact concerns into three advanced stages: *Consequence, Collaboration*, and *Refocusing*. At the *Consequence* stage, individuals shift their attention from themselves to the impact of the innovation on students or clients. In schools, this means teachers begin to evaluate how the change affects learning outcomes, student engagement, and classroom performance. During the *Collaboration* stage, educators seek to exchange insights and strategies with colleagues. The focus moves beyond individual implementation toward professional dialogue, teamwork, and shared reflection about what works best in practice. This cooperative inquiry helps teachers refine their understanding of the innovation by comparing approaches and outcomes with peers (Hall & Hord, 2011).

The final stage, *Refocusing*, occurs when individuals have mastered the innovation and start exploring ways to improve it or adapt it further. At this stage, teachers may consider alternative approaches or modifications that could enhance the innovation's effectiveness. This level of concern reflects a high degree of professional maturity and confidence, as individuals are no longer simply implementing the change but actively seeking to refine or reinvent it (Hall & Hord, 2020).

According to Hall and Hord (2006), the first three stages (*Awareness, Informational,* and *Personal*) primarily focus on the individual's relationship to the innovation. The middle stage, Management, emphasizes the practical aspects of implementation. The final three stages (*Consequence, Collaboration,* and *Refocusing*) shift attention toward the innovation's broader impact on others. The progression of these concerns does not always occur in a straight line. Individuals may experience multiple types of concerns simultaneously or revert to earlier stages if change is poorly managed or inadequately supported. For example, novice teachers might remain preoccupied with self-concerns such as survival and confidence, while more experienced teachers may focus on both management issues and the effects of change on student learning (Fuller, 1969; Hall & Hord, 2006).

Ultimately, the Concerns-Based Adoption Model developed by Hall and Hord provides a valuable framework for understanding how educators respond to innovation. When school leaders recognize and address these different stages of concern, they are better equipped to facilitate successful implementation, reduce resistance, and support lasting improvement in teaching and learning.

**Levels of 'Use' of the Innovations and Its Application in Education**

Change is unlikely to happen quickly or easily; on the contrary, it is a complicated process that can only be achieved through a series of continuous actions and effort. Since the participating teachers are introduced to this new teaching approach for the first time, they will surely take time to adjust to change and move from nonusers to users. Hall and Hord (2006) comment that change is definitely not a singular event but an ongoing process "through which people and organizations move as they gradually come to understand and become skilled and competent in the use of new ways" (p. 4). Similarly, Evans (1996) also mentions that, although being resistant is typical human behavior, people do change, but "most of these changes are slow, incremental, often barely perceptible; they are rarely rapid, formal, or overt – and they are rarely sought" (p. 25). As discussed in a previous section, people will experience different stages of concern when changes or innovations are introduced and implemented. At the same time, they also will go through different use levels. To clarify, stages of concern focus on the emotional and affective side of change, whereas levels of use mainly deal with individuals' behaviors when change occurs (Hall & Hord, 2006).

According to Hall and Hord (2006), when innovations are implemented, people will exhibit different behaviors and actions when dealing with the change. It also takes time for the individual to switch from nonusers to users. Nonusers can be categorized into *nonuse*, *orientation*, and *preparation*. When the users have no or little knowledge about the innovations, have no intention of being involved in the change, or do not take any action to move forward with the innovation, they are at the level of *nonuse*. After acquiring information and knowledge related to the innovation, the users move to the stage of *orientation*. At this level, even though they are not making any major decision about whether they are going to implement the change, the implementers are moving toward it and taking action to learn and analyze the value and benefits of the innovation for themselves and the system, by joining information sessions, examining printed materials, or discussing the innovation with co-workers. Once potential users have decided to apply the newly proposed program or innovation, they reach the level of *preparation*. Although use has not yet started, individuals intend to use the innovation and prepare themselves for the first time by getting the materials or appliances needed to implement the change.

After people start to apply the new proposed program in their workplace, classroom, or other setting, they are considered to be users of the innovation. Depending on degrees, use can be divided into four different levels: *Mechanical*, *Routine/Refinement*, *Integration*, and *Renewal*.

That said, not every person will follow through the complete sequence of those levels of use; people might skip one or two levels and then move on to the next level. In addition, the levels of use are also not a straight-line hierarchy; in fact, each level of use is independent of the other.

When the users are actively involved in innovation in their workplace, they reach the level of *mechanical* use. At this level, people are trying to master the use of the innovation and are also endeavoring to make it work effectively in their workplace by planning in advance, adapting the materials, and becoming familiar with the procedures of the change. After using the innovation for a sufficient period of time, the implementers may reach the next level: *Routine*or *Refinement*. At the level of *Routine* or *Refinement*, the users have already mastered the use of the innovation and usually do not need to spend much time planning the procedures in advance.

Nevertheless, the distinction between the level of *routine and* that of *Refinement* is the stabilization of the implementation. At the level of *Routine* use, people are comfortable with how they are doing things and tend not to make any adaptations or changes in their use of the innovation. In other words, they have established a regular and stable way of using the innovation. On the other hand, when they have reached the level of *Refinement* use, they not only master the innovation procedures but also tend to make some adaptations to meet the client's needs. At this level, the users will begin to reflect on and assess the use of the innovation to see whether or not it works well to benefit the clients. The benefits to the clients are the main concern for the users at this level and are the prime motivation in deciding if any change is necessary.

In order to reach the level of *Integration* use, cooperation is the key. At this level, actions are taken, and adaptations are made to use innovation through the collaboration between two or more users. In order to benefit the clients or students in a school setting, two implementers or more will share their thoughts and then cooperate with each other to carry out the adaptations in their use of the innovation. At this level, no significant or major change to or adaptation of the use of the innovation itself exists. The last level of use is *Renewal*. Similar to the level of *Integration* use, change, and adaptations are involved in the level of *Renewal* use. At this level, the users seek means or methods to modify or even replace the innovation significantly. A change can be a major one or a combination of small adaptations that lead to a significant change. No matter what changes are made, the intention is based on the potential benefits for clients.

In summary, both Stages of Concern and Levels of Use need to be considered when change or innovation occurs in the workplace. As discussed earlier, Stages of Concern are based on the implementers' psychological state, whereas Levels of Use are noticeable behaviors exhibited when there are massive changes. Given that this research deals with the implementation of a considerably new teaching approach in Southwestern Kansas, both the psychological feelings and overt behaviors of participants are presented and analyzed.

## Study methodology

The study will apply a qualitative research design to explore the efficacy of picture-word reading interventions for students learning English as their second language in Horizon City, Kansas. Kothari (2004) states that qualitative research design utilizes people's opinions, feelings, and positions on the phenomenon under study to draw inferences about the issues being studied. The study will use secondary data sources, including academic journals, educational websites, and books, to explore this issue. The cognitive theory of multimedia learning, behavioral learning theory, and empirical studies will be used to define the efficacy of the picture-word intervention in helping students develop a solid understanding and retention of what they read.

The study will include an introduction, background review, research objectives, research questions, methodology, literature review, discussion, recommendations, and conclusion.

## The cognitive learning theory

The cognitive learning theory focuses on the mental processes involved in learning, gaining knowledge, interpreting information, and responding appropriately. Studies suggest that it involves the internal operation of the mind, perceiving stimuli, processing information, and responding accordingly (Roussel et al., 2017; Sun, 2013). Jean Piaget advanced the cognitive learning theory, refuting the claim that learners are passive and merely respond to stimuli in their surroundings (Padgett, 2020). The theory describes how the mind functions in the learning process. According to Padgett (2020), "like a computer, the mind takes in information, processes that information, and then uses that information to produce learning outcomes" (par.5).

Applying this theory in picture-word reading interventions is crucial for understanding how pictures enhance students' minds and effectively develop their curiosity in making unprecedented meanings of the text. The theory provides a framework for students to gauge their effectiveness in interpreting messages presented via pictures and words during reading. Studies posit that the cognitive learning theory helps students learn and analyze the finer details of the learning processes in the classroom (Roussel et al., 2017; Sun, 2013). The mental learning process, especially when effectively working, helps students understand the concepts being taught in books easily and quickly. This theory can help teachers learn more about their students and nurture their cognitive development by introducing more books with pictures and training them to interpret these images. Therefore, according to these studies, cognitive theory is critical in building a reading culture that integrates picture-word reading programs, helping students develop a thoughtful and reflective understanding of the text and message of the book.

## The behavioral learning theory

It was a theory developed by BF. Skinner where he argued that behaviors are influenced by learners' environment (Reimann 2018). The theory focuses on the management behavior of students in the classroom. Padgett (2020) suggests that in behavioral learning, "educators still utilize rote practice and repetition: two practices that are linked to Behaviorist Theory"(par.1). The theory reveals that the behavior of students is developed in two ways: by rewarding and punishment. Rewarding encourages repetitive behavior of desired outcomes, while punishment discourages the repetition of the behavior. Teachers can introduce rewards in the picture-word reading in the classroom. This way, the students can effectively understand interpreting pictures alongside the text when they are reading.

## Inquiry-Based Learning (IBL)

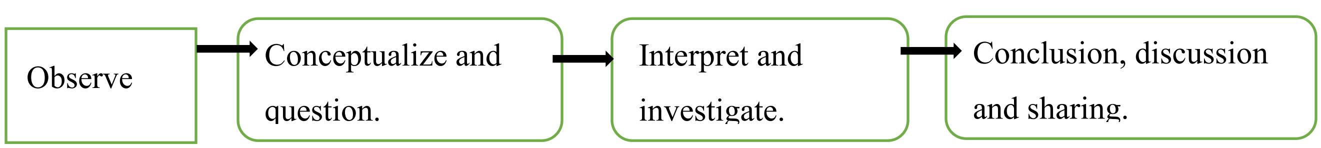
Studies associate Inquiry-Based Learning (IBL) with literacy information, describing IBL as a method that develops students' curiosity to learn more about something through scientific means (Katan & Baarts, 2021; Julien et al., 2018). According to Julien, Gross, and Latham (2018), literacy information enables students to identify, comprehend, interpret, create, disseminate, and use information ethically. These definitions establish the basis and framework for using pictures and words to read and write materials, which are crucial for students' problem-solving skills and mental growth. IBL combines students' inquisitiveness and the scientific method, with picture-word reading acting as a catalyst for enhancing the development of critical thinking skills (Bauld, 2022). Students need to develop solid skills to link and interpret pictures with text appropriately, leading to a robust understanding of the information. Therefore, connecting picture-word intervention with IBL is pivotal in creating a teaching pedagogy that enhances information literacy among students, helping them comprehend and retain the information they read in textbooks.

### Components of IBL essential to picture-word reading intervention

Observation is a critical component of IBL, especially when students are reading textbooks with pictures. Studies show that when students read a book with text accompanied by pictures, they can observe the text and images together (Katan & Baarts, 2021; Jian, 2018; Boerma et al., 2016). According to these studies, students can then ask themselves questions about the text and the image, forming a meaning where the picture and the word complement each other to achieve the intended purpose. Studies by Korda (2016), Crockett (2023), and Bauld (2022) agree that students investigate the relationship between the picture and the word, creating a thoughtful meaning from their association. These studies also posit that students rely on teachers, tutors, or professors to guide the interpretation of the text. At this level of thinking, students make informed decisions because, with the tutor's help, they have already developed the intended meaning and can now share their findings as they decode the information.

The key components of IBL essential to picture-word reading intervention can be summarized into:

**Figure 2. 1. Author's observations**




The study concludes that research inquiry learning helps students deepen their understanding of topics because they actively work on them rather than being provided with answers by their teachers. This approach allows students to grasp and recall what they have learned more effectively.

Studies have discerned that reading a book with pictures creates a thoughtful impression, helping students develop a salient understanding of the text and its message in a very informal way (Strauber et al., 2020; Susanti, 2021; Triacca, 2017). According to Wardini, Megawati, and Astutik (2021), teaching reading is a process “performed to make the students able to understand the text and interpret the information appropriately” (p.165). Presenting book text with pictures arouses students' curiosity and enhances their reading capability. Triacca (2017) agrees, stating that pictures in a book complement the words, making it a salient way to teach and learn a foreign language. The study also concurs with previous research, showing that pictures offer students a better interpretation of the text they are reading.

## Primary Agents of Change

There are three primary agents of change when it comes to using inquiry-based learning: students, teachers, and administrators.

The first primary agent is the students because they must be willing to engage in their education actively. Students play a crucial role in shifting the curriculum to inquiry-based learning by generating hypotheses, collecting data, testing their hypotheses, drawing conclusions, and sharing their findings with their teachers (Pressley & McCormick, 1995). This component aligns with Dewey's (1916) belief that learning begins with the students' curiosity and experiences. By using a student-centered inquiry-based approach, students make personal and meaningful connections to the world around them before mastering specific content areas.

The second primary agent of change is the teachers, who must create an environment where students can investigate, find solutions, and feel safe making mistakes. Teachers are equal partners with students, designing lessons that generate curiosity and providing opportunities for students to learn both content and process simultaneously (Combs, 1990). This allows students to play an active role in their learning. However, this commitment is challenging, especially since there is limited curriculum available for this teaching method. Teachers must be adaptable and innovative in their approach to facilitate inquiry-based learning effectively.

The third primary agent is the administrators. For an inquiry-based curriculum to be designed and implemented in the classroom, teachers need active support from administrators. Administrators must grant teachers and students the permission and flexibility to explore students' interests and teach standards in ways that make the most sense. This support helps students make connections with the world around them and enhances the overall learning experience (Dewey, 1916). Administrators play a vital role in creating a supportive environment that encourages inquiry-based learning and allows teachers to innovate and adapt their teaching methods to meet the needs of their students.

## Discussion and synthesis of the literature review

The study sought to develop a profound understanding of the picture-word reading intervention that helps students make meaningful. Also, establish the extent to which picture-word reading interventions help students improve their comprehension retention. The study explores, in addition, the factors that affect the picture-word intervention programs to the students. The literature review has underpinned the unprecedented issues and critical factors in the realm of this intervention program.

### To what extent does the picture-word reading intervention enhance the students understanding?

The study literature findings indicate that picture-word intervention programs are essential to students as they build their cognitive processes and functions. Study findings have corroborated that picture-word reading makes students conceptualize the concept under discussion. The study findings also discern that student, when observing a picture, help them develop a solid comprehension as the photographs illustrate the issues. Based on the inquiry-based learning model, observing, questioning, interpreting, resonating, and making inferences make the students robust comprehension of the issues illustrated in the text by pictures. The study findings are vital to informing the students that reading and interpreting the images enhance their understanding of the information they are reading. As an educator, I will invariably include picture-word intervention in my class to develop observation skills and interpret textual words and pictures by creating a more extensive perspective of their understanding of the authors' intended book meaning during the reading session. I resonate that this picture-word intervention program enhances the understanding capability of the reading.

The cognitive learning theory helps provide the basis of the argument in the picture-word intervention programs as they offer a framework for conceptualizing the program's effectiveness. The theory emphasizes the significance of learners building resiliency in developing their understanding of what they are reading in the text. Reading a book with a picture motivates students to develop a salient interpretation of the concepts. It encourages the culture of the discussion that leads to sharing information, hence building their form comprehension. The behavioral learning theory makes the behavior management of the concepts in the process.

**To what extent does the use of Picture Word reading interventions help students improve their Comprehension retention?**

Study findings confirm that picture-word reading helps students deepen their understanding since they read texts and what they see using pictures. This reading style enables students with difficulties reading and understanding texts using images, broadening their comprehension of class materials. According to the study findings, picture-word reading improves information comprehension hence information retention, which builds the morale of the students. The study also discerns that when students retain the information learned through picture-word reading helps them to have a significant capability of passing their tests. The picture-word reading intervention information retention leads many students to build their resiliency in completing their education, and many graduating.

According to the IBL models, observing a picture in a book elicits questions. It offers the students options to conceptualize the ideas, leading to interpretation, discussion, and sharing of the materials. The study findings posit that the picture-word intervention learning style fosters teamwork among students, primarily done in small groups. This teamwork creates solid capabilities for the students to reflect upon their ideas to build their ideas and information for future reference.

### Picture-word intervention constraining factors

The study findings discern that the cultural aspect of the people in society affects their interpretation of the pictures when presented in the book, particularly when reading the words and developing their meaning. Study findings show that different people have different cultural norms in society that substantially affect their interpretation of pictures used in the book. However, the study results reveal that culture can promote or derail students' comprehension and retention in learning and reading books. Study findings cover that culture positively creates an awareness of the peoples' way of life hence making the picture interpretation effective. This improves the students' information retention. Conversely, the study findings recognize that the culture can also foil the student's efficacy of interpreting their picture-wording reading intervention. However, these flaws can be eliminated when students are introduced to cultural literacy, creating awareness of the different cultural norms, appreciating others, and viewing themselves through others' cultures.

The study finding also reveals that educators play a significant role in defining how students interpret the picture in picture-word reading intervention programs. According to the study findings, educators such as teachers, tutors, and professors can motivate their students to develop effective mechanisms of interpreting the message via the pictures used in the book. They can elicit the discussion based on the topic, creating a salient understanding, retaining the information. Therefore, as an educator, I will apply the picture-word intervention program to my students who have problems or are slow at developing a proper understanding of the text. This will be an excellent opportunity to comprehend the concept fast hence promoting their information retention.

The study findings also recognize the effect of the social factors as scholars have defined it as the environment and the social interactions students are involved in. According to the study findings, the environment can positively or negatively affect students' efficacy in interpreting the pictures in the books alongside what they are reading. It is through the environment where the interaction takes place. Therefore, being an educator, it will be crucial to develop a healthy environment for my students to build their solid comprehension and retention of the information they read in class. Finally, the study findings cover that cognitive factors are also crucial. It is the factor that educators need to know to develop strategies to positively influence it in class, particularly during the reading session. When creating my class, especially in literacy reading, I will create a reading culture by interpreting pictures that will enhance the students' profound understanding of the text.

## Study recommendation

This study recommends that when dealing with students who have difficulties in understanding and developing information retention capabilities, it is prudent to use picture-word intervention programs that enhance their thoughtful discussion and interpretation of the program, hence critically building their resilience in comprehending information and retention abilities. The study also recommends that when handling students taking, for instance, a foreign language such as English as their language of instruction, particularly in American for students from the emigrants' families:

Develop a healthy environment for the picture-word intervention program to work effectively through encouraging students to discuss and interpret the pictures without any fear of subjectivity based on their cultural realms.

Create an inspiring reading that can match the text with the pictures for adequate comprehension of the book.

Allow mistakes in the reading and interpretation and elicit a debate that will build a firm understanding of the text in the book, hence creating a retention capability of the information under study.

# Chapter 3 - Methodology

## Introduction

This study employed a convergent parallel mixed methods design to examine the influence of the Picture Word Induction Model (PWIM) on the reading development of fifth-grade English Learners. The convergent design allowed both quantitative and qualitative data to be collected and analyzed separately, then integrated to provide a comprehensive understanding of how PWIM supports literacy learning.

The quantitative strand focused on measurable changes in reading comprehension, vocabulary acquisition, and fluency outcomes. These data provided evidence of the extent to which PWIM contributed to students' academic growth in literacy. The qualitative strand explored students' perceptions and experiences, with particular attention to five categories that guided the research questions: attitudes toward reading, confidence in reading aloud, attitudes toward writing, reading habits inside and outside of school, and learning preferences and engagement through the use of pictures.

By combining these two strands, the study sought to answer how PWIM not only impacts literacy outcomes but also shapes the attitudes, confidence, and learning behaviors of English Learners. Results from both strands were presented independently and then integrated to generate a richer, triangulated understanding of PWIM's effectiveness in supporting English Learner literacy development.

## Research Setting

The study was conducted at Sunrise Elementary School, located in Horizon City, a pseudonym for a rural-serving micropolitan community in southwest Kansas. The school served a diverse student population with a demographic profile that reflected the broader community.

According to the Kansas State Department of Education (KSDE, 2024), the racial and ethnic composition of the student body was African American (1.9%), American Indian or Alaska Native (0.3%), Asian (0.8%), Hispanic (80.2%), Multiracial (1.8%), and White (15.0%).

In addition to racial and ethnic diversity, the school served a substantial number of English Learners, who comprised 46.9% of total enrollment, while 53.1% were non–English Learners (KSDE, 2024). Economic disadvantage was also prominent, with 77.5% of students identified as economically disadvantaged. Of these, 61.8% qualified for free lunch and 15.8% qualified for reduced-price lunch, reflecting significant economic challenges within the community (KSDE, 2024).

The focus of this study was on fifth grade English Learners at Sunrise Elementary School. The high proportion of English Learners, combined with the rural-serving micropolitan location and economic constraints, created a unique instructional context in which literacy interventions such as the Picture Word Induction Model could be evaluated. This demographic composition provided a compelling need for intervention and a setting in which both literacy outcomes and students' attitudes, confidence, and learning experiences could be examined meaningfully.

## Mixed Methods Rationale

This study utilized a mixed methods approach, intertwining quantitative and qualitative techniques, to examine the influence of the Picture Word Induction Model (PWIM) on the reading attitudes, confidence levels, and literacy skills of fifth-grade English Learners. This approach was selected to draw upon the complementary strengths of both quantitative precision and qualitative depth, thereby enhancing the robustness and richness of the research findings.

The integration of these two strands facilitated a nuanced exploration of complex educational challenges within the specific demographic context of the study.

The adoption of a mixed methods framework provided a versatile structure for addressing the multifaceted nature of the research problem. As Doyle et al. (2020) noted, mixed methods research offered distinct advantages for comprehensive studies. First, triangulation was achieved by cross-verifying data from multiple sources, which strengthened the credibility of the results. Second, the combination of numerical data with detailed narrative descriptions allowed for completeness, offering a fuller understanding of the intervention's impact. Additionally, integrating the strengths of both approaches helped to offset the limitations of each, resulting in stronger inferences. Quantitative data documented the extent of observed changes, while qualitative data offered insights into the underlying reasons and contexts. Together, these perspectives provided a richer explanation of findings and the presentation of results grounded in both statistical evidence and real-world narratives.

Furthermore, the mixed methods design supported hypothesis development and testing by allowing initial qualitative insights to inform quantitative measures and vice versa. It also facilitated the refinement of instruments through ongoing testing and adaptation during the study. These features were particularly relevant for investigating PWIM, an instructional strategy that required understanding not only its measurable outcomes but also how it was perceived and implemented in authentic classroom settings.

The decision to use mixed methods was reinforced by the observations of Morse and Cheek (2014), who argued that employing more than one research method provided a more complete picture of human behavior and experience. In alignment with this perspective, the approach in this study offered sufficient quantitative information to describe patterns across the participant group, as well as qualitative accounts that illuminated diverse perspectives and nuanced experiences. As Nassaji (2015) observed, such integration enhanced the ability of educational research to capture both the breadth and depth of phenomena, making it well suited for exploring the impact of PWIM on literacy outcomes in this setting.

## Research Design

This study employed a convergent parallel mixed methods design (CPMMD) to investigate the efficacy of the Picture Word Induction Model (PWIM) for enhancing literacy among fifth-grade English Learners (ELs). The CPMMD was selected because it allowed for the simultaneous collection and analysis of quantitative and qualitative data, with both strands integrated to provide a comprehensive understanding of PWIM's effects on comprehension, vocabulary retention, reading confidence, and attitudes toward reading and writing (Creswell & Plano Clark, 2017; Greene, 2007).

In this design, quantitative and qualitative data were collected concurrently, analyzed separately, and then merged for interpretation. This approach ensured that both numerical trends and participant perspectives were considered equally in drawing conclusions. The integration phase enabled the identification of areas where the findings from the two strands converged, diverged, or complemented each other, thereby enhancing the validity of the overall interpretation (Doyle et al., 2020).

The study addressed five research questions that were common to both strands.

1. How does the Picture Word Induction Model influence fifth grade English Learners' attitudes toward reading.
2. How does the Picture Word Induction Model affect fifth grade English Learners' confidence in reading aloud and their perceptions of themselves as readers.

3. How does the Picture Word Induction Model influence fifth grade English Learners' attitudes toward writing.
4. How does the Picture Word Induction Model shape fifth grade English Learners' reading habits inside and outside of school.
5. How does the Picture Word Induction Model affect fifth grade English Learners' learning preferences, engagement, and enjoyment of literacy activities.

The quantitative strand addressed literacy outcomes by focusing on comprehension, vocabulary, fluency, and shifts in students' reading attitudes. A quasi experimental pretest to posttest non equivalent groups design was used with standardized reading assessments and surveys to estimate change over the eight week intervention period. This design is appropriate for school based research in which random assignment is infeasible, yet repeated measurement under authentic instructional conditions is necessary to evaluate growth with reasonable internal validity (Creswell & Plano Clark, 2017; Shadish, Cook, & Campbell, 2002).

The qualitative strand examined students' perceptions and experiences in relation to the same five research questions. Semi structured preintervention and postintervention interviews explored attitudes toward reading, confidence in reading aloud and self perceptions as readers, attitudes toward writing, reading habits in and outside of school, and learning preferences with particular attention to the role of pictures in supporting vocabulary and engagement. Aligning the interview content with the research questions ensured conceptual coherence across strands and supported purposeful integration at interpretation (Creswell & Plano Clark, 2017).

By designing the study so that both strands addressed an identical set of research questions from complementary perspectives, the inquiry produced a more nuanced and comprehensive understanding of the Picture Word Induction Model's impact. Quantitative findings established the magnitude and direction of change in literacy outcomes, whereas qualitative analyses explained the context and meaning of those changes for English Learners in a rural serving micropolitan community. Integrating the strands through side by side comparison enabled the identification of convergent, divergent, and complementary evidence, thereby strengthening the credibility and explanatory power of the overall interpretation (Doyle, Brady, & Byrne, 2020; Fetters, Curry, & Creswell, 2013).

## Quantitative Strand

The quantitative strand was designed to address literacy outcomes aligned with the five research questions, with particular attention to comprehension, vocabulary, fluency, and students' attitudes toward reading. This strand employed a quasi experimental pretest to posttest nonequivalent groups design, which was appropriate for the school setting because it permitted estimation of change over time within the same cohort while acknowledging that random assignment to treatment and control groups was not feasible. Standardized reading assessments and surveys were administered at baseline and again after the eight week intervention to support comparable pre to post evaluation across outcomes (Creswell & Plano Clark, 2017).

### Instruments

Quantitative data were collected using two standardized instruments that are appropriate for elementary populations and are widely used in school-based literacy research. FastBridge Assessments measured reading fluency, vocabulary, and comprehension through Curriculum-Based Measures and Computer-Adaptive Tests. The Curriculum-Based Measures provided brief, timed indicators of oral reading fluency, and the Computer-Adaptive Tests adjusted item difficulty in real time based on student responses, yielding precise estimates of comprehension and vocabulary skills (FastBridge Learning, 2018).

The Garfield Reading Attitude Survey assessed students' attitudes toward reading in academic and recreational contexts. The instrument included 20 items presented on a four-point Likert-type scale with Garfield character illustrations that supported engagement and comprehension among younger readers. Higher scores reflected more positive reading attitudes, and scoring followed the original instrument guidelines to ensure comparability with prior work (McKenna & Kear, 1990).

## Procedures

Pretests were administered during the first week of the eight-week intervention, and posttests were administered during the final week. All assessments were conducted in students' regular classrooms by classroom teachers who were trained in standardized administration procedures to ensure fidelity and reduce measurement error (Creswell & Creswell, 2018). The Garfield Reading Attitude Survey was administered in August 2024 prior to the intervention and again in October 2024 following the intervention, in accordance with instrument guidelines for pre to post evaluation in elementary settings (McKenna & Kear, 1990).

## Data Analysis

Quantitative analyses were planned to align directly with the research questions on comprehension, vocabulary, fluency, and reading attitudes and to reflect the tests actually conducted in this study. All analyses were performed in Stata version 17, with two tailed hypothesis tests evaluated at $\alpha = .05$ and 95 percent confidence intervals reported for key estimates to convey precision (Creswell & Creswell, 2018; Field, 2013; Tsai, 2019). The nonequivalent groups, school based context made a repeated measures approach appropriate for estimating change while acknowledging the absence of random assignment (Shadish, Cook, & Campbell, 2002).

Within the Picture Word Induction Model cohort, FastBridge outcomes were treated as continuous measures and analyzed with paired sample *t* tests to estimate pretest to posttest change over the eight week period. Assumptions for the paired t test were checked by inspecting the distribution of the difference scores; results are presented with the *t* statistic, degrees of freedom, *p* value, and a 95 percent confidence interval for the mean difference (Field, 2013). These analyses addressed whether students showed measurable gains in comprehension, vocabulary, and fluency during the intervention.

Reading attitude outcomes from the Garfield Reading Attitude Survey were analyzed as ordinal data. Because the composite and subscale scores do not meet interval level assumptions, pre to post change was tested with the Wilcoxon signed rank test, which is appropriate for paired ordinal outcomes and is sensitive to median differences in matched samples. Results are reported with the standardized test statistic and the exact or large sample *p* value, as appropriate to sample size and distributional features (Field, 2013; McDonald, 2014).

To situate observed changes against prior performance, two between cohort comparisons were conducted using the common FastBridge metric. First, individual gain scores were computed as winter minus fall, and the 2024 to 2025 Picture Word Induction Model cohort was compared with the 2023 to 2024 cohort using a two sample *t* test. Findings are presented with the t statistic, degrees of freedom, *p* value, and a 95 percent confidence interval for the difference in mean gains. Second, because both cohorts were assessed in fall and winter with the same measure, a difference in differences regression was estimated with reading score as the outcome and indicators for year, season, and their interaction. The interaction term tested whether seasonal change differed by year. Robust standard errors were used, and postestimation margins provided adjusted means and 95 percent confidence intervals by cohort and season to aid interpretation (Angrist & Pischke, 2009; Field, 2013).

Across all analyses, missing data were minimal and were handled with pairwise deletion so that the maximum available information contributed to each test while preserving the original sample. Data were screened for obvious entry errors and extreme outliers using descriptive diagnostics; any discrepancies were resolved by checking original records prior to analysis. Familywise error was managed by limiting tests to a priori outcomes tied to the research questions rather than conducting exploratory comparisons. Taken together, this analysis plan reports the exact tests used in the study and provides a coherent quantitative basis for evaluating change in comprehension, vocabulary, fluency, and reading attitudes, which is later integrated with the qualitative findings to explain how and why outcomes shifted for English Learners in this context (Creswell & Creswell, 2018; Field, 2013; Shadish et al., 2002).

The interpretation of observed change was contextualized with archival benchmarks. Specifically, FastBridge records from the prior fifth grade cohort were used to establish historical growth patterns at Sunrise Elementary School, and statewide accountability summaries provided additional reference points for typical performance in comparable settings. This benchmarking followed best practices for quasi experimental school based research by combining repeated measures with historical comparators to strengthen inference (Kansas State Department of Education, 2024; Shadish, Cook, & Campbell, 2002).

## Qualitative Strand

### Participants and sampling

The qualitative strand focused on a purposive subsample of seventeen fifth grade English Learners from Sunrise Elementary School. Participants were selected to reflect variation in

English proficiency, gender, and reading performance so that multiple perspectives on reading, writing, and classroom engagement could be examined. The school is situated in a rural serving micropolitan community, defined as a core urban cluster of ten thousand to fewer than fifty thousand residents with close economic ties to surrounding rural areas, which provides important contextual framing for interpreting students' experiences (United States Census Bureau, 2023). The subsample size was appropriate for achieving data saturation, emphasizing depth and richness of description rather than population level generalization in qualitative inquiry (Creswell & Creswell, 2018).

## Instrument

Semi structured interview protocols were administered before and after the eight week intervention. Questions targeted five focal areas aligned with the study's research questions, namely attitudes toward reading, confidence in reading aloud and perceptions of self as a reader, attitudes toward writing, reading habits inside and outside of school, and learning preferences and engagement with visual supports. Prompts were open ended to elicit detailed descriptions in students' own words while allowing follow up questions to clarify meaning and encourage elaboration (Creswell & Plano Clark, 2018). The complete preintervention and postintervention interview protocols are provided in Appendix I.

## Procedures

Interviews were conducted by the researcher in quiet spaces during the school day. A certified bilingual teacher was present whenever students elected to speak Spanish so that participants could respond in their preferred language without loss of meaning. Student assent and parent or guardian consent were obtained prior to participation. All interviews were audio recorded and transcribed verbatim using Otter.ai transcription software. Spanish responses were translated into English and verified by the bilingual teacher to preserve accuracy and nuance. Transcripts were then imported into MAXQDA 24 for organization, coding, and analysis.

## Data analysis

Qualitative data were analyzed using Braun and Clarke's six phase thematic analysis, which provided a systematic framework for identifying, analyzing, and reporting patterned meaning in the interview corpus. This approach supported careful organization and interpretive depth so that the resulting themes reflected students' reported experiences with the Picture Word Induction Model and remained closely aligned to the study's aims (Braun & Clarke, 2006).

A hierarchical codebook was developed that combined deductive codes mapped to the five research questions with inductive codes that emerged from participants' responses. Codes were organized into broad families reflecting the study's structure, including Reading Attitudes, Engagement and Motivation, Reading Behaviors and Perceptions, Barriers and Challenges, Picture Word Induction Model and Visual Strategies, and Self Efficacy and Identity. Within each family, initial and focused codes captured finer grained distinctions such as positive and negative attitudes toward reading, specific challenges in literacy tasks, and perceived benefits of visual scaffolding. This framework promoted consistency across transcripts and ensured that themes were directly traceable to the research questions.

Coding proceeded through sequential cycles of initial, focused, axial, and theoretical coding. During initial coding, transcripts were examined line by line to generate descriptive labels that summarized student responses. Focused coding then identified the most frequent and analytically salient codes to organize larger segments of text. Axial coding grouped related codes into higher order categories to reassemble fragmented data into coherent patterns. Theoretical coding synthesized relationships among categories into overarching themes that explained how students perceived the Picture Word Induction Model's influence on literacy learning (Saldaña, 2021).

All analytic decisions were documented through memos and maintained within MAXQDA 24 to support transparency and auditability. The resulting themes were reviewed for internal coherence and external distinctiveness and then aligned with the five focal research questions so that each area, including attitudes toward reading, confidence in reading aloud, writing perceptions, reading habits, and engagement, was supported by representative quotations and explanatory narrative. The complete hierarchical codebook, including code families, operational definitions, and examples, is provided in Appendix G.

## Trustworthiness

Credibility was supported through language concordance during interviews, verification of translations by the bilingual teacher, and the use of representative quotations to ground interpretations. Dependability and confirmability were strengthened through a documented codebook, software generated code reports, and an audit trail of analytic memos. Transferability is addressed through thick description of the school's micropolitan context and the demographic characteristics of the student body to help readers judge applicability to similar settings (Lincoln & Guba, 1985).

## Integration plan

Because this study employed a convergent parallel mixed-methods design, qualitative and quantitative data were analyzed separately and then integrated through side-by-side comparison at the interpretation stage (Creswell & Plano Clark, 2018; Doyle et al., 2020). Integration focused on identifying convergence, divergence, and complementarity between the strands. For example, shifts in Garfield Reading Attitude Survey scores were compared with interview themes such as Positive Reading Attitude, Engagement, and Reading Confidence to explore whether quantitative changes were supported by qualitative insights. This approach provided a multidimensional understanding of how PWIM influenced both measurable literacy outcomes and students' lived experiences. The integration of both data strands helped explain not only whether changes occurred but also how and why they occurred for English Learners in this context (Creswell & Plano Clark, 2017).

## Participants and Recruitment

The participants in this study were fifth-grade students enrolled at Sunrise Elementary School in Horizon City, a pseudonym for a rural-serving micropolitan community in southwest Kansas. The total sample included approximately 60 students across three fifth-grade classrooms, with nearly half identified as English Learners according to school records (KSDE, 2024). Demographic data, including race/ethnicity and eligibility for free or reduced-price lunch, were obtained from school records in accordance with district policies on confidentiality. These data reflected the broader characteristics of the district, where high percentages of students were classified as ELs and economically disadvantaged, underscoring the need for targeted literacy interventions (Shadish, Cook, & Campbell, 2002).

All students in the fifth-grade cohort participated in the quantitative portion of the study, which included standardized assessments and surveys measuring comprehension, vocabulary, fluency, and reading attitudes. In addition, a subset of 17 students volunteered to participate in semi-structured pre- and post-intervention interviews. These students represented a range of English proficiency levels, genders, and academic performance, and their perspectives provided qualitative insights into reading attitudes, confidence in reading aloud, writing perceptions, reading habits, and learning preferences (Creswell & Plano Clark, 2017).

Recruitment occurred in collaboration with the school administration at Sunrise Elementary School. Following approval from the principal and the district, informational letters and consent forms were sent home with students. These documents described the purpose of the study, its procedures, potential risks, and anticipated benefits in accessible language. Parents and guardians provided written consent for their children's participation, and students provided assent, ensuring that participation was voluntary at all levels. Only students who returned signed consent and assent forms were included in the study (American Psychological Association, 2010).

Although teachers were not participants in the research questions themselves, they played a central role in facilitating the study. Teachers implemented the Picture Word Induction Model (PWIM) activities, administered assessments, and supported the logistics of data collection. Their involvement ensured fidelity of implementation and consistency across classrooms (Joyce, Weil, & Calhoun, 2017).

Because the study relied on students who returned signed consent and assent forms, it employed a convenience sampling strategy with voluntary response (Creswell & Creswell, 2018). This approach ensured that all participants were fully informed and freely engaged in the research process, consistent with ethical research guidelines (American Psychological Association, 2010). At the same time, it introduced limitations in terms of generalizability, since the sample may not represent all fifth-grade English Learners beyond this particular school context (Merriam & Tisdell, 2016).

# Intervention Description

## Overview of the Picture Word Induction Model (PWIM)

The Picture Word Induction Model (PWIM) was implemented as the central instructional intervention in this study. PWIM is an evidence-based literacy strategy designed to enhance vocabulary, reading comprehension, fluency, and writing by using pictures as the foundation for generating words, phrases, and sentences (Joyce, Weil, & Calhoun, 2017). The approach encouraged students to observe images closely, articulate what they saw, and build written and oral language from these observations, thereby strengthening both receptive and expressive literacy skills. In addition to supporting academic outcomes, PWIM was expected to influence students' attitudes toward reading, confidence in reading aloud, and engagement with literacy tasks, which directly aligned with the study's research questions.

## Theoretical Underpinnings

PWIM was grounded in cognitive learning theory, which emphasizes the role of active mental processes in constructing knowledge, and in Vygotsky's (1978) social constructivist theory, which highlighted the role of social interaction in language learning. Students engaged in collaborative learning while developing their vocabulary and writing, and teachers acted as facilitators who guided students' meaning-making. This dual theoretical foundation underscored the appropriateness of PWIM for English Learners, who benefited from both structured cognitive engagement and scaffolded social interaction.

## Practical Application in the Classroom

Classroom implementation centered on a recurring instructional sequence anchored by content rich images selected to align with current classroom themes. Each cycle began with structured observation in which students examined an image and identified salient items and relationships. The teacher then supported word and phrase development by organizing student observations into categories and extending them into descriptive phrases. Subsequent lessons emphasized sentence formation as students combined their generated vocabulary and phrases into well-formed sentences with teacher modeling and feedback. The cycle culminated in extended writing, during which students synthesized their sentences into brief stories or descriptive paragraphs and refined language structures through revision. This progression moved learners from labeling to more complex language production and was intentionally designed to build fluency, vocabulary, and comprehension in tandem (Joyce et al., 2017).

## Timeline and Structure of the Intervention

The intervention lasted eight weeks. Instruction followed a scaffolded sequence that gradually increased in complexity:

- **Weeks 1–2**: Introduction to PWIM, practice with identifying basic elements in pictures.
- **Weeks 3–4**: Expansion into more detailed descriptive phrases and structured sentence building.
- **Weeks 5–6:** Compilation of sentences into coherent paragraphs, with emphasis on organization and flow.
- **Weeks 7–8:** Final application in which students created stories or extended descriptive passages from new images, integrating accumulated vocabulary and structures.

## Role of Teachers

Teachers played a critical role in guiding the PWIM process. Prior to the intervention, they attended training workshops to ensure consistent and accurate implementation across classrooms. During the study, teachers facilitated class discussions, modeled categorization and sentence construction, and provided feedback as students developed their language output. Their role was to ensure fidelity to the PWIM model and to provide scaffolded support for students' learning, rather than to serve as research participants. Ongoing support was provided to teachers throughout the intervention to address challenges and maintain fidelity of implementation (Joyce et al., 2017).

## Integration of Findings

In a convergent parallel mixed methods design, integration occurs after separate within-strand analyses to generate meta-inferences that draw on the strengths of both datasets. In this study, quantitative results for comprehension, vocabulary, fluency, and reading attitudes were placed side by side with qualitative themes on attitudes, confidence in reading aloud, writing perceptions, reading habits, and learning preferences. A joint display was used to align outcomes and themes by research question to examine three integration logics: convergence, where strands supported the same conclusion; complementarity, where strands illuminated different facets of the same phenomenon; and divergence, where strands offered disconfirming or rival evidence that required interpretive follow up (Creswell & Plano Clark, 2017; Doyle et al., 2020; Fetters et al., 2013). Where patterns converged, the study reported strengthened inferences about PWIM's influence. Where results were complementary, the qualitative narrative explained mechanisms underlying observed score changes. Where discrepancies arose, the interpretation addressed plausible explanations grounded in context, such as measurement scale differences, subgroup variation, or implementation nuance across classrooms.

The integration process followed established procedures for convergent designs. First, quantitative effect estimates and confidence intervals were summarized for each research question. Second, qualitative themes were mapped to the same questions with representative quotations. Third, the joint display was interrogated for alignment, partial overlap, or conflict, and an integration memo recorded the rationale for each meta-inference. Finally, integrated conclusions prioritized evidence that was consistent across sources while transparently reporting areas of uncertainty and proposing directions for additional inquiry, such as subgroup analyses or targeted qualitative probes in future cycles. This systematic merging of statistical and thematic evidence produced a comprehensive account of how PWIM functioned in this micropolitan context and why particular outcomes emerged for fifth-grade English Learners, thereby enhancing interpretive validity and practical usefulness of the findings for school-based decision making (Creswell & Plano Clark, 2017; Doyle et al., 2020; Fetters et al., 2013).

## Data Handling and Privacy

All data were handled in accordance with ethical research guidelines. Identifiable information was removed at the point of entry, and participants were assigned unique codes to ensure anonymity (Sweeney, 2002). Digital files (assessment results and interview transcripts) were stored on encrypted drives housed in a secure location; physical documents were kept in locked cabinets. Access was restricted to the research team, and all members signed confidentiality agreements (Fonseca-Herrera et al., 2021). Encrypted backups were maintained to prevent data loss (Abualkishik et al., 2020). After the required retention period, all data will be irreversibly destroyed using industry-standard erasure procedures (Kissel et al., 2014).

## Ethical Considerations

The study followed strict ethical guidelines to protect participants and ensure compliance with institutional and federal standards.

### Informed Consent and Assent

Prior to data collection, parents/guardians provided informed consent and students provided assent. Consent materials described the study purpose, procedures, risks/benefits, confidentiality protections, and the voluntary nature of participation, including the right to withdraw at any time without penalty (Noddings, 1998).

### Confidentiality and Anonymity

All identifying information was removed from the dataset. Students were assigned pseudonyms or participant codes to preserve anonymity. Digital data, including assessment results and interview transcripts, were stored on encrypted hard drives, while physical documents were secured in locked filing cabinets. Access to both physical and digital data was limited to the research team. Only anonymized data were used in reports or publications.

### Ethical Approval and Oversight

Approval for the study was granted by the Kansas State University Institutional Review Board (IRB) and the Dodge City School District IRB prior to implementation. Ethical safeguards were monitored continuously throughout the research process, and any modifications that could affect participants were resubmitted for review (Noddings, 1998).

### Handling Sensitive Information

All research team members received training on handling confidential information and signed confidentiality agreements. Procedures were also in place for reporting and addressing ethical concerns should they arise during the study. These safeguards emphasized respect for participants and accountability in all phases of the research.

### Transparency and Accountability

Participants and stakeholders were kept informed through open communication and regular updates. Accountability measures included periodic audits of data handling procedures and adherence to IRB protocols. These measures ensured compliance with ethical standards while reinforcing trust with participants and the broader school community.

## Summary

This chapter presented the methodology used to examine the Picture Word Induction Model (PWIM) and its influence on the literacy development of fifth-grade English Learners at Sunrise Elementary School in Horizon City, Kansas. The study employed a convergent parallel mixed methods design that integrated quantitative and qualitative strands to provide a comprehensive analysis of the intervention's effects (Creswell & Plano Clark, 2017; Greene, 2007). This design supported concurrent data collection and separate analyses that were later merged during interpretation, thereby enhancing the validity of the conclusions (Doyle et al., 2020).

The research design and questions established the analytical framework for the study. The quantitative strand investigated changes in reading comprehension, vocabulary, fluency, and attitudes toward reading, while the qualitative strand examined students' perceptions of reading and writing, as well as their learning preferences and engagement with visual supports. The five research questions explored English Learners' attitudes toward reading, confidence in reading aloud, attitudes toward writing, reading habits in and outside of school, and learning preferences and engagement with literacy activities (Creswell & Plano Clark, 2017; Greene, 2007).

Participants and the research setting were described to situate the study within a rural-serving micropolitan community that includes a substantial English Learner population. Approximately sixty fifth-grade students participated in the quantitative strand, and a purposive subsample of seventeen students participated in semi-structured interviews. Teachers implemented the PWIM intervention and supported the administration of assessments and interviews to ensure fidelity of implementation, though they were not included as research participants (Kansas State Department of Education [KSDE], 2024; Creswell & Plano Clark, 2017).

The intervention and data collection procedures were outlined in detail. Over an eight-week period, PWIM was implemented using a scaffolded instructional sequence that progressed from image observation to vocabulary generation, sentence formation, and extended writing (Joyce, Weil, & Calhoun, 2017). Quantitative data were collected using the FastBridge Assessments to measure comprehension, vocabulary, and fluency, and the Garfield Reading Attitude Survey to measure reading attitudes (McKenna & Kear, 1990; FastBridge Learning, 2018). Qualitative data were collected through pre-intervention and post-intervention interviews aligned with the five research questions (Creswell & Plano Clark, 2017).

Data analysis procedures were described for both strands. Quantitative data were analyzed using paired-sample t tests and nonparametric alternatives as appropriate, with effect sizes and confidence intervals reported to illustrate the magnitude and precision of observed changes (Field, 2013; Cohen, 1988). Qualitative data were analyzed using Braun and Clarke's (2006) six-phase thematic analysis, supported by MAXQDA software to facilitate inductive and deductive coding, organization, and theme development (Saldaña, 2021). Integration of the quantitative and qualitative findings provided a multidimensional understanding of PWIM's influence, explaining not only whether changes occurred but also how and why they emerged for fifth-grade English Learners (Doyle et al., 2020).

Finally, the chapter summarized the ethical standards and procedures guiding the research, including informed consent and assent, confidentiality protections, secure data management, and institutional review board approvals (American Psychological Association, 2010). This methodological foundation establishes the framework for the next chapter, which presents the quantitative and qualitative findings and interprets the results in relation to the five research questions.

# Chapter 4 - Data Analysis and Discussion

## Introduction

The purpose of this convergent parallel mixed methods study was to examine the influence of the Picture Word Induction Model (PWIM) on fifth-grade English Learners' reading attitudes, confidence levels, and literacy outcomes in a rural school setting with a high population of English Learners. This chapter presents the analysis of both quantitative and qualitative data in order to answer the research questions guiding this study. The quantitative strand measured reading comprehension, vocabulary retention, and fluency through pre- and post-assessments, while the qualitative strand captured students' voices through pre- and post-intervention interviews. The combination of these approaches provided both measurable outcomes and descriptive insights into how PWIM shaped students' literacy development.

The following research questions guided this study:

1. How does the Picture Word Induction Model (PWIM) influence fifth-grade English Learners' attitudes toward reading?
2. How does the PWIM affect fifth-grade English Learners' confidence in reading aloud and perceiving themselves as readers?
3. How does the PWIM influence fifth-grade English Learners' attitudes toward writing?
4. How does the PWIM shape fifth-grade English Learners' reading habits in and outside of school?
5. How does the PWIM affect fifth-grade English Learners' learning preferences, engagement, and enjoyment of literacy activities?

The presentation of findings in this chapter is organized by research question. For each question, both quantitative and qualitative data are reported, followed by an integrated discussion that connects the findings to the broader themes of the study. This structure allows for a comprehensive exploration of each dimension of the research and ensures that both statistical results and student perspectives are considered.

The first research question, which asks how PWIM influenced students' attitudes toward reading, is addressed through the Garfield Reading Attitude Survey and student interview responses. The Garfield instrument provides baseline and comparative data on students' affective orientations toward reading, while interview excerpts highlight how students described their likes, dislikes, and motivations for reading. Together, these data sources provide a detailed account of how PWIM shaped reading attitudes at the beginning of the program.

## Research Question 1

### How does the Picture Word Induction Model (PWIM) influence fifth-grade English Learners' attitudes toward reading?

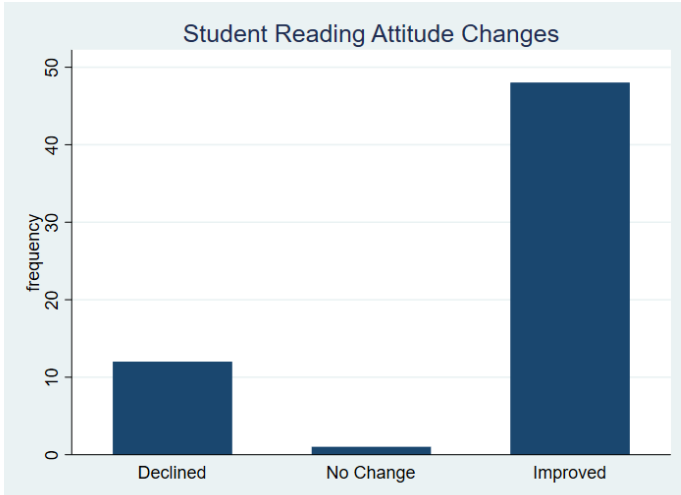
Understanding students' affective orientation toward reading was essential to this study, as attitudes can directly influence motivation, engagement, and persistence with literacy tasks (Guthrie & Wigfield, 2000). This research question was addressed using both quantitative and qualitative measures. Quantitative evidence came from the Garfield Reading Attitude Survey, which was administered prior to and after the intervention. Qualitative data came from semi-structured student interviews designed to elicit perceptions about reading enjoyment, difficulty, and interest. Together, these data provided a multidimensional picture of how the PWIM shaped students' reading attitudes.

## Quantitative Findings

Analysis of the Garfield Reading Attitude Survey in August, prior to the intervention, indicated that students generally reported neutral to somewhat negative attitudes toward reading. On the Garfield's four-point scale (1 = very negative, 4 = very positive), the average score across the first 10 questions, which addressed general and affective reading contexts such as reading for fun, at home, and in school, was $M = 2.24$ ($SD = 0.60$). The average score across questions 11 through 20, which focused more on academic and school-based contexts such as reading aloud, reading tests, and workbooks, was $M = 2.25$ ($SD = 0.59$). These values suggest that, at baseline, students approached reading with guarded or neutral dispositions across both recreational and academic settings.

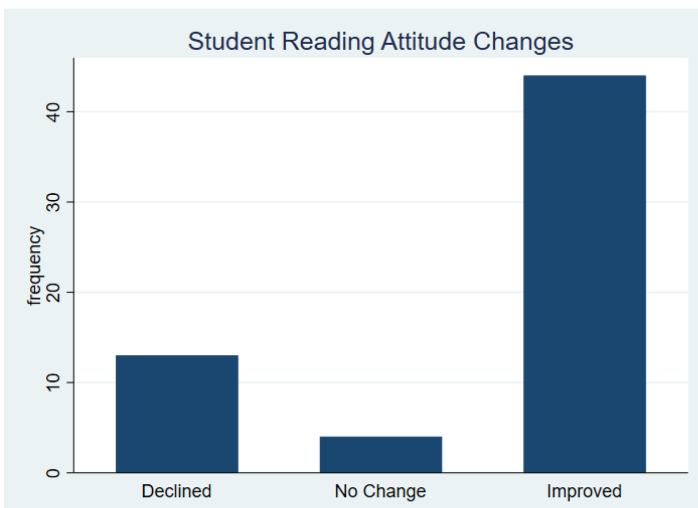
By October, however, students' survey scores had improved significantly. For the first 10 questions, a Wilcoxon signed-rank test revealed that the increase in scores was statistically significant, $z = 4.04$, $p < .001$. As shown in Figure 4, 48 students reported improved attitudes toward general reading contexts, 12 students declined, and 1 student showed no change.

**Figure 4. 1.** Change categories for Garfield Reading Attitude Survey Questions 1 - 10 from August to October




For the second half of the survey (Questions 11–20), which reflected school-based reading contexts, the improvement was also statistically significant, $z = 3.62$, $p < .001$. As displayed in Figure 5, 44 students reported improved attitudes, 13 students declined, and 4 students remained unchanged.

**Figure 4. 2.** Change categories for Garfield Reading Attitude Survey Questions 11–20 from August to October




Together, these findings suggest that the PWIM intervention was associated with meaningful improvements in students' attitudes toward reading in both recreational and academic contexts. The large proportion of students showing improvement and the statistical confirmation of significance provide strong evidence that the program helped to create a more positive affective climate for literacy.

## Qualitative Findings

Qualitative interview data were managed and coded using MAXQDA 24, as described in Chapter 3. The software supported both deductive coding aligned with the research questions and inductive coding that emerged from student responses. Themes were developed through Braun and Clarke's (2006) six-phase approach, guided by Saldaña's (2021) coding strategies. The following sections present the results of this analysis, organized around the five research questions: attitudes toward reading, confidence in reading aloud, attitudes toward writing, reading habits, and learning preferences and engagement.

The interview data corroborated and expanded upon the survey results. Before the intervention, many students expressed reluctance or disinterest in reading. Luciana explained simply, "I do not like it. I do not like reading at home" (Pre-intervention interview). Similarly, Mai described her view with, "I feel like the word sorry. I do not like reading" (Pre-intervention interview). Ava likewise stated, "I do not feel like it. Maybe" (Pre-intervention interview). These responses exemplify the disengagement and ambivalence that many students initially associated with reading.

By contrast, a smaller number of students expressed positive feelings about reading. Marisol commented, "I like it. I like "Dork Diaries" because they are entertaining," highlighting the role of specific texts in sustaining interest. Claire emphasized imagination as a source of enjoyment, noting, "I like chapter books because you can use your imagination for what's happening." Other students explicitly connected their preferences to particular series or genres that felt accessible, as Diego explained, “I like to read some books. I like “Dog Man” books and “Bad Guys.””

## Coded Attitude Themes

Beyond individual quotes, the coding of pre- and post-intervention interview data illustrated broader shifts in how students described reading. Figure 6 presents the distribution of codes before the intervention, showing that negative or neutral categories dominated the discourse. For example, “Reading Behaviors and Perceptions” (47%) and “Reading Attitudes (Affective)” (26%) were the most common codes, reflecting reluctance, avoidance, or ambivalence toward reading.

After the intervention, however, the distribution of codes shifted markedly, as shown in Figure 7. Positive categories such as “PWIM and Visual Strategies” (41%), “Benefits of Visual Scaffolding” (41%), and “Engagement and Motivation” (24%) became highly prevalent. Negative categories such as “Negative Reading/Writing Attitude” and “Negative Attitude Toward Reading/Writing” dropped to near absence (1%). These shifts suggest that students increasingly described reading in terms of accessibility, support, and enjoyment once PWIM was implemented.

## Integration of Findings

The convergence of Garfield survey results, student interviews, and coded thematic analysis supports the conclusion that PWIM fostered more positive attitudes toward reading. Survey data showed statistically significant gains in both general and school-based contexts. Interview excerpts revealed the affective barriers many students faced initially, while post-intervention reflections highlighted newfound enjoyment and reduced resistance.

**Figure 4. 3.** Code student attitudes toward reading before the PWIM intervention.

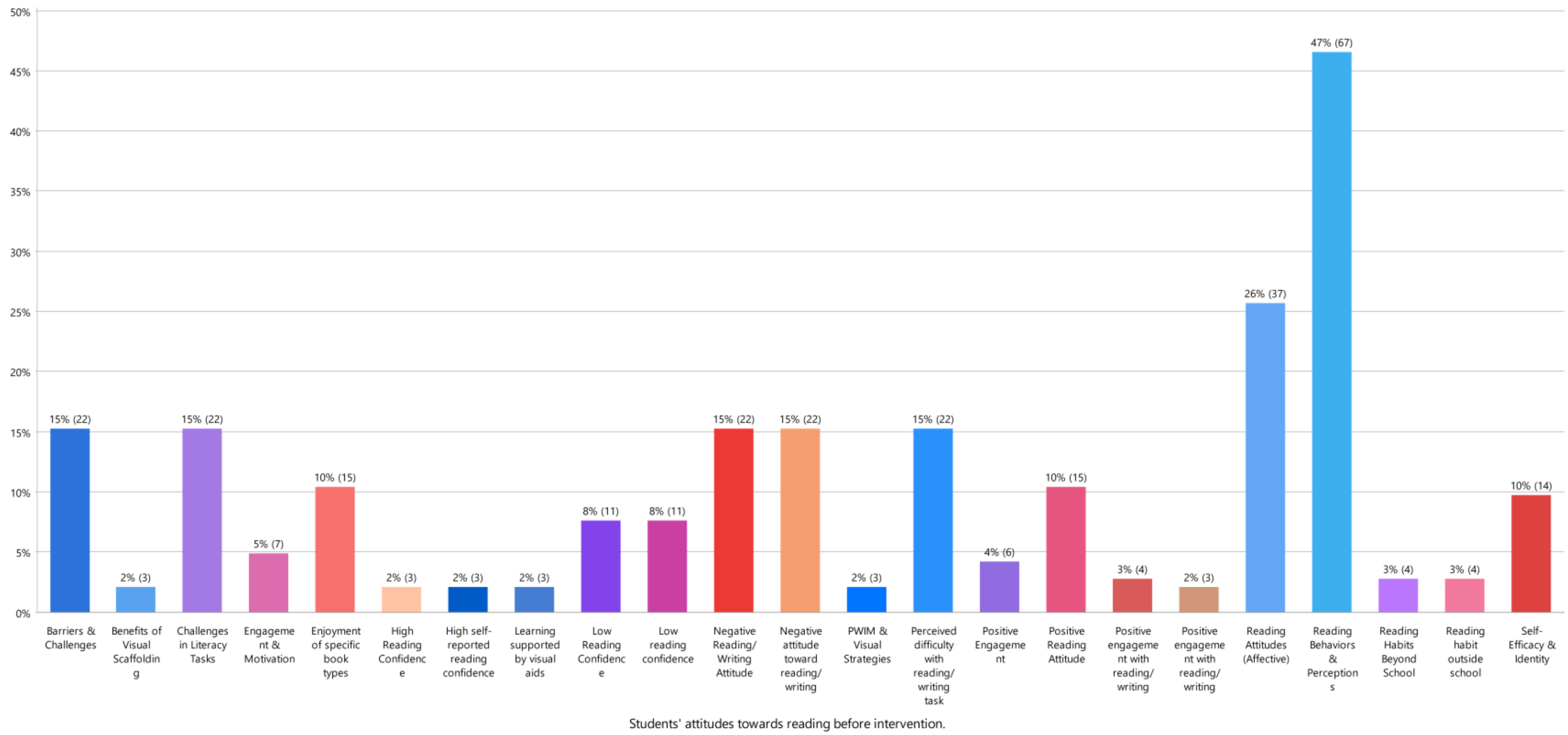
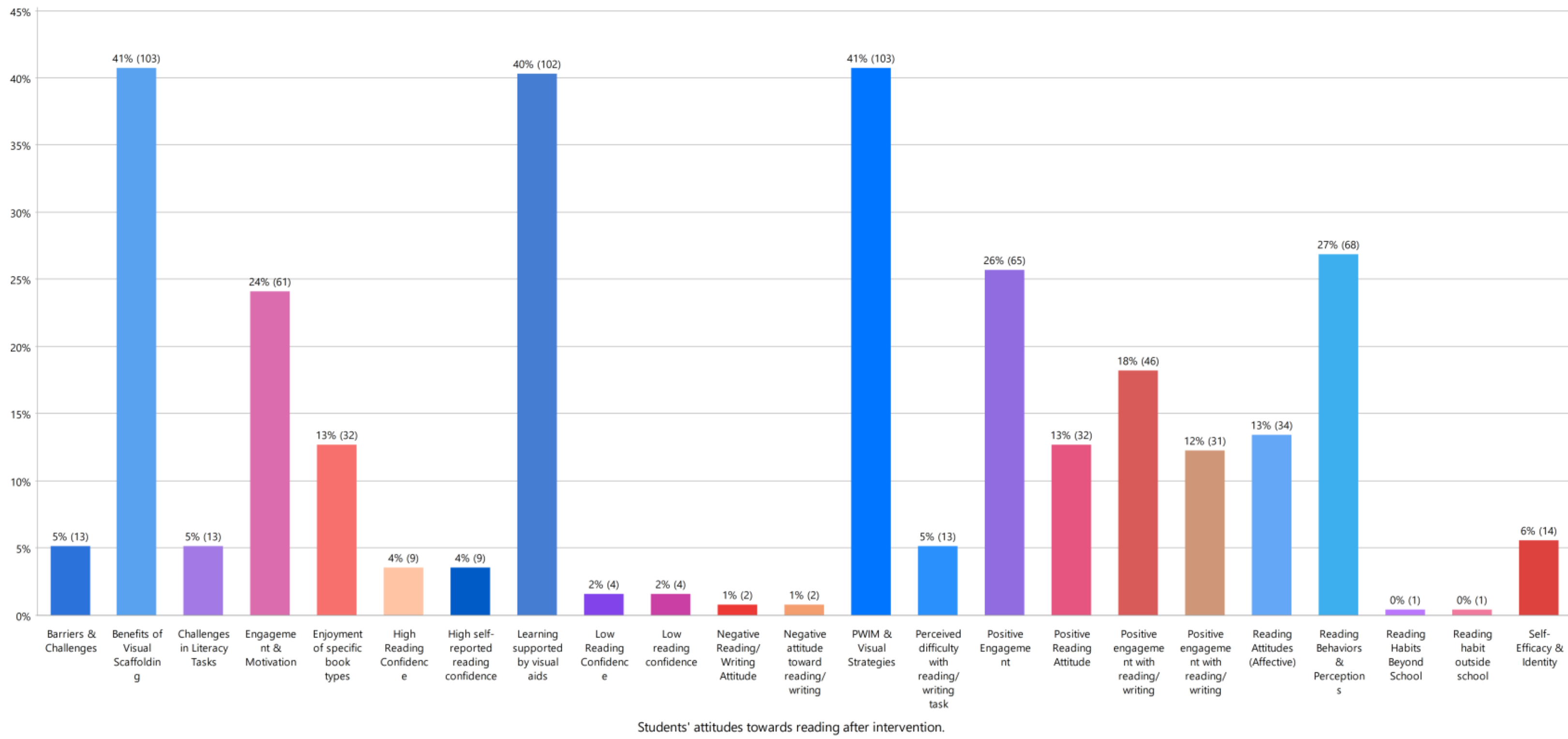


**Figure 4. 4.** Coded student attitudes toward reading after the PWIM intervention.



Collectively, these findings indicate that PWIM not only improved measured attitudes but also reshaped the way students talked about and experienced reading in their daily lives.

## Research Question 2

### How does the Picture Word Induction Model (PWIM) affect fifth-grade English Learners' confidence in reading aloud and perceiving themselves as readers?

Confidence is a crucial affective component of literacy because students' beliefs about their capability to read influence persistence, willingness to engage publicly, and the strategies they deploy when texts feel challenging (Guthrie & Wigfield, 2000). In this study, confidence was examined quantitatively through indicators aligned with school-based reading contexts and performance-oriented tasks, and qualitatively through students' descriptions of reading aloud, self-perception as readers, and willingness to attempt difficult texts. This section reports the quantitative findings first and then integrates the student voice to illuminate how those patterns manifested in practice.

### Qualitative Findings

The quantitative strand indicates that confidence-adjacent attitudes in academic settings improved following the intervention. On the Garfield Reading Attitude Survey, the items most closely aligned with school reading contexts, Questions 11 through 20, showed statistically significant gains from August to October on a Wilcoxon signed-rank test, $z = 3.62$, $p < .001$, with 44 of 61 students improving, 13 declining, and 4 showing no change. These results complement the significant improvement already observed for Questions 1 through 10, $z = 4.04$, $p < .001$, suggesting a broad shift not only in general enjoyment but also in how students felt about school-bound reading demands where confidence is often tested.

## Performance Context

Because reading confidence is closely related to, but distinct from, measurable achievement, this section situates students' attitudinal gains within the broader context of performance outcomes. Confidence represents students' beliefs in their capability to succeed in literacy tasks, while achievement reflects demonstrated performance on those same tasks (Bandura, 1997; Guthrie & Wigfield, 2000). Research has shown that affective change often precedes observable academic growth, as improvements in self-efficacy and willingness to engage can serve as catalysts for later gains in reading comprehension and fluency (Calhoun, 1999). Accordingly, the present study examined whether shifts in students' confidence were accompanied by measurable improvement in standardized reading outcomes.

To further evaluate whether PWIM improved reading performance, reading scores from fall and winter were compared across two consecutive school years. The 2023–2024 cohort served as the comparison group because they received traditional instruction without the Picture Word Induction Model (PWIM), while the 2024–2025 cohort represented the intervention group that participated in the eight-week PWIM implementation. Both groups were assessed with the same standardized FastBridge reading measures in the fall and winter semesters, providing a consistent basis for comparison across years.

Two complementary statistical approaches were employed to examine these performance outcomes. First, a difference-in-differences regression analysis was conducted using year (2023–2024 vs. 2024–2025) and season (Fall vs. Winter) as predictors of student reading scores. This model tested for an interaction between year and season to determine whether the rate of improvement differed between cohorts. Results indicated no statistically significant interaction between year and season, $B = 4.69$, $SE = 33.46$, $t(502) = 0.14$, $p = .889$, 95% CI [–61.04, 70.42].

The main effect of year suggested that students in 2024–2025 scored, on average, 17.49 points higher than students in 2023–2024, but this difference was not statistically significant, $B = 17.49$, $SE = 23.96$, $t(502) = 0.73$, $p = .466$. Similarly, the main effect of season indicated that winter scores were on average 9.62 points higher than fall scores, but this difference was not significant, $B = 9.62$, $SE = 23.84$, $t(502) = 0.40$, $p = .687$.

These findings were supplemented with a gain-score analysis comparing mean changes (Winter – Fall) between cohorts using a two-sample *t* test. The 2023–2024 class (no PWIM) demonstrated an average decrease of –7.83 points ($SD = 335.46$), while the 2024–2025 class (PWIM) demonstrated an average increase of 4.62 points ($SD = 313.53$). The difference in gain scores between cohorts was not statistically significant, $t(250) = –0.30$, $p = .762$, 95% CI [–93.24, 68.34].

Margins analysis provided descriptive insight into these trends. The adjusted fall mean for the control group (2023–2024) was 305.90, which increased slightly to 315.52 in winter. In contrast, the PWIM cohort (2024–2025) began higher, with an adjusted fall mean of 323.39, increasing to 337.70 in winter. Although these descriptive results indicated a somewhat greater winter gain for the PWIM group, confidence intervals overlapped substantially, and differences were not statistically significant.

Together, these quantitative findings suggest that PWIM positively influenced students' confidence-related attitudes, as evidenced by significant gains on school-context Garfield items, but objective reading performance did not yet show a statistically reliable advantage during the limited eight-week observation window. This pattern supports prior research indicating that affective growth, such as increased confidence and motivation, often emerges before measurable changes in achievement (Calhoun, 1999; Guthrie & Wigfield, 2000).

**Table 4. 1.** Regression coefficients from difference-in-differences analysis predicting reading scores.

```
Linear regression                               Number of obs     =        506
                                                F(3, 502)         =       0.65
                                                Prob > F          =     0.5811
                                                R-squared         =     0.0038
                                                Root MSE          =     188.45

------------------------------------------------------------------------------------
                   |               Robust
             score | Coefficient  std. err.      t    P>|t|     [95% conf. interval]
-------------------+----------------------------------------------------------------
          yearcode |
        2024-2025  |   17.48691   23.95835     0.73   0.466    -29.58407     64.5579
                   |
        seasoncode |
           Winter  |   9.621212   23.83925     0.40   0.687    -37.21577     56.4582
                   |
yearcode#seasoncode|
  2024-2025#Winter |   4.692837   33.45549     0.14   0.889     -61.0372    70.42287
                   |
             _cons |   305.9015   17.02435    17.97   0.000     272.4538    339.3493
------------------------------------------------------------------------------------
```

Gain scores (Winter – Fall) were also calculated for each student and compared between years using a two-sample *t* test. The 2023–2024 class (no PWIM) demonstrated an average decrease of –7.83 points ($SD = 335.46$), while the 2024–2025 class (with PWIM) demonstrated an average increase of 4.62 points ($SD = 313.53$). The difference in gain scores between the two cohorts was not statistically significant, $t(250) = –0.30$, $p = .762$, 95% CI [–93.24, 68.34].

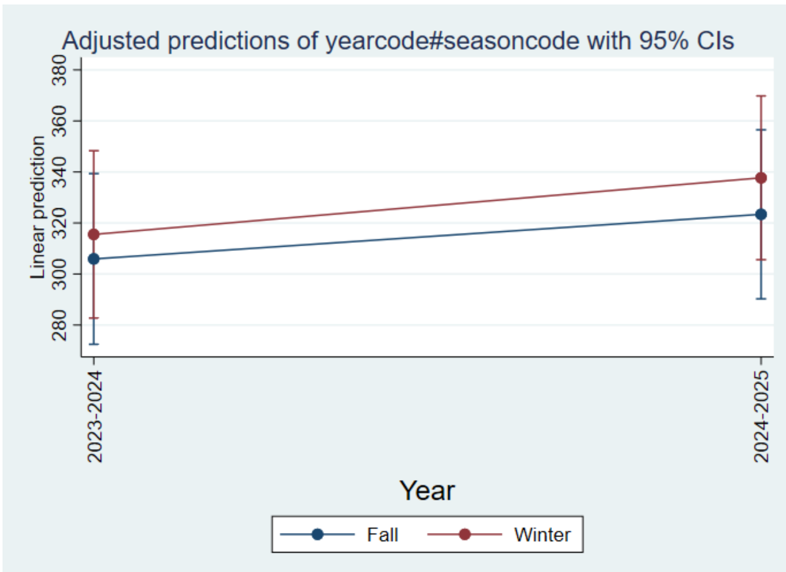
**Table 4. 2.** Two-sample t test results comparing gain scores between 2023–2024 (control) and 2024–2025 (PWIM) cohorts.

```
Two-sample t test with equal variances
------------------------------------------------------------------------------
   Group |     Obs        Mean    Std. err.   Std. dev.   [95% conf. interval]
---------+--------------------------------------------------------------------
2023-202 |     132    17.84848    30.17313    346.6628   -41.84115    77.53812
2024-202 |     120    29.50833    29.22948     320.193   -28.36896    87.38563
---------+--------------------------------------------------------------------
Combined |     252    23.40079    21.02169     333.709   -18.00059    64.80218
---------+--------------------------------------------------------------------
    diff |           -11.65985    42.16878               -94.7112     71.3915
------------------------------------------------------------------------------
    diff = mean(2023-202) - mean(2024-202)                        t =  -0.2765
H0: diff = 0                                     Degrees of freedom =      250

    Ha: diff < 0                 Ha: diff != 0                 Ha: diff > 0
 Pr(T < t) = 0.3912         Pr(|T| > |t|) = 0.7824          Pr(T > t) = 0.6088
```

Margins analysis further illustrated the trends. The adjusted Fall mean for the control group (2023–2024) was 305.90, increasing slightly to 315.52 in Winter. In comparison, the PWIM cohort (2024–2025) began the year higher, with an adjusted Fall mean of 323.39, increasing to 337.70 in Winter. While these descriptive results suggested a somewhat greater Winter gain for the PWIM class than for the non-PWIM class, the differences were not statistically significant.

**Figure 4. 5.** Predicted reading scores by year and season from difference-in-differences model. Error bars represent 95% confidence intervals.




Together, these quantitative findings suggest that attitudinal indicators linked to confidence moved favorably in the short term, while objective achievement measures did not yet register a clear, statistically reliable advantage during the limited observation window. This pattern is consistent with the notion that affective change can precede measurable performance change, especially early in implementation (Calhoun, 1999).

## Qualitative Findings

The qualitative evidence strengthens and contextualizes these statistical patterns by showing how students talked about reading aloud and seeing themselves as readers. Before the intervention, several students described apprehension tied directly to public performance. Camila reported being "scared reading out loud in class" and linked that fear to encountering hard words, a formulation that underscores how perceived difficulty can depress self-efficacy. Diego also admitted, “I get a little scared to read out loud,” which aligns with the baseline pattern of guarded confidence evident in the August survey. In contrast, post-intervention interviews reveal movement toward readiness to volunteer and persistence when confronted with unfamiliar vocabulary. Valeria noted, “No me molesta. I always levanto la mano pa’ leer” (It does not bother me. I always raise my hand to read), indicating that the act of reading aloud no longer bothered her and that she now regularly raised her hand to read. Sofia remarked, “I think I am better now. Reading [is] not so bad anymore. I can try… not scary like before,” explicitly framing the shift as a reduction in fear and an increase in willingness to try. Even when students still encountered uncertainty, the way they spoke about problem solving suggested greater agency. For instance, Isabella signaled a resource-seeking stance: “Puedo buscar en internet” (I can look on the internet), which, while not a direct claim of confidence, reflects an emergent self-help strategy indicative of growing reader self-belief. These shifts in language are consistent with the survey gains on school-based items, where comfort with reading-related tasks would be expected to rise alongside confidence.

## Integration of Findings

In combination, the quantitative and qualitative strands converge on a coherent interpretation. Statistically significant improvements in school-context Garfield items indicate that students felt more positively about reading in settings where confidence is most salient, and interview narratives show a corresponding reduction in fear of reading aloud and a greater propensity to take interpersonal risks, such as volunteering in class. At the same time, the lack of a statistically significant advantage in fall-to-winter achievement growth suggests that affective improvements had not yet translated into measurable performance differences within the study’s timeframe. This sequencing is theoretically plausible in early implementation. PWIM’s picture-based induction and shared language construction can first lower the psychological cost of reading, normalize approximation, and provide accessible entry points. These conditions can strengthen confidence and, over a longer period, support durable performance gains (Calhoun, 1999; Guthrie & Wigfield, 2000). As Chapter Five will discuss, sustaining the intervention across a full academic year and enlarging the sample may allow emerging confidence to consolidate into statistically reliable improvements in reading outcomes.

## Research Question 3

**How does the Picture Word Induction Model (PWIM) influence fifth-grade English Learners' attitudes toward writing?**

Attitudes toward writing are often more negative than attitudes toward reading for elementary students, particularly for English Learners who face additional challenges in spelling, vocabulary, and self-expression (Graham, 2006). Because writing requires students to generate and organize language, reluctance or resistance can be especially strong when confidence is low. This research question was addressed by analyzing both quantitative and qualitative evidence. The quantitative strand provided descriptive information about writing-related survey responses. The qualitative strand offered deeper insight through student interviews in which participants reflected on their likes, dislikes, and struggles with writing before and after the intervention.

### Quantitative Findings

Although the Garfield Reading Attitude Survey primarily addresses reading, several items in the academic-context section (Questions 11 through 20) also tap into students' feelings about school tasks closely related to writing, such as workbook exercises and literacy assignments. Results from the Wilcoxon signed-rank test revealed a statistically significant improvement in this domain from August to October, $z = 3.62$, $p < .001$. In this sample, 44 students (72.1%) improved, 13 (21.3%) declined, and 4 (6.6%) reported no change. While not a direct measure of writing attitudes, these improvements suggest that the overall literacy environment shaped by PWIM may have had a spillover effect, leading students to perceive writing tasks as somewhat less burdensome than they had at baseline.

## Qualitative Findings

The interview data provide more direct evidence of how students viewed writing. Prior to the intervention, many participants expressed frustration, dislike, or avoidance. Luciana admitted, “I do not know. I do not like writing” (Pre-intervention interview). Logan echoed this view, stating, “I do not like writing. Everything. I do not like it” (Pre-intervention interview). Sophia emphasized the difficulty of the task, explaining, “I hate writing. It is hard” (Pre-intervention interview). Isabella added, “I am not happy about writing. It is hard. Everything. All of it. I do not get it” (Pre-intervention interview). These statements illustrate the heavy emotional burden students associated with writing, which aligns with research showing that negative affect often inhibits literacy engagement (Graham, 2006).

After the intervention, some students began to describe writing in more constructive or hopeful terms. Diego shared, “Sometimes I can write sentences now. It is easier with the picture” (Post-intervention interview). Valeria noted, “Con las palabras de la foto, yo puedo escribir más oraciones” (With the words from the picture, I can write more sentences), highlighting how the PWIM scaffold provided access to vocabulary that made sentence construction less intimidating. Gabriela reflected, “I like to write when we do the picture words because then I know what to say,” linking the strategy directly to her increased willingness to write. While not every student shifted toward positive feelings, these voices demonstrate that PWIM reduced barriers for some learners by giving them a structured pathway into writing.

### Integration of Findings

The combination of quantitative and qualitative findings indicates that the PWIM intervention fostered modest but meaningful improvements in students' attitudes toward writing. Survey results showed significant gains on literacy-related school tasks, while interview data revealed a reduction in blanket refusals and an increase in students' ability to connect writing to a scaffolded vocabulary base. Although several students continued to describe writing as difficult or undesirable, others reported that the PWIM strategy made the process easier and more approachable. These findings align with Calhoun's (1999) description of PWIM as a model that supports writing development by helping students generate words, build sentences, and gradually compose longer texts. They also reinforce Graham's (2006) assertion that positive experiences with structured writing tasks can help reduce anxiety and foster greater persistence.

## Research Question 4

### How does the Picture Word Induction Model (PWIM) shape fifth-grade English Learners' reading habits in and outside of school?

Reading habits reflect not only student attitudes but also their behavioral choices about when, where, and how often to engage with texts. For English Learners, developing consistent reading routines can strengthen vocabulary, fluency, and comprehension (Krashen, 2004). This research question was explored by examining both survey data that probed how students perceived their reading opportunities and interview data in which students described their actual practices at home and in school.

### Quantitative Findings

The Garfield Reading Attitude Survey provided insight into how students felt about reading in both recreational and school contexts. At baseline, the August survey results showed that students held neutral-to-negative views about reading at home and for pleasure, with mean scores across the first 10 items falling near 2.24 on the four-point scale. By October, scores for these items increased significantly, $z = 4.04$, $p < .001$, with 48 of 61 students showing improvement. This upward trend suggests that students became more likely to report engaging in reading activities outside of direct school assignments. Although not a direct measure of frequency, the increase in positive responses indicates that PWIM may have influenced not only affect but also the likelihood of independent reading.

## Qualitative Findings

Interview data offer a closer look at students' actual habits. Prior to the intervention, several students reported avoiding reading outside of school. Luciana explained, "I do not like reading at home" (Pre-intervention interview). Ethan added, "I do not like it. I do not like reading at home" (Pre-intervention interview). Ava echoed this sentiment: "I do not feel like it. Maybe" (Pre-intervention interview). These comments reflect a lack of established reading routines in the home environment.

In contrast, some students demonstrated emergent or occasional reading practices. Logan shared, "Sometimes I read a book to my little sister" (Pre-intervention interview), illustrating how reading could be tied to family interaction. Diego commented, "I like to read some books. I like *Dog Man* books and *Bad Guys*" (Pre-intervention interview), signaling selective engagement with certain series.

Post-intervention interviews suggested a modest shift in habits. Gabriela noted, "I like to read *I Survived* books and *Captain Underpants*. I read them after school" (Post-intervention interview), indicating that independent reading was now part of her routine. Adriana reflected, "I like to read books when I finish my work" (Post-intervention interview), linking reading to structured times within her daily schedule. Even students who had previously avoided reading expressed greater openness. For example, Valeria explained, "Leo en la casa a veces" (I read at home sometimes), suggesting that the home had become a more acceptable setting for literacy practice.

## Integration of Findings

The convergence of quantitative and qualitative findings suggests that PWIM positively influenced students' reading habits both in and outside of school. Garfield survey results demonstrated significant improvement in recreational reading attitudes, while interviews revealed a shift from avoidance to selective engagement. Although some students continued to resist independent reading, others began to describe concrete habits, such as reading after school, reading to siblings, or choosing particular series. These results are consistent with Krashen's (2004) argument that affective supports and accessible texts can gradually encourage voluntary reading outside the classroom.

Overall, the evidence indicates that PWIM helped normalize reading as an activity beyond school requirements. By providing structured opportunities to build vocabulary and confidence within the classroom, PWIM may have reduced the barriers that prevented students from seeing reading as part of their daily lives. While not every student developed strong independent reading habits within the short timeframe of this study, the patterns point to early shifts that may deepen over time with sustained implementation.

## Research Question 5

### How does the Picture Word Induction Model (PWIM) affect fifth-grade English Learners' learning preferences, engagement, and enjoyment of literacy activities?

Engagement and enjoyment are central to sustaining literacy development, especially for English Learners who may otherwise disengage from challenging tasks (Guthrie & Wigfield, 2000). This research question explored how PWIM shaped students' learning preferences and their willingness to engage with reading and writing activities. Quantitative data from the Garfield Reading Attitude Survey provided an overall measure of enjoyment, while qualitative data from interviews illustrated how students described their preferences and motivations in their own words.

**Figure 4. 6.** Change categories for Garfield Reading Attitude Survey Questions 1-10 from August to October

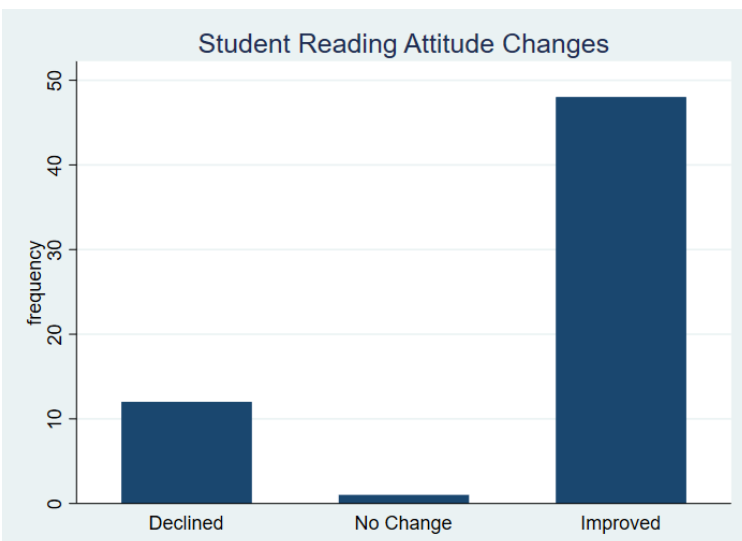
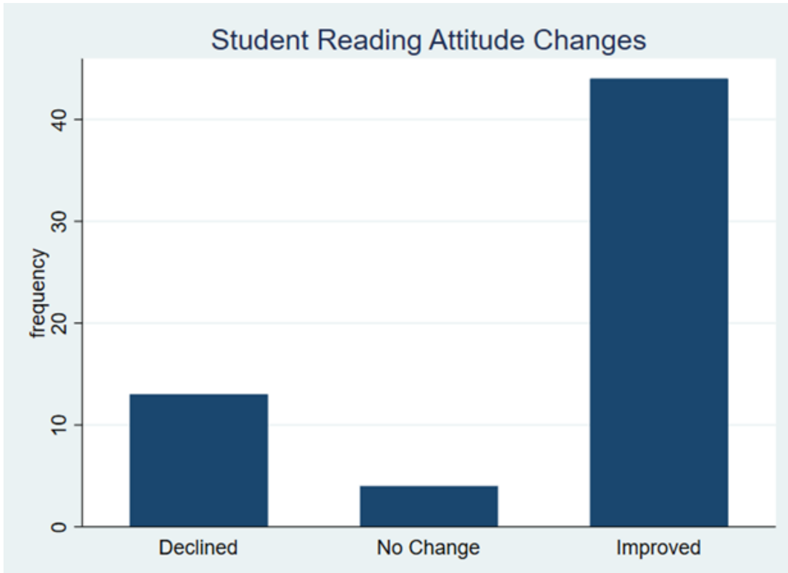


**Figure 4. 7.** Change categories for Garfield Reading Attitude Survey Questions 11–20 from August to October




## Quantitative Findings

The Garfield Reading Attitude Survey showed significant gains in both general and academic reading attitudes between August and October. For questions 1 through 10, which emphasize enjoyment and recreational reading, results improved significantly, $z = 4.04$, $p < .001$. For questions 11 through 20, which emphasize academic and school-related tasks, scores also rose significantly, $z = 3.62$, $p < .001$. The high proportion of students who improved across both halves of the survey—48 of 61 on general items and 44 of 61 on academic items—suggests that PWIM increased not only willingness to read but also enjoyment of reading in multiple contexts. These findings provide quantitative evidence that students became more engaged and positive about literacy activities during the intervention period.

## Qualitative Findings

The interviews deepened this picture by showing how students described their learning preferences. Before the intervention, some students expressed disengagement and preference for nonliteracy activities. Daniela admitted, “I like making videos not writing” (Pre-intervention interview). Camila added, “I do not like reading books. I love making videos with my friends on TikTok” (Pre-intervention interview). These reflections illustrate how digital entertainment and social media competed with reading for students’ time and attention.

After the intervention, several students began to voice more positive feelings toward literacy. Gabriela commented, “I like to read I Survived books and books like Captain Underpants” (Post-intervention interview), linking her preference to specific genres. Adriana said, “I like to read books when I finish my work” (Post-intervention interview), showing that reading had become a preferred activity once other responsibilities were completed. Valeria explained, “Me gusta leer cuando la maestra me deja escoger” (I like to read when the teacher lets me choose), emphasizing the role of autonomy in supporting engagement. Even students who remained hesitant about reading or writing often spoke of the PWIM process itself in more positive terms, noting that the pictures and words helped them know what to write or gave them ideas for stories.

## Integration of Findings

The combination of Garfield survey data and student interviews suggests that PWIM improved engagement and enjoyment of literacy activities for many students. Quantitatively, significant gains were observed in both recreational and academic reading attitudes, confirming that students reported higher enjoyment after the intervention. Qualitatively, students’ reflections revealed that while some continued to prefer nonliteracy activities, others developed clearer preferences for specific books or contexts that fostered choice and support. These findings are consistent with the premise that when literacy instruction provides accessible entry points and meaningful student involvement, engagement and enjoyment increase (Calhoun, 1999; Guthrie & Wigfield, 2000).

In summary, PWIM contributed to creating a more positive and engaging literacy environment. While it did not eliminate all forms of disengagement, it helped many students connect reading and writing with enjoyment, autonomy, and confidence. These early signs of change point to the potential of PWIM to support sustained literacy engagement when implemented consistently over time.

## Conclusion

This chapter presented the quantitative and qualitative findings related to the five research questions guiding this study. The analyses provided a comprehensive picture of how the Picture Word Induction Model (PWIM) influenced fifth-grade English Learners' literacy attitudes, confidence, habits, and engagement (Joyce, Weil, & Calhoun, 2017).

The results for Research Question 1 showed that students began the year with neutral to negative attitudes toward reading, yet Garfield Reading Attitude Survey data revealed statistically significant improvement in both recreational and academic reading attitudes following the PWIM intervention (McKenna & Kear, 1990). Research Question 2 demonstrated that confidence in reading aloud also improved, with students expressing greater willingness to volunteer and describing themselves as more capable readers. Although objective performance gains on standardized assessments were not statistically significant in the short timeframe of this study, qualitative data confirmed meaningful attitudinal growth (FastBridge Learning, 2018).

Research Question 3 revealed that writing remained a challenging area, yet PWIM reduced resistance by providing a scaffolded entry point for generating vocabulary and sentences (Joyce et al., 2017). Research Question 4 showed that PWIM supported the development of more consistent reading habits, both at home and at school, as some students began to describe reading as part of their daily routines. Research Question 5 indicated that engagement and enjoyment of literacy activities increased, with students expressing clearer preferences for specific books, contexts, and opportunities to exercise autonomy.

Taken together, these findings suggest that PWIM contributed to positive shifts in attitudes, confidence, and engagement, even though longer-term achievement effects were not yet statistically detectable. The integration of quantitative and qualitative data underscores the value of PWIM as a supportive instructional strategy that can create a more encouraging literacy environment for English Learners (Creswell & Plano Clark, 2017; Braun & Clarke, 2006; Saldaña, 2021).

The next chapter discusses the implications of these findings, considers their relevance for instructional practice, and identifies directions for future research.

# Chapter 5 - Discussion and Conclusion

## Introduction

The purpose of this study was to investigate how the Picture Word Induction Model supports literacy development for fifth grade English Learners in a rural elementary setting, with particular attention to shifts in attitudes toward reading and writing, confidence in reading aloud and in self-identification as a reader, habits of reading within and beyond school, and patterns of engagement and enjoyment during literacy activities. The Picture Word Induction Model provided the central instructional frame, and its visual and inductive routines offered a theoretically grounded pathway for vocabulary, decoding, and composing that is well documented in the practice literature on early literacy instruction (Calhoun, 1999).

The discussion that follows interprets the results reported in Chapter 4 through the convergent parallel mixed methods design established in Chapter 3. Quantitative and qualitative strands were implemented concurrently and assigned equal priority, and their integration is used here to generate meta inferences that are directly responsive to the study's five guiding questions (Creswell & Plano Clark, 2018; Fetters et al., 2013). In practical terms, each interpretation weaves together statistical trends and effect patterns with coded themes and representative evidence, then situates those syntheses in relation to the conceptual and empirical literature reviewed in Chapter 2.

To maintain clear alignment, the chapter proceeds question by question. For each question, the section begins with a succinct restatement, moves to an integrated interpretation that connects quantitative findings with qualitative themes, and then explains how the result confirms, extends, or complicates prior scholarship on the Picture Word Induction Model and literacy development for English Learners. The chapter closes by drawing forward-facing implications for instruction in classrooms with significant linguistic diversity, acknowledging design and contextual limitations that bound transferability, and identifying directions for future inquiry that logically follow from the evidence assembled here. This structure is intended to keep the reader oriented around the study's purpose while demonstrating how the chosen design strengthens the validity and utility of the conclusions reached in this final chapter (Creswell & Plano Clark, 2018; Fetters et al., 2013; Calhoun, 1999).

## Interpretation of Findings

## Research Question 1

### How does the Picture Word Induction Model (PWIM) influence fifth-grade English Learners' attitudes toward reading?

### Interpretation of Findings

The findings from this study indicate that the Picture Word Induction Model (PWIM) positively influenced fifth-grade English Learners' attitudes toward reading. MAXQDA coding revealed that positive attitudes ($n = 47$) were substantially more frequent than negative attitudes ($n = 16$). Students reported enjoyment of specific book types, demonstrated curiosity during PWIM activities, and described reading as more approachable when it was paired with images. These findings were consistent with Garfield Reading Survey results, which suggested that students increasingly associated reading with enjoyment rather than avoidance. Although FastBridge scores showed an upward trajectory, the gains were not statistically significant, which indicates that while affective benefits were evident, measurable academic progress may require longer intervention periods.

The positive shift in attitudes aligns closely with Calhoun's (1999) foundational work, which described PWIM as a model that engages students in inductive reasoning through visual scaffolding. Calhoun argued that pictures serve as a non-threatening entry point into text, sparking curiosity and lowering affective barriers. The results of this study confirm her claim in the specific context of English Learners, a group for whom text-heavy instruction can often feel overwhelming. Similarly, Guthrie and Wigfield (2000) emphasized that motivation and engagement are central to fostering lifelong readers. By showing that PWIM fosters enjoyment and reduces reluctance, the current study extends their work by identifying PWIM as one instructional pathway for building motivation among linguistically diverse students.

At the same time, the findings invite comparison with García and Kleifgen's (2018) research, which emphasized the importance of accessible entry points into literacy for emergent bilinguals. The evidence from this study suggests that PWIM provided such access, enabling students to approach texts with greater confidence and curiosity. However, the persistence of some negative attitudes in the coding data also suggests that PWIM alone does not erase all barriers. This nuance resonates with research by Ivey and Broaddus (2001), who found that while strategy-based interventions increase motivation, student interest in reading is also shaped by choice, cultural relevance, and classroom environment. Thus, while PWIM played a significant role, it should be considered as one part of a broader approach to shaping reading attitudes.

The absence of statistically significant improvement in FastBridge scores also warrants careful interpretation. Some studies, such as August and Shanahan (2006), have shown that English Learners often need extended exposure to scaffolded instruction before attitudinal changes manifest as measurable performance outcomes. In this study, the upward trend in FastBridge data suggests a possible early indicator of future gains, but the short intervention period limited the scope for statistical confirmation. This finding aligns with Stanovich's (1986) "Matthew Effect" in reading, which posits that small early improvements in motivation and access can compound over time, leading to widening achievement gaps between engaged and disengaged readers. The data here may capture the beginning of that process, where attitudes shift first and achievement follows.

The theoretical frameworks guiding the study provide further insight into these findings. The cognitive theory of multimedia learning (Mayer, 2009) suggests that students learn more effectively when they process information through both visual and verbal channels. The results support this view, as students responded positively to PWIM's use of images as a bridge to words, which likely reduced cognitive overload and promoted confidence. Behavioral learning theory (Skinner, 1953; Reimann, 2018) also helps explain the observed attitudinal shifts. Praise and recognition during PWIM activities reinforced students' willingness to engage with reading, creating a cycle where participation led to encouragement, which in turn reinforced positive dispositions. Together, these frameworks suggest that PWIM's success lies in its dual capacity to engage both cognitive and behavioral dimensions of learning.

In sum, the interpretation of findings for Research Question 1 shows that PWIM positively shaped students' attitudes toward reading by providing accessible, visual scaffolds that reduced anxiety and increased curiosity. These results confirm existing research on the importance of motivation and accessible entry points for English Learners, extend PWIM's documented benefits into a new demographic and instructional context, and highlight the importance of considering both affective and cognitive outcomes in literacy instruction. At the same time, the findings complicate the literature by showing that some negative attitudes persisted and that short-term interventions may not yield statistically significant performance gains. These nuances underscore the need for both long-term application of PWIM and complementary strategies that address student choice, cultural relevance, and home literacy environments.

## Implications for Instruction

The results of this study indicate that the Picture Word Induction Model (PWIM) should be integrated regularly into literacy instruction as a tool to shape student attitudes toward reading. In English Language Arts, PWIM can be used to preview novels, short stories, or informational texts by generating key vocabulary from images, thereby making the text more approachable and inviting for students who might otherwise avoid reading (Calhoun, 1999). By lowering affective barriers, PWIM positions students to approach reading with curiosity rather than resistance, a finding that resonates with Guthrie and Wigfield's (2000) emphasis on the central role of motivation in literacy development.

The model also holds promise across multiple content areas. In social studies, PWIM can be used with maps, photographs, or historical artifacts to scaffold student engagement with complex informational texts. Research has shown that English Learners benefit from visuals in history instruction because they make abstract or unfamiliar cultural content more concrete (Choi, 2013). Similarly, in science, PWIM can introduce technical vocabulary from diagrams of the water cycle, body systems, or ecosystems before students encounter these terms in dense expository text. This supports research on content-area literacy, which highlights the importance of explicit vocabulary instruction for comprehension (Fang & Wei, 2010). Even in mathematics, PWIM can be used to decode the academic language of word problems (e.g., terms like "difference," "product," or "area") by linking them to images and real-world representations, an approach consistent with the National Reading Panel's (2000) recommendation that vocabulary development be embedded across disciplines. By situating PWIM across subjects, teachers can help create a schoolwide culture in which reading is consistently presented as both accessible and meaningful.

Another implication of the findings is that improving student attitudes toward reading should be viewed as an ongoing instructional commitment rather than a short-term intervention. The researcher has continued to integrate PWIM into classroom practice beyond the study period. While the current academic year is still in its early stages and outcomes are not yet fully visible, the ongoing use of PWIM reflects confidence in its value. This aligns with August and Shanahan's (2006) conclusion that sustained, scaffolded literacy practices are essential for English Learners' long-term development. In practice, teachers should consider PWIM not as a stand-alone strategy but as a recurring routine embedded in daily instruction that incrementally builds both student motivation and competence over time.

Finally, the findings suggest that teacher professional development should emphasize the affective as well as the academic benefits of PWIM. Often, instructional models are judged solely on their ability to produce immediate score gains. However, as this study indicates, models such as PWIM can play a critical role in reshaping student dispositions, which may serve as precursors to later academic success (Stanovich, 1986). Training educators to recognize and value these affective outcomes may help foster instructional practices that are more holistic and responsive to English Learners' needs.

## Recommendations for Further Study

Although affective improvements in students' reading attitudes were clear, quantitative measures such as FastBridge did not show statistically significant gains. This outcome underscores a common challenge in educational research: affective shifts often precede measurable academic improvements (Stanovich, 1986). Future studies should therefore examine the long-term impact of PWIM on both attitudes and performance. Mixed-methods designs conducted over a full school year, or ideally across multiple years, would allow researchers to capture not only initial attitudinal changes but also whether these improvements persist and eventually translate into academic growth. Such studies would also provide opportunities to explore whether early affective gains act as predictors of later reading achievement, extending current knowledge about the relationship between motivation and performance for English Learners (Guthrie & Wigfield, 2000).

Future research should also investigate how the integration of PWIM with cooperative learning strategies, such as Kagan structures, may enhance its effectiveness. Kagan (1994) argued that structured peer interaction promotes higher levels of engagement and motivation, particularly when all students are given opportunities to participate in low-risk, supportive settings. Embedding PWIM within cooperative learning routines such as pair-share, round robin, or team-based word-building could amplify its effect on reading attitudes by shifting literacy from an individual task to a collaborative endeavor. This recommendation is especially relevant for English Learners, who often experience isolation or anxiety during reading tasks (García & Kleifgen, 2018). Cooperative structures may provide the social and linguistic scaffolding needed for these students to feel more confident and supported.

Additionally, future studies might consider exploring how demographic factors influence the effectiveness of PWIM. For example, examining whether newcomers, long-term English Learners, or students with interrupted formal education respond differently to PWIM would add nuance to its potential applications. Research in this area could help educators tailor PWIM more effectively to subgroups of English Learners, ensuring the strategy's maximum impact across diverse populations.

Finally, further inquiry could explore PWIM in combination with digital technologies. With increasing reliance on multimodal learning environments, integrating PWIM into interactive platforms (e.g., digital whiteboards, tablets, or collaborative online spaces) may extend its reach and appeal. Such studies would build on Mayer's (2009) cognitive theory of multimedia learning by testing whether technology-enhanced PWIM supports both affective engagement and comprehension more effectively than traditional formats.

## Research Question 2

### How does PWIM affect fifth-grade English Learners' confidence in reading aloud and perceiving themselves as readers?

### Findings and Interpretation

The findings from this study suggest that the Picture Word Induction Model (PWIM) offered a foundation for increased reading confidence, though the outcomes were uneven across the student sample. MAXQDA coding revealed a mixture of high-confidence (n = 7) and low-confidence (n = 10) expressions. While the Garfield Reading Survey indicated that several students felt more capable of reading aloud following PWIM, others continued to identify themselves as struggling readers. Classroom observations provided a more nuanced perspective, noting that students were more willing to volunteer for oral reading after practicing vocabulary with PWIM charts. This suggests that the model reduced anxiety associated with unfamiliar words, but that not all students internalized these benefits to the same degree.

The uneven outcomes align with Bandura's (1997) theory of self-efficacy, which asserts that confidence builds through mastery experiences. Students who gained confidence likely experienced moments where PWIM allowed them to succeed with challenging vocabulary, reinforcing their belief in their ability to read. Conversely, those who remained hesitant may not yet have accumulated enough successful experiences to reshape their self-perceptions. In this way, the findings confirm Bandura's claim that self-efficacy is dynamic and dependent on repeated, authentic opportunities to master tasks.

The results also resonate with Henk and Melnick's (1995) Reader Self-Perception Scale, which highlights how students' confidence is closely tied to their identities as readers. For some participants, PWIM served as a tool that redefined what it meant to be a "good reader." By equipping them with vocabulary before tackling text, PWIM allowed them to experience success and begin to see themselves as competent readers. However, the persistence of low-confidence responses underscores that identity development is complex. It cannot be transformed by a single intervention, but instead requires ongoing reinforcement and support.

The findings also echo broader research on oral reading fluency. Rasinski et al. (2011) found that unfamiliar vocabulary is one of the primary barriers to fluent oral reading, especially for English Learners. The observational evidence that students were more willing to read aloud after PWIM vocabulary preparation confirms that previewing and scaffolding can lower this barrier. Yet, the fact that some students remained reluctant highlights an important nuance: while PWIM addresses the challenge of vocabulary, other factors such as prior negative experiences, language anxiety, or fear of peer judgment may continue to inhibit confidence (Krashen, 1982; Gregersen & Horwitz, 2002).

Taken together, these findings suggest that PWIM has the potential to build reading confidence by reducing linguistic obstacles and providing mastery experiences. However, the unevenness in results points to the need for extended interventions and perhaps complementary strategies that address affective and identity-related dimensions of reading. In other words, PWIM may set the stage for confidence growth, but consistent application over time and supportive classroom practices are necessary to sustain it.

## Implications for Instruction

The findings suggest several critical instructional implications for fostering reading confidence among English Learners. First, PWIM can serve as a pre-reading confidence-building strategy. By previewing key vocabulary through images and collaboratively generated word charts, students approach texts with fewer linguistic unknowns, reducing the anxiety associated with oral reading. This scaffolding echoes Vygotsky's (1978) notion of the zone of proximal development, where learners perform beyond their independent level when supported with appropriate tools. PWIM creates these supports by providing access to meaning before students are expected to decode or pronounce words, thereby increasing their likelihood of success.

PWIM also offers opportunities for cross-curricular applications that can strengthen confidence beyond English Language Arts. In science, for example, teachers can use PWIM to introduce complex terms from diagrams of the water cycle or human body systems. When students later encounter these terms in lab instructions or expository texts, they already possess familiarity, allowing them to read aloud with greater assurance. Similarly, in mathematics, word problems often pose challenges because of their specialized vocabulary (e.g., "quotient," "difference," "product"). By using PWIM to decode this language beforehand, teachers help students engage with problems without being hindered by terminology. Research in content-area literacy emphasizes that explicit vocabulary instruction is key for comprehension and confidence across disciplines (Fang & Wei, 2010), and PWIM provides a structured way to accomplish this.

The findings also highlight the potential for PWIM to be paired with oral reading fluency practices. Once vocabulary is introduced through PWIM, students can transition to activities such as partner reading, round robin, or choral reading, which provide opportunities for repeated practice in low-stakes environments. Rasinski (2012) argued that repeated, supported practice with text builds fluency and confidence, and PWIM can serve as the preparatory step that makes such practice more effective. Teachers might also integrate digital tools by having students record themselves reading passages after PWIM preparation. Self-monitoring through recordings allows students to reflect on their progress, reinforcing both skill development and confidence (Afflerbach, 2016).

In addition, PWIM aligns well with cooperative learning structures. Kagan (1994) demonstrated that structured peer interaction increases engagement and reduces anxiety. Incorporating PWIM into cooperative routines such as pair-share discussions of vocabulary, team-based word-building, or collaborative oral reading may further support reluctant readers by normalizing the experience of reading aloud in supportive groups. This is particularly important for English Learners, who may feel isolated in whole-class settings but are more confident in smaller, collaborative contexts (Calderón et al., 2011).

Finally, the findings imply that teachers must consider reading confidence as both a cognitive and an affective goal. While building vocabulary knowledge is essential, equally important is the cultivation of a positive reader identity. Teachers should monitor not only whether students can decode words but also how they perceive themselves as readers. Incorporating reflective discussions, such as having students share how PWIM helped them in reading tasks, can reinforce these identity shifts. As Henk and Melnick (1995) argued, perceptions of oneself as a capable reader are critical for sustained engagement with literacy.

PWIM provides an avenue for such shifts, but only if teachers intentionally highlight and celebrate these moments of success.

## Recommendations for Future Study

The findings for Research Question 2 suggest that while PWIM can contribute to building reading confidence, the outcomes are uneven and require further investigation. Future studies should consider the use of validated self-efficacy instruments, such as the Reader Self-Perception Scale (Henk & Melnick, 1995), in combination with qualitative measures. These instruments would allow researchers to capture more precise data on how students perceive themselves as readers and whether those perceptions change when PWIM is consistently applied. This type of study would add greater reliability to the understanding of how PWIM influences student identity and confidence in reading.

Longitudinal research is also needed to explore how reading confidence develops over time with sustained PWIM implementation. Confidence is not typically transformed in short interventions, and it often requires repeated experiences of success to take hold (Bandura, 1997). A study that follows students for an entire academic year, or ideally across multiple years, would help determine whether the positive trends observed in this study continue to grow and eventually translate into more robust reading self-efficacy and improved performance outcomes. Such studies could also explore whether confidence gained in reading transfers to other subject areas, thereby broadening the instructional value of PWIM.

Another valuable direction for research would be to examine PWIM in combination with cooperative learning strategies. Kagan (1994) demonstrated that structured peer collaboration enhances motivation and participation. Future studies could investigate how PWIM functions when paired with cooperative routines such as partner reading, round robin, or small group word-building activities. This type of study would be especially relevant for English Learners who may feel less anxious when reading aloud in collaborative environments. Understanding whether cooperative structures amplify PWIM's effect on reading confidence would contribute meaningful insights to the field of literacy instruction.

Future research should also examine whether demographic factors influence PWIM's effectiveness in building reading confidence. For example, it would be helpful to investigate whether newcomers to English show greater gains than long-term English Learners, or whether students with higher oral proficiency benefit more quickly from PWIM scaffolds. Studies of this nature would provide teachers with guidance on how to adapt PWIM for different groups of learners within a classroom.

Finally, there is a need to explore the integration of technology with PWIM to support reading confidence. For instance, researchers could investigate how digital whiteboards, tablets, or recording applications might extend the practice of reading aloud after PWIM preparation. Mayer's (2009) cognitive theory of multimedia learning suggests that technology can enhance comprehension when used appropriately. A future study that examines whether digital tools make PWIM more effective in fostering oral reading confidence could provide timely and practical recommendations for twenty-first century classrooms.

## Research Question 3:

### How does PWIM influence fifth-grade English Learners' attitudes toward writing?

### Findings and Interpretation

The results from this study suggest that PWIM influenced students' attitudes toward writing in meaningful but complex ways. MAXQDA coding revealed that students often expressed difficulty with writing tasks, with 43 segments coded under Challenges in Literacy

Tasks. These challenges included perceived difficulty in spelling, organizing ideas, and producing extended text. However, PWIM charts frequently provided students with a starting point for writing, reducing the anxiety of facing a blank page. Teacher observations indicated that students were more willing to write, and their written output improved in length and descriptive detail when vocabulary was first introduced through PWIM. While students did not consistently report that writing was enjoyable, their willingness to attempt writing increased when PWIM scaffolds were present.

This outcome aligns with research emphasizing the importance of scaffolding in writing instruction for English Learners. Graham and Perin (2007) noted that explicit support in vocabulary and idea generation is critical for improving both the quality and quantity of student writing. PWIM directly addressed these needs by providing concrete vocabulary that students could draw upon to begin constructing sentences and paragraphs. Similarly, August and Shanahan (2006) found that vocabulary knowledge is one of the strongest predictors of writing development among English Learners. The findings of this study extend that research by showing how a specific instructional model, PWIM, can operationalize vocabulary scaffolding in a way that reduces writing reluctance.

The results can also be interpreted through the lens of affective factors in writing. Pajares (2003) argued that writing anxiety suppresses output and prevents students from taking risks. The reduction in anxiety observed when PWIM was used as a pre-writing tool supports Pajares's claim, suggesting that visual scaffolding can help students approach writing with greater confidence. The evidence also resonates with Vygotsky's (1978) view of learning as a socially mediated process. By collaboratively generating vocabulary in a PWIM activity, students were able to share ideas and reduce the cognitive burden of generating language alone, which made the transition to independent writing less daunting.

At the same time, the persistence of writing-related challenges in the data reflects the complexity of writing development. While PWIM helped students begin writing more readily, it did not fully address issues such as grammar, syntax, or organization, which require additional targeted instruction. This nuance suggests that PWIM is most effective when integrated with broader writing support strategies, rather than being seen as a complete solution to writing difficulties. In this way, the study both confirms and extends existing literature: it confirms the importance of scaffolding in writing instruction while also highlighting the limits of a single strategy in addressing all aspects of writing development.

## Implications for Instruction

The results of this study suggest that PWIM can serve as a valuable tool for shaping student attitudes toward writing by reducing anxiety and providing meaningful entry points into the writing process. In English Language Arts, PWIM charts can be used as pre-writing scaffolds, offering students a bank of vocabulary and ideas that help them transition more smoothly from brainstorming to drafting. This approach supports Graham and Perin's (2007) recommendation that explicit vocabulary and idea generation activities are essential for developing stronger writing skills among adolescents. By lowering the cognitive demand of generating words independently, PWIM allows students to focus more of their energy on organizing and expressing ideas.

PWIM also has significant potential in content-area classrooms where writing is increasingly emphasized. In science, for example, students could use PWIM charts generated from diagrams of the water cycle, plant structures, or body systems as the basis for writing lab reports or informational summaries. Providing this visual and lexical foundation makes technical writing less intimidating for English Learners. Research on content-area literacy confirms that visual supports are especially effective for supporting writing in science (Fang, 2013), making PWIM a natural fit. In social studies, historical photographs or political cartoons could be used to create PWIM charts that then serve as prompts for persuasive essays, reflective journals, or expository writing assignments. This practice aligns with findings from Choi (2013), who documented that visuals help English Learners connect to culturally and historically unfamiliar material, making writing tasks more accessible.

Beyond content-specific applications, PWIM can be used to nurture writing confidence through gradual progression. Teachers can begin with sentence-building activities using PWIM vocabulary, then expand to paragraph construction, and ultimately guide students toward multi-paragraph compositions. This gradual release mirrors the scaffolding process recommended in Vygotsky's (1978) theory of the zone of proximal development, where supports are provided and then slowly removed as students gain independence. Teachers may also pair PWIM with collaborative writing activities, where students jointly develop narratives or reports from PWIM charts. Such practices not only reduce anxiety but also foster peer support and shared ownership of writing.

Another implication is the importance of addressing affective dimensions of writing. Pajares (2003) emphasized that writing anxiety can undermine student performance. The findings of this study suggest that PWIM can play an important role in reducing that anxiety by helping students feel prepared before writing. Teachers should explicitly highlight student successes during PWIM-to-writing transitions, reinforcing positive attitudes and building writing self-efficacy. Integrating opportunities for students to share their writing, whether through class anthologies, bulletin board displays, or digital platforms, can further strengthen their confidence and identity as writers.

Finally, the study implies that PWIM should be integrated into a comprehensive writing program rather than used in isolation. While PWIM helps students begin writing with greater confidence, it does not directly address grammar, syntax, or organization. Teachers should therefore combine PWIM with targeted instruction in these areas, ensuring that students receive both the affective support of vocabulary scaffolds and the explicit instruction needed for technical accuracy. This combined approach reflects the balanced literacy practices recommended by August and Shanahan (2006), who argued that English Learners require both scaffolding and explicit skill instruction to achieve writing success.

## Recommendations for Future Study

The findings for Research Question 3 indicate that PWIM positively influenced students' willingness to write by reducing anxiety and providing scaffolding, yet challenges with grammar, organization, and extended writing persisted. Future studies should therefore investigate how PWIM can be integrated with other evidence-based writing interventions to support both affective and technical aspects of writing development. Graham and Perin (2007) emphasized that adolescents benefit from explicit instruction in planning, revising, and editing, in addition to vocabulary support. Research could explore whether combining PWIM with structured writing workshops produces stronger outcomes than PWIM alone.

Another area for exploration involves the use of PWIM across different genres of writing. While this study primarily observed its use in descriptive and informational writing, future research could examine whether PWIM is equally effective in supporting narrative, persuasive, and argumentative genres. August and Shanahan (2006) highlighted vocabulary as a critical predictor of English Learners' writing success, but the extent to which PWIM vocabulary scaffolds translate into more complex writing forms has not yet been examined in depth. Understanding genre-specific effects would help teachers tailor PWIM to a wider range of writing objectives.

Future research should also consider the role of student identity and affective factors in writing. Pajares (2003) argued that writing anxiety is a persistent barrier to productivity and quality. This study found that PWIM lowered writing reluctance but did not fully eliminate negative feelings. A valuable direction for future research would be to investigate how PWIM could be paired with reflective practices, such as student writing journals or self-assessments, to explicitly address attitudes and self-perceptions. Such studies would deepen the field's understanding of how instructional strategies can influence writing identity as well as skill development.

Another promising area involves the integration of technology with PWIM for writing tasks. Digital storytelling, multimedia journals, and collaborative online platforms could extend the reach of PWIM by giving students additional ways to express ideas generated from images and word charts. Research has shown that multimodal approaches can reduce writing anxiety and increase motivation (Mills, 2010). Future studies could test whether digital PWIM applications enhance both attitudes and outcomes, particularly in classrooms where technology is already embedded in instruction.

Finally, it would be valuable to examine cross-curricular applications of PWIM for writing. For example, in science classrooms, PWIM could be used to support the writing of lab reports or scientific explanations, while in social studies it could scaffold essays on historical events or cultural analysis. Choi (2013) demonstrated that visuals play a powerful role in helping

English Learners access and write about culturally unfamiliar material. A future study could build on this finding by testing PWIM as a cross-disciplinary tool for strengthening writing skills across subjects.

## Research Question 4

### How does PWIM shape fifth-grade English Learners' reading habits in and outside of school?

### Findings and Interpretation

The findings suggest that PWIM had a modest influence on students' reading habits beyond the classroom. MAXQDA coding revealed only a small number of references to reading outside of school, with four segments coded under Reading Habits Beyond School. These included mentions of students voluntarily reading at home or showing interest in library books connected to PWIM vocabulary. Garfield Survey results reflected slight increases in reported reading frequency outside school, but the gains were limited. Teacher reflections also indicated that enthusiasm generated during PWIM occasionally carried over to students' book selections during library visits, though this effect was inconsistent across the class.

These findings highlight the distinction between attitudinal shifts and behavioral changes. While PWIM clearly contributed to more positive attitudes toward reading (RQ1), translating these attitudes into sustained habits outside of school appeared more difficult. This outcome is consistent with research by Krashen (2004), who argued that voluntary reading requires not only motivation but also access to appealing and comprehensible texts. PWIM may have sparked interest, but without consistent reinforcement at home or in the community, students' reading behaviors remained relatively unchanged.

The limited evidence of new reading habits also reflects the importance of the home literacy environment. Snow, Burns, and Griffin (1998) documented that family engagement plays a critical role in supporting reading practices outside of school. In this study, students whose families had routines of reading together or access to books were more likely to demonstrate out-of-school reading habits connected to PWIM activities. Those without such support showed fewer changes, suggesting that the effectiveness of PWIM in shaping external reading habits may depend on broader environmental factors.

The results can also be interpreted through the lens of Cummins's (2001) theory of transfer across contexts. Cummins argued that literacy practices acquired in school are more likely to transfer to out-of-school contexts when learners see those practices as meaningful and relevant. In this study, PWIM may have provided engaging vocabulary and images, but the transfer of those practices into voluntary reading at home was limited. This suggests that while PWIM successfully created in-class engagement, further connections are needed to make reading outside school meaningful for students.

Finally, these findings highlight the importance of distinguishing between short-term interventions and long-term behavioral change. Stanovich's (1986) concept of the "Matthew Effect" suggests that small gains in motivation and access to reading can compound over time into substantial differences in literacy development. The modest increases observed in this study may represent the early stages of such a process, but the intervention was not long enough to capture whether these shifts would become sustained habits. Longer studies are needed to determine whether PWIM can spark lasting behavioral change when given sufficient time and reinforcement.

## Implications for Instruction

The results suggest that PWIM alone may not be sufficient to create lasting reading habits beyond the classroom, but it can serve as a catalyst when paired with intentional instructional practices. Teachers should consider extending PWIM activities into opportunities that bridge school and home literacy. For instance, students could be encouraged to create personal PWIM journals that include images from their daily lives, such as family photos, community scenes, or favorite activities. These journals could then serve as prompts for voluntary reading or writing at home, reinforcing the link between school-based vocabulary learning and personal literacy practices. Research on home–school literacy connections has shown that students are more likely to engage in reading when school activities resonate with their lived experiences (Heath, 1983; Moll et al., 1992).

PWIM can also be strategically integrated into library and independent reading routines. When students generate vocabulary around themes introduced through PWIM, teachers can guide them to select library books or independent reading materials connected to those themes. This practice supports Krashen's (2004) claim that access to appealing and comprehensible texts is central to fostering voluntary reading. By linking classroom PWIM charts to library collections, teachers provide students with a direct pathway from in-class vocabulary work to self-selected reading beyond school.

In addition, teachers can incorporate PWIM into family literacy initiatives. Sending home simplified PWIM charts or encouraging families to co-create word charts with images from magazines, family events, or cultural traditions could invite parents into the literacy process. Snow, Burns, and Griffin (1998) emphasized that the home literacy environment strongly influences the development of reading habits, particularly for English Learners. By equipping families with PWIM strategies, schools can help foster a culture of literacy that extends into the home.

PWIM also has potential as a tool for cross-curricular reading habit development. In social studies, for example, PWIM charts built from historical photographs could be paired with take-home reading assignments on related topics, encouraging students to continue exploration beyond the classroom. In science, PWIM vocabulary from units on ecosystems or weather could be extended into student-chosen readings about nature or current events. This practice is consistent with Guthrie and Wigfield's (2000) engagement theory, which emphasizes that connecting literacy to students' personal interests and curiosity promotes sustained reading behaviors.

Finally, teachers should frame PWIM not as an isolated classroom strategy but as part of a schoolwide culture of literacy. When PWIM is embedded across grade levels and subjects, students consistently encounter reading as an activity supported by visual scaffolding and inquiry. Over time, this consistency may normalize reading as a habit rather than a task, increasing the likelihood that students will choose to read voluntarily outside of school. August and Shanahan (2006) noted that sustained and scaffolded literacy practices are particularly important for English Learners, who often need extended exposure before attitudinal changes lead to behavioral changes. Thus, integrating PWIM broadly across instruction could create the conditions for reading habits to flourish in the long term.

## Recommendations for Future Study

The findings for Research Question 4 suggest that while PWIM generated enthusiasm for reading within the classroom, its impact on out-of-school reading habits was modest. Future research should therefore explore the long-term relationship between PWIM and voluntary reading behaviors. A longer study that spans an entire school year or multiple years could determine whether the small gains observed in this study are the beginning of sustained changes. Stanovich's (1986) concept of the "Matthew Effect" emphasizes that early, small improvements in motivation and access can accumulate into significant literacy advantages over time. Longitudinal designs would allow researchers to test whether PWIM sparks such compounding effects in reading habits.

Another area for investigation is the role of family engagement in extending PWIM beyond the classroom. Snow, Burns, and Griffin (1998) demonstrated that the home literacy environment is a powerful predictor of reading behavior outside school. Future studies could test family literacy programs that integrate PWIM strategies, such as encouraging parents to co-create word charts with children or use family photos as prompts for vocabulary building. These practices might help reinforce connections between school learning and home reading habits.

Future research could also explore cross-cultural and demographic factors that influence the transfer of PWIM-supported attitudes into out-of-school habits. Cummins (2001) argued that literacy practices are more likely to transfer across contexts when students perceive them as meaningful. Studies could examine whether newcomers, long-term English Learners, or students from different cultural backgrounds respond differently to PWIM in terms of voluntary reading at home or in the community. This would help determine whether additional supports are needed to adapt PWIM for diverse populations.

Another promising avenue involves the role of access to texts. Krashen (2004) maintained that voluntary reading is dependent on the availability of appealing and comprehensible materials. Future research should investigate whether pairing PWIM with structured access to high interest, leveled texts increases the likelihood that students continue reading outside school. Experimental studies could compare classrooms that integrate PWIM with robust library support to those that use PWIM without additional access to determine the importance of this variable.

Finally, further research could explore the use of technology to extend PWIM practices beyond school. With many students now engaging in digital learning environments, future studies might examine whether creating PWIM word charts through digital platforms, such as tablets or online collaborative tools, encourages students to continue literacy practices at home. Mayer's (2009) cognitive theory of multimedia learning provides a framework for exploring how technology-enhanced PWIM might strengthen the connection between in-class vocabulary building and voluntary out-of-school reading.

## Research Question 5

**How does PWIM affect fifth-grade English Learners' learning preferences, engagement, and enjoyment of literacy activities?**

### Findings and Interpretation

The results indicate that PWIM had a strong influence on student engagement and enjoyment of literacy activities. MAXQDA coding revealed 37 segments coded under Positive Engagement, where students demonstrated persistence, interest, or enthusiasm during literacy tasks. Observational data supported this finding, as students were more eager to participate in lessons that began with PWIM and more willing to share words or ideas during vocabulary generation activities. Garfield Reading Survey responses also suggested that students enjoyed reading activities more when they were supported by visuals, particularly those who previously expressed low enthusiasm for literacy tasks.

These findings confirm Guthrie and Wigfield's (2000) engagement theory, which emphasizes that authentic, collaborative, and meaningful tasks drive student motivation and persistence. PWIM appeared to embody these principles by making literacy tasks interactive, visually engaging, and collaborative. Students were not passive recipients of instruction but active participants in constructing meaning from images and words. This aligns with Mayer's (2009) cognitive theory of multimedia learning, which argues that learning is enhanced when students process both verbal and visual input together. PWIM provided this dual coding, which likely supported comprehension and heightened engagement.

The results also suggest that PWIM influenced students' learning preferences. Many students indicated that they preferred lessons involving pictures because these lessons felt easier to understand and more enjoyable. This outcome resonates with research on visual literacy and English Learners, which has shown that images serve as powerful scaffolds for reducing cognitive load and supporting meaning-making (Chun, 2009). PWIM not only made learning more accessible but also shifted student preferences toward interactive, image-based literacy tasks.

In addition, the findings can be understood through the lens of inquiry-based learning (IBL). Julien, Gross, and Latham (2018) and Katan and Baarts (2021) described IBL as an approach that fosters observation, questioning, and meaning making. During PWIM lessons, students naturally questioned images, generated predictions, and made personal connections to vocabulary. These practices extended engagement beyond surface-level enjoyment to deeper forms of cognitive involvement, suggesting that PWIM helped students build transferable skills in problem-solving and analysis.

At the same time, the findings reveal that engagement was not uniform. While many students expressed enthusiasm, a few still reported lower enjoyment, reflecting the reality that no single strategy appeals equally to all learners. This nuance aligns with Ivey and Broaddus's (2001) study, which found that while interactive approaches increase engagement for most students, personal interests, cultural relevance, and peer dynamics also shape how students respond to instruction. Thus, while PWIM is effective for promoting engagement broadly, it should be combined with other strategies that honor individual student differences.

Taken together, the results suggest that PWIM significantly enhanced students' engagement, enjoyment, and learning preferences by providing accessible, interactive, and inquiry-based literacy experiences. These findings confirm and extend existing research on the role of visuals and active learning in literacy development, while also highlighting the importance of tailoring instruction to the diverse needs of learners.

## Implications for Instruction

The results indicate that PWIM is highly effective in supporting student engagement, shaping learning preferences, and fostering enjoyment of literacy activities. One of the clearest instructional implications is that PWIM should be used not only as a vocabulary strategy but as a broader tool for cultivating curiosity and persistence in learning. In English Language Arts, teachers can use PWIM to introduce both narrative and informational texts in ways that invite students to predict, question, and connect personally to reading. This practice reflects Guthrie and Wigfield's (2000) emphasis on creating meaningful and authentic learning tasks as a pathway to increasing student motivation.

The study also points to significant cross-curricular applications. In science, PWIM charts created from diagrams of ecosystems, weather systems, or space phenomena can engage students in inquiry-driven vocabulary learning that directly supports reading comprehension and scientific writing. Fang (2013) observed that visual supports are particularly valuable in science instruction because they anchor abstract concepts in concrete representations. In social studies, PWIM can be applied to historical photographs, maps, or cultural artifacts, sparking engagement while building background knowledge. This aligns with Choi's (2013) research, which documented how visuals help English Learners connect to culturally unfamiliar material. Even in mathematics, PWIM can be used to decode the specialized vocabulary of word problems and mathematical concepts, helping students engage more confidently in problem solving.

The connection between PWIM and inquiry-based learning (IBL) is especially important. During PWIM lessons, students naturally observed, questioned, and interpreted images in ways consistent with IBL principles (Julien et al., 2018; Katan & Baarts, 2021). By framing PWIM not only as a literacy tool but also as an inquiry tool, teachers can foster critical thinking and transferable problem-solving skills. This suggests that PWIM can play a dual role: engaging students affectively while also nurturing higher-order cognitive skills. When positioned this way, PWIM becomes more than an instructional strategy—it becomes a method for creating classrooms where inquiry and curiosity drive learning across subjects.

Another instructional implication is the value of collaboration in sustaining engagement. Kagan (1994) demonstrated that cooperative learning structures increase participation and motivation. Incorporating PWIM into pair or group activities, such as team-based vocabulary building or collaborative inquiry projects, may enhance both enjoyment and persistence. These collaborative formats can also help reluctant learners feel supported, reducing the isolation that sometimes diminishes engagement for English Learners (Calderón et al., 2011).

Finally, the study suggests that educators should view PWIM as part of a larger engagement-centered classroom culture. Ivey and Broaddus (2001) found that student engagement is shaped not only by instructional strategies but also by the overall environment of the classroom. Teachers can integrate PWIM with other engaging practices such as choice reading, project-based learning, and multimodal assignments. By embedding PWIM into a balanced program, educators can ensure that students are not only engaged in isolated lessons but also develop sustained preferences for literacy activities that carry across contexts.

## Recommendations for Future Study

The findings for Research Question 5 suggest that PWIM strongly enhanced student engagement and enjoyment of literacy activities, yet there is more to learn about how and why these outcomes occur. Future studies should first explore the relationship between PWIM and inquiry-based learning (IBL). During this study, students naturally questioned and interpreted images in ways that mirror inquiry practices. Research by Julien, Gross, and Latham (2018) and Katan and Baarts (2021) supports the view that inquiry fosters deeper engagement and critical thinking. Future research could investigate whether embedding PWIM within structured IBL frameworks increases not only enjoyment but also higher-order skills such as analysis, synthesis, and evaluation.

Another valuable direction is the use of observational studies to examine engagement in more detail. While this study found positive participation during PWIM activities, systematic classroom observations using engagement rubrics could provide more precise data on how student behaviors differ during PWIM compared to traditional lessons. Guthrie and Wigfield's (2000) engagement theory suggests that authentic, collaborative learning tasks promote deeper persistence. Observational studies could test whether PWIM produces these engagement outcomes consistently across different settings and populations.

Future research should also investigate the integration of technology with PWIM as a way to sustain engagement. Mayer’s (2009) cognitive theory of multimedia learning provides a foundation for studying how digital images, interactive whiteboards, or tablet-based PWIM activities might extend enjoyment and motivation. Studies could explore whether technology-enhanced PWIM lessons increase persistence and preferences for literacy tasks beyond what traditional PWIM achieves.

In addition, it would be valuable to examine how individual differences influence engagement with PWIM. Ivey and Broaddus (2001) demonstrated that personal interests and cultural relevance are critical factors in sustaining engagement. Future research might explore whether PWIM is more engaging for certain subgroups of students, such as newcomers compared to long-term English Learners, or for students with particular learning styles. This line of inquiry could help teachers tailor PWIM lessons to maximize engagement for diverse learners.

Finally, future studies should explore how PWIM engagement translates into broader academic outcomes. While this study focused on literacy activities, it is possible that the enjoyment and persistence fostered by PWIM also enhance motivation and performance in other areas, such as science, social studies, or mathematics. Calderón et al. (2011) noted that English Learners thrive when strategies are applied consistently across subjects. Future research could investigate whether PWIM, when integrated across the curriculum, promotes not only literacy engagement but also overall academic persistence and achievement. Although the findings across all five research questions reveal several promising outcomes, the study’s scope and design introduce certain limitations that must be acknowledged before drawing final conclusions.

## Limitations

Several factors limited the generalizability and interpretation of this study's findings. A primary limitation concerned potential language barriers between the researcher and participants, which may have reduced the nuance of student responses even with real time interpretation and bilingual verification during transcription (Creswell & Creswell, 2018). Because all data were collected in a single rural serving micropolitan elementary school with a distinctive linguistic and socioeconomic profile, external validity was constrained. The results may not transfer to urban settings, to suburban districts with different demographic compositions, or to English Learners whose schooling histories and home literacy environments differ from those represented here (Merriam & Tisdell, 2016). The eight-week duration further restricted interpretation about persistence and growth. Attitudinal shifts often precede measurable performance gains, and the study's limited time frame did not allow evaluation of whether early changes would consolidate into durable habits or translate into statistically reliable improvements over subsequent quarters or school years (Stanovich, 1986). Although the absence of participant attrition strengthened internal validity by preserving a stable cohort, the overall sample remained modest, and the qualitative subsample of seventeen students limited the breadth of perspectives. These factors together caution against broad extrapolation beyond comparable classrooms and student populations (Shadish et al., 2002).

Design and measurement features also introduced limitations. The quantitative strand used a pretest–posttest design without a concurrent control group, relying on a historical comparison cohort for contextualization. As a result, threats such as maturation, testing effects, and cohort differences could not be fully ruled out (Creswell & Plano Clark, 2018; Field, 2013). The FastBridge Assessments and the Garfield Reading Attitude Survey provided complementary evidence, yet both instruments have limited sensitivity over short intervals, and the Garfield relies on student self report, which is susceptible to social desirability and classroom climate effects (McKenna & Kear, 1990). Teacher implemented interventions are inherently multifaceted. Despite training and support, small variations in fidelity, pacing, or classroom routines across sections may have influenced student experiences in ways not fully captured by the instruments or observations (Joyce et al., 2017). Qualitative interpretations were strengthened through the development of a detailed codebook, software assisted auditing, and representative quotations, but they remained dependent on researcher judgment. Translation choices, coding decisions, and the context of the interviews may have shaped how students expressed their attitudes and confidence (Braun & Clarke, 2006; Saldaña, 2021). Finally, the composition of the English Learner population in this school, which included both newcomers and long-term bilingual students, suggests that the observed patterns may not represent all subgroups equally. Future studies that stratify by proficiency level, years in U.S. schools, and prior educational experiences could clarify for whom and under what conditions the Picture Word Induction Model yields the strongest effects (August & Shanahan, 2006; Calhoun, 1999).

## Conclusion

This study examined the influence of the Picture Word Induction Model (PWIM) on fifth-grade English Learners' literacy development, focusing on attitudes toward reading, confidence in reading aloud, attitudes toward writing, reading habits in and outside of school, and overall engagement with literacy activities. The findings provide a nuanced picture of PWIM's impact, highlighting both its strengths and its limitations while pointing to important implications for classroom practice and future research.

## What We Learned

The study found that PWIM had a consistently positive influence on student attitudes toward reading, with qualitative data showing more positive than negative responses, confirming Calhoun's (1999) assertion that PWIM engages learners through visual scaffolds. These results align with Guthrie and Wigfield's (2000) engagement theory, which stresses the role of motivation in sustained literacy growth, and with García and Kleifgen's (2018) argument that accessible entry points are critical for English Learners. PWIM also showed promise in fostering reading confidence, though outcomes were mixed. The uneven results align with Bandura's (1997) self-efficacy theory, which suggests that confidence requires repeated mastery experiences, and echo Rasinski et al.'s (2011) findings that vocabulary knowledge is a key barrier to fluency.

In terms of writing, PWIM reduced anxiety and increased willingness to write, confirming Graham and Perin's (2007) conclusion that scaffolding is essential for writing success and extending Pajares's (2003) observation that reducing writing anxiety leads to increased productivity. Although students produced longer and more descriptive writing with PWIM support, challenges with grammar and organization persisted, indicating that PWIM should be integrated into comprehensive writing instruction rather than used in isolation.

The study also revealed modest changes in reading habits beyond school. While some students demonstrated increased voluntary reading, the influence of PWIM on out-of-school behaviors was limited. This finding reflects Krashen's (2004) assertion that voluntary reading depends on access to engaging texts and confirms Snow, Burns, and Griffin's (1998) emphasis on the importance of family literacy environments. Finally, PWIM significantly enhanced engagement, enjoyment, and learning preferences during literacy activities. These results confirm Mayer's (2009) cognitive theory of multimedia learning, which highlights the value of integrating verbal and visual inputs, and extend Julien, Gross, and Latham's (2018) and Katan and Baarts's (2021) work on inquiry-based learning, demonstrating that PWIM fosters curiosity and questioning as well as engagement.

## What It Means for Practice

The findings suggest that PWIM is an effective strategy for shaping literacy instruction across multiple dimensions of student learning. In English Language Arts, PWIM can serve as both a vocabulary scaffold and an engagement strategy that makes texts more approachable. In science and mathematics, PWIM provides access to technical vocabulary, reducing barriers to comprehension and oral participation (Fang & Wei, 2010). In social studies, PWIM helps connect students to culturally and historically unfamiliar content (Choi, 2013), making reading and writing tasks more accessible.

The results also highlight the importance of integrating PWIM into daily instruction rather than treating it as an occasional activity. August and Shanahan (2006) stressed that sustained, scaffolded literacy practices are essential for English Learners, and the findings of this study reinforce that long-term, consistent use of PWIM is more likely to produce measurable academic outcomes. In addition, pairing PWIM with cooperative learning structures (Kagan, 1994) can amplify its benefits by providing low-stakes, collaborative opportunities for participation, especially for students who experience anxiety in whole-class settings. Teachers should also be mindful of the affective dimensions of literacy. As Pajares (2003) and Henk and Melnick (1995) emphasized, confidence and self-perception are as critical as skill development. PWIM offers a concrete way to support both dimensions simultaneously.

## What Future Research Is Needed

The study points to several promising directions for further research. Longitudinal studies are needed to examine whether the affective gains observed in attitudes, confidence, and engagement ultimately translate into measurable performance outcomes. Stanovich's (1986) concept of the Matthew Effect suggests that small attitudinal gains may compound over time into substantial literacy advantages, but this requires confirmation through multi-year research. Future studies should also employ validated measures such as the Reader Self-Perception Scale (Henk & Melnick, 1995) to capture shifts in reading confidence more precisely.

The integration of PWIM with cooperative learning strategies is another important area for exploration. Research by Kagan (1994) and Calderón et al. (2011) shows that structured peer collaboration reduces anxiety and increases participation, and future studies should test whether embedding PWIM in cooperative structures enhances its effects. Additionally, more work is needed on cross-genre and cross-curricular applications of PWIM for writing (Graham & Perin, 2007; Choi, 2013) and on how family and community involvement can extend its influence into out-of-school reading habits (Snow et al., 1998; Krashen, 2004). Finally, the role of technology in enhancing PWIM should be investigated, building on Mayer's (2009) cognitive theory of multimedia learning, to determine whether digital platforms increase engagement, accessibility, and long-term learning outcomes.

## Closing Reflection

Taken together, the results of this study suggest that PWIM is a powerful instructional tool for fostering positive literacy attitudes, supporting reading confidence, reducing writing anxiety, and increasing engagement for English Learners. Its greatest strength lies in its capacity to make literacy accessible and enjoyable while also preparing students to engage with complex academic content. At the same time, the study highlights that PWIM is not a complete solution on its own but should be integrated into comprehensive, sustained literacy programs supported by family, community, and schoolwide practices. As Calhoun (1999) envisioned, PWIM provides a framework for inductive, student-centered learning. This study affirms her vision while also extending it to show how PWIM can contribute to the broader educational goals of equity, access, and empowerment for linguistically diverse learners.

## Reflective Epilogue

As both the researcher and a classroom teacher, I recognize that this study is not only an academic contribution but also a reflection of my daily practice. The Picture Word Induction Model continues to play an important role in my own instruction, and although this school year is still in its early stages, I have already seen the ways in which PWIM engages students and supports their learning. While the findings of this study reveal that PWIM is not a comprehensive solution to all literacy challenges, they affirm its value as a meaningful and effective strategy for fostering positive attitudes, confidence, and engagement among English Learners. More importantly, the research has deepened my own commitment to providing instruction that is equitable, student-centered, and responsive to the diverse needs of learners. My hope is that this study will encourage other educators to explore PWIM and adapt it to their own contexts, continuing the work of building classrooms where all students see themselves as capable readers and writers.

# References


Aberson, C. L. (2019). *Applied power analysis for the behavioral sciences*. Routledge. https://doi.org/10.4324/9781315171500

Abualkishik, A. Z., A., A., & Gulzar, Y. (2020). Disaster recovery in cloud computing systems: An overview. *International Journal of Advanced Computer Science and Applications, 11*(9). https://doi.org/10.14569/ijacsa.2020.0110984

Addi-Raccah, A., & Arviv-Elyashiv, R. (2008). Parent empowerment and teacher professionalism. *Urban Education, 43*(3), 394–415. https://doi.org/10.1177/0042085907305037

Afflerbach, P. (2016). *Handbook of individual differences in reading: Reader, text, and context*. Routledge.

Ahmed, M. K. (1990, March 1). Speaking as cognitive regulation: A Vygotskyan perspective. *Semantic Scholar*. https://www.semanticscholar.org/paper/SPEAKING-AS-COGNITIVE-REGULATION%3A-A-VYGOTSKYAN-Ahmed/1f8df4fe5757223ec643ea1c44c076fad89cd385

American Psychological Association. (2010). *Ethical principles of psychologists and code of conduct*. https://www.apa.org/ethics/code/

Anderson, S. E. (1997). Understanding teacher change: Revisiting the concerns-based adoption model. *Curriculum Inquiry, 27*(3), 331–367. https://www.jstor.org/stable/1180105

Anning, B. (2010). Embedding an Indigenous Graduate Attribute into University of Western Sydney's courses. *The Australian Journal of Indigenous Education, 39*(S1), 40–52. https://doi.org/10.1375/s1326011100001125

Asakawa, K., & Csikszentmihalyi, M. (2000). Feelings of connectedness and internalization of values in Asian American adolescents. *Journal of Youth and Adolescence, 29*(2), 121–145. https://doi.org/10.1023/A:1005146914355

Ashton-Warner, S. (1986). *Teacher*. Simon & Schuster.

Astorga, M. C. (1999). The text–image interaction and second language learning. *The Australian Journal of Language and Literacy, 22*(3), 212.

Baloche, L. A. (1998). *The cooperative classroom: Empowering learning*. Prentice Hall.

Bandura, A. (1997). Self-efficacy: The exercise of control. *Journal of Cognitive Psychotherapy, 13*(2), 158–166. https://doi.org/10.1891/0889-8391.13.2.158

Bauld, A. (2022, November 16). What is inquiry-based learning? *XQ*. https://xqsuperschool.org/teaching-learning/what-is-inquiry-based-learning-ibl/

Bennett, B. B., & Rolheiser-Bennett, N. C. (2008). *Beyond Monet: The artful science of instructional integration*. Bookation.

Bennett, B. B., Stevahn, L., & Rolheiser, C. (1991). *Cooperative learning: Where heart meets mind*. Educational Connections.

Bettiol, E. (2010). Can learners be motivated to speak a foreign language through the use of games? *Linguagem em (Dis)curso, 2*(1).

Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the black box: Assessment for learning in the classroom. *Phi Delta Kappan, 86*(1), 8–21. https://doi.org/10.1177/003172170408600105

Bliss, L. B. (2008). Media review: Greene, J. C. (2007). Mixed methods in social inquiry. *Journal of Mixed Methods Research, 2*(2), 190–192. https://doi.org/10.1177/1558689807314013

Bloom, A. (2009, November 13). Beware the carrot: Rewards do not work. *Tes*. https://www.tes.com/magazine/archive/beware-carrot-rewards-dont-work

Boerma, I. E., Mol, S. E., & Jolles, J. (2016). Reading pictures for story comprehension requires mental imagery skills. *Frontiers in Psychology, 7*, 1630. https://doi.org/10.3389/fpsyg.2016.01630

Borg, W. R., & Gall, M. D. (1983). *Educational research: An introduction*. Longman.

Boyle, J. P. (1987). Intelligence, reasoning, and language proficiency. *The Modern Language Journal, 71*(3), 277–288. https://doi.org/10.2307/326447

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://www.tandfonline.com/doi/abs/10.1191/1478088706qp063oa

Brody, C. M., & Nagel, N. G. (2004). Teacher decision making for cooperative learning in a preservice master's program. In E. G. Cohen, C. M. Brody, & M. Sapon-Shevin (Eds.), *Teaching cooperative learning: The challenge for teacher education* (pp. 31–47). State University of New York Press.

Brown, H. D. (2000). *Principles of language learning and teaching*. Longman.

Burmark, L. (2002). *Visual literacy: Learn to see, see to learn*. Association for Supervision and Curriculum Development.

Burnett, P. C. (2001). Elementary students' preferences for teacher praise. *The Journal of Classroom Interaction, 36*(1), 16–23. https://www.jstor.org/stable/23870540

Calderón, M. (2011). *Teaching reading to English language learners, grades 6–12: A framework for improving achievement in the content areas*. Corwin Press.

Cameron, J., Banko, K. M., & Pierce, W. D. (2001). Pervasive negative effects of rewards on intrinsic motivation: The myth continues. *The Behavior Analyst, 24*(1), 1–44. https://doi.org/10.1007/BF03392017

Campbell, E. (2003). *The ethical teacher*. Open University Press.

Casey, H. K. (2008). Engaging the disengaged: Using learning clubs to motivate struggling adolescent readers and writers. *Journal of Adolescent & Adult Literacy, 52*(4), 284–294. https://doi.org/10.1598/JAAL.52.4.2

Castle, K., & Rogers, K. (1993). Rule-creating in a constructivist classroom community. *Childhood Education, 70*(2), 77–80. https://doi.org/10.1080/00094056.1993.10520997

Chellappan, K. (1991). The role of translation in learning English as a second language. *International Journal of Translation, 3*, 61–72. https://er.lib.k-state.edu/login?url=https://www.proquest.com/scholarly-journals/role-translation-learning-english-as-second/docview/85593179/se-2

Chih-Pei Hu, & Chang, Y.-Y. (2011). John W. Creswell, Research Design: Qualitative, quantitative, and mixed methods approaches. *Journal of Social and Administrative Sciences, 4*(2), 205–207. https://doi.org/10.1453/jsas.v4i2.1313

Choi, J. (2013). *Language policy and planning and the Korean language in American schools*. Lexington Books.

Chun, D. M. (2009). Computer-mediated discourse in second language acquisition. *Journal of Interactive Learning Research, 20*(1), 67–83.

Ciani, K. D., Summers, J. J., Easter, M. A., & Sheldon, K. M. (2008). Collaborative learning and positive experiences: Does letting students choose their own groups matter? *Educational Psychology, 28*(6), 627–641. https://doi.org/10.1080/01443410802084792

Clay, M. M. (1991). *Becoming literate: The construction of inner control*. Heinemann.

Clay, M. M. (2015). *Change over time in children's literacy development*. Heinemann.

Cohen, E. G., & Lotan, R. A. (2014). *Designing groupwork*. Teachers College Press.

Comacchio, D. J. (2006). *Reading images: Visual and critical literary strategies as methods of meaning construction*. https://hdl.handle.net/1807/118397

Combs, A. W. (1990). Toward a viable psychology of meaning. *Person-Centered Review, 5*(4), 449–463. https://er.lib.k-state.edu/login?url=https://www.proquest.com/scholarly-journals/toward-viable-psychology-meaning/docview/617907125/se-2

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

Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE.

Crockett, L. (2023). The 9 big advantages of inquiry-based learning. *Future Focused Learning*. https://futurefocusedlearning.net/blog/learner-agency/the-9-big-advantages-of-inquiry-based-learning

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper & Row.

Csikszentmihalyi, M. (2009). *The evolving self: A psychology for the third millennium*. HarperCollins.

Csikszentmihalyi, M. (2013). *Creativity: The psychology of discovery and invention*. Harper Perennial Modern Classics. (Original work published 1996)

Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children in the crossfire*. Multilingual Matters.

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2020). Implications for educational practice of the science of learning and development. *Applied Developmental Science, 24*(2), 97–140. https://doi.org/10.1080/10888691.2018.1537791

Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE handbook of qualitative research* (4th ed.). SAGE.

Dewey, J. (1938). *Experience and education*. Free Press.

Dewey, J. (1971). *The child and the curriculum; and the school and society*. University of Chicago Press.

Dewey, J., & Dewey, E. (1915). *Schools of tomorrow*. Grindl Press.

Donao, R. (1994). Collective scaffolding in second language learning. In *Vygotskian approaches to second language research* (pp. 33–56).

Dougherty Stahl, K. A., Flanigan, K., & McKenna, M. C. (2020). *Assessment for reading instruction* (4th ed.). Guilford Press.

Doyle, L., McCabe, C., Keogh, B., Brady, A., & McCann, M. (2020). An overview of the qualitative descriptive design within nursing research. *Journal of Research in Nursing, 25*(5), 443–455. https://doi.org/10.1177/1744987119880234

Editorial: A lot to learn about teaching English. (2003, January 7). *Taipei Times*. https://www.taipeitimes.com/News/editorials/archives/2003/01/07/0000190092

Ellis, R. (1997). *Second language acquisition*. Oxford University Press. https://archive.org/details/rodellissecondlanguageacquisitionoxfordintroductiontolanguagestudyoxforduniversitypressusa1997/page/n3/mode/2up

Ellison, C. M., Boykin, A. W., Tyler, K. M., & Dillihunt, M. L. (2005). Examining classroom learning preferences among elementary school students. *Social Behavior and Personality: An International Journal, 33*(7), 699–708. https://doi.org/10.2224/sbp.2005.33.7.699

Evans, R. (1996). *The human side of school change: Reform, resistance, and the real-life problems of innovation*. Jossey-Bass.

Fasosin, T. (2020). A cultural look on the adolescent mind. *The Sociologist*. https://thesociologistdc.com/all-issues/a-cultural-look-on-the-adolescent-mind/

FastBridge. (2018). *Formative Assessment System for Teachers™ technical manual*. https://support-content.fastbridge.org/FAST_Research/FAST_Technical_Manual_Version_FINAL.pdf

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. SAGE.

Fonseca-Herrera, O., Rojas, A., & Florez, H. (2021). A model of an information security management system based on NTC-ISO/IEC 27001 standard. *International Journal of Computer Science, 48*(2), 1–12. https://www.iaeng.org/IJCS/issues_v48/issue_2/IJCS_48_2_01.pdf

Fraenkel, J. R., & Wallen, N. E. (2009). *How to design and evaluate research in education* (7th ed.). McGraw-Hill Education.

Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74*(1), 59–109. https://doi.org/10.3102/00346543074001059

Freire, P. (2017). *Pedagogy of the oppressed*. Penguin Books. (Original work published 1970)

Freire, P., Paula, A., & Alexandre. (2007). *Daring to dream*. Routledge. https://doi.org/10.4324/9781315635309

Galda, L., Cullinan, B. E., & Strickland, D. S. (1997). *Language, literacy and the child* (2nd ed.). Harcourt Brace.

Gall, J. P., Gall, M. D., & Borg, W. R. (1999). *Applying educational research* (4th ed.). Allyn & Bacon.

Gardner, H. E. (1993). *Frames of mind: The theory of multiple intelligences*. Basic Books.

Gardner, R. C. (2001). Integrative motivation and second language learning: Practical issues. *関西大学外国語教育研究, 2*, 71–91. http://hdl.handle.net/10112/1224

Gebhard, J. G. (2006). *Teaching English as a foreign or second language: A teacher self-development and methodology guide* (2nd ed.). University of Michigan Press.

Geeslin, K. L., Long, A. Y., & Burgo, C. (2015). Review of Sociolinguistics and Second Language Acquisition: Learning to use language in context. *The Modern Language Journal, 99*(3), 604–606. https://www.jstor.org/stable/43651988

Ghaith, G. (2003). Effects of the Learning Together model of cooperative learning on English as a foreign language reading achievement, academic self-esteem, and feelings of school alienation. *Bilingual Research Journal, 27*(3), 451–474. https://doi.org/10.1080/15235882.2003.10162603

Ghaith, G. M. (2002). The relationship between cooperative learning, perception of social support, and academic achievement. *System, 30*(3), 263–273. https://doi.org/10.1016/S0346-251X(02)00014-3

Ghaith, G., & El-Malak, M. A. (2004). Effect of Jigsaw II on literal and higher order EFL reading comprehension. *Educational Research and Evaluation, 10*(2), 105–115. https://doi.org/10.1076/edre.10.2.105.27906

Giangreco, M. F., Suter, J. C., & Doyle, M. B. (2010). Paraprofessionals in Inclusive Schools: A Review of Recent Research. *Journal of Educational and Psychological Consultation*, *20*(1), 41–57. https://doi.org/10.1080/10474410903535356

Gibbons, P. (2002). *Scaffolding language, scaffolding learning*. Heinemann.

Glassman, M. (2001). Dewey and Vygotsky: Society, experience, and inquiry in educational practice. *Educational Researcher, 30*(4), 3–14. https://doi.org/10.3102/0013189X030004003

Gracia Mayo, M. P., & Gracia Lecumberri, M. L. (2003). *Age and the acquisition of English as a foreign language*. Multilingual Matters.

Graham, S. (2006). Strategy instruction and the teaching of writing: A meta-analysis. In C. A. MacArthur, S. Graham, & J. Fitzgerald (Eds.), *Handbook of writing research* (pp. 187–207). Guilford Press.

Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 403–422). Lawrence Erlbaum Associates.

Haleh Asgarinia, Penedo, A. C., Esteves, B., & Lewis, D. (2023). Who should I trust with my data? Ethical and legal challenges for innovation in new decentralized data management technologies. *Information, 14*(7), 351. https://doi.org/10.3390/info14070351

Hall, G. E., & Hord, S. M. (2006). *Implementing change: Patterns, principles, and potholes* (2nd ed.). Pearson.

Hamberger, N. M., & Moore, R. L. (1997). From personal to professional values: Conversations about conflicts. *Journal of Teacher Education, 48*(4), 301–310. https://doi.org/10.1177/0022487197048004008

Harris, J., & Hanley, B. (2004). Cooperative learning in teacher education: A four-year model. In E. G. Cohen, C. M. Brody, & M. Sapon-Shevin (Eds.), *Teaching cooperative learning: The challenge for teacher education* (pp. 65–82). State University of New York Press. https://archive.org/details/teachingcooperat0000unse/page/64/mode/2up

Hartendorp, M. O., Van der Stigchel, S., & Postma, A. (2013). To what extent do we process the nondominant object in a morphed figure? Evidence from a picture–word interference task. *Journal of Cognitive Psychology, 25*(7), 843–860. https://doi.org/10.1080/20445911.2013.832197

Hasbrouck, J., & Tindal, G. A. (2006). Oral reading fluency norms: A valuable assessment tool for reading teachers. *The Reading Teacher, 59*(7), 636–644. https://doi.org/10.1598/RT.59.7.3

Hayes, B. K., & Heit, E. (2004). Why learning and development can lead to poorer recognition memory. *Trends in Cognitive Sciences, 8*(8), 337–339. https://doi.org/10.1016/j.tics.2004.05.001

Heath, S. B. (1983). *Ways with words: Language, life, and work in communities and classrooms*. Cambridge University Press.

Heller, M. F. (1995). *Reading–writing connections*. Longman. https://archive.org/details/readingwritingco0002hell/page/n3/mode/2up

Henderlong, J., & Lepper, M. R. (2002). The effects of praise on children's intrinsic motivation: A review and synthesis. *Psychological Bulletin, 128*(5), 774–795. https://doi.org/10.1037/0033-2909.128.5.774

Henk, W. A., & Melnick, S. A. (1995). The Reader Self-Perception Scale (RSPS): A new tool for measuring how children feel about themselves as readers. *The Reading Teacher, 48*(6), 470–482.

Hennessy, S. (2021). *Teaching and learning with ICT: New technology, new pedagogy?* Routledge.

Herrera, S. G., Kavimandan, S. K., Perez, D. R., & Wessels, S. (2017). *Accelerating literacy for diverse learners*. Teachers College Press.

Holodynski, M., & Seeger, F. (2013). Current and impending issues in cultural–historical studies on emotions: A follow-up. *Mind, Culture, and Activity, 20*(3), 288–307. https://doi.org/10.1080/10749039.2013.807207

Hudson, G. (2000). *Essential introductory linguistics: Instructor's book*. Blackwell. https://archive.org/details/essentialintrodu0000huds/page/n5/mode/2up

Huebner, T. A. (2009). Small-group intervention for ELLs. *Educational Leadership, 66*(7), 90–91.

Hunter, K. (2007). *Read Naturally assessments and programs in a response to intervention (RTI) model*. https://www.readnaturally.com/userfiles/ckfiles/files/rti-white-paper.pdf

Izumi-Taylor, S. (2008). Sunao, or cooperative, children: How Japanese teachers nurture autonomy. *YC Young Children, 63*(3), 76–79. http://www.jstor.org/stable/42731009

Jacob, E., Rottenberg, L., Patrick, S., & Wheeler, E. (1996). Cooperative learning: Context and opportunities for acquiring academic English. *TESOL Quarterly, 30*(2), 253–280. https://doi.org/10.2307/3588143

Jacobs, G. M., McCafferty, S. G., & Iddings, A. C. D. (2006). Roots of cooperative learning in general education. *Online Submission*.

Jenkins, J. R., Antil, L. R., Wayne, S. K., & Vadasy, P. F. (2003). How cooperative learning works for special education and remedial students. *Exceptional Children, 69*(3), 279–292. https://doi.org/10.1177/001440290306900302

Jian, Y. (2018). Reading instructions influence cognitive processes of illustrated text reading, not subject perception: An eye-tracking study. *Frontiers in Psychology, 9*, 2263. https://doi.org/10.3389/fpsyg.2018.02263

Johnson, D. W. (1994). *Reaching out: Interpersonal effectiveness and self-actualization* (6th ed.). Allyn & Bacon.

Johnson, D. W., & Johnson, F. P. (2017). *Joining together: Group theory and group skills* (12th ed.). Pearson.

Johnson, D. W., & Johnson, R. T. (2017). Cooperative learning: The foundation for active learning. In S. M. Brito (Ed.), *Active learning—Beyond the future* (pp. 1–26). IntechOpen. https://doi.org/10.5772/intechopen.71241

Johnson, D. W., & Johnson, R. T. (2017). *The cooperative learning book: Cooperative learning in the classroom*. Interaction Book Company.

Johnson, D. W., Johnson, R. T., & Holubec, E. J. (1994). *The new circles of learning*. ASCD.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college: What evidence is there that it works? *Change, 30*(4), 26–35. https://www.jstor.org/stable/40165638

Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). *Cooperative learning methods: A meta-analysis* (pp. 27–35). https://www.scribd.com/document/36554686/Cooperative-Learning-Methods

Johnson, D. W., Johnson, R. T., & Taylor, B. (1993). Impact of cooperative and individualistic learning on high-ability students' achievement, self-esteem, and social acceptance. *The Journal of Social Psychology, 133*(6), 839–844. https://doi.org/10.1080/00224545.1993.9713946

Johnson, J., Prior, S., & Artuso, M. (2000). Field dependence as a factor in second language communicative production. *Language Learning, 50*(3), 529–567. https://doi.org/10.1111/0023-8333.00137

Jose, R., & Dharma Raja, B. W. (2011). Teachers' role in fostering reading skill: Effective and successful reading. *I-Manager's Journal on English Language Teaching, 1*(4), 1–10. https://doi.org/10.26634/jelt.1.4.1599

Joseph, P. B. (2003). Teaching about the moral classroom: Infusing the moral imagination into teacher education. *Asia-Pacific Journal of Teacher Education, 31*(1), 7–20. https://doi.org/10.1080/13598660301617

Joyce, B. R., Weil, M., & Calhoun, E. (2017). *Models of teaching*. Pearson.

Julien, H. (2018). Information behavior and information practices: A special issue for research in information science. *Information Research, 23*(3).

Julien, H., Gross, M., & Latham, D. (2018). Survey of information literacy instructional practices in U.S. academic libraries. *College & Research Libraries, 79*(2), 179–199. https://doi.org/10.5860/crl.79.2.179

Kagan, S. (1994). *Cooperative learning*. Kagan Cooperative Learning.

Kagan, S., & Kagan, M. (1998). Staff development and the structural approach to cooperative learning. In C. M. Brody & N. Davidson (Eds.), *Professional development for cooperative learning: Issues and approaches* (pp. 104–121). State University of New York Press.

Kalyanpur, M., & Harry, B. (2012). *Cultural reciprocity in special education: Building family–professional relationships*. Brookes.

Kansas State Department of Education. (2021). *Kansas Education Systems Accreditation (KESA) framework*. https://www.ksde.org/

Kansas State Department of Education. (2023). *Kansas Building Report Card*. https://www.ksde.org/

Kansas State Department of Education. (2024). *Kansas Dyslexia Handbook*. https://www.ksde.org/

Katan, L., & Baarts, C. A. (2021). Improving student learning through inquiry-based reading. *Teaching in Higher Education*, 1–16. https://doi.org/10.1080/13562517.2021.1872529

Kear, D. J., Coffman, G. A., McKenna, M. G., & Ambrosio, A. L. (2000). Measuring attitude toward writing: A new tool for teachers. *The Reading Teacher, 54*(1), 10–23. https://er.lib.k-state.edu/login?url=https://www.proquest.com/scholarly-journals/measuring-attitude-toward-writing-new-tool/docview/203273922/se-2

Kessler, C. (2004). Cooperative language learning: A teacher's resource book. In B. McCombs (Ed.), *Best practices in language education*. Longman.

Kirsch, C. (2008). *Teaching foreign languages in the primary school*. Continuum. https://archive.org/details/teachingforeignl0000kirs/page/n5/mode/2up

Kissel, R., Regenscheid, A., Scholl, M., & Stine, K. (2014). *Guidelines for media sanitization*. https://doi.org/10.6028/NIST.SP.800-88r1

Kitao, S. K. (1989). *Reading, schema theory, and second language learners*. Eichosha Shinsha.

Korda, A. (2016). Learning from "good pictures": Walter Crane's picture books and visual literacy. *Word & Image, 32*(4), 327–339. https://doi.org/10.1080/02666286.2016.1204131

Kuwabara, M., Alonso, J., & Ayala, D. (2020). Cultural differences in visual contents in picture books. *Frontiers in Psychology, 11*, 304. https://doi.org/10.3389/fpsyg.2020.00304

Lamanna, S. (2021). A qualitative analysis of translanguaging by Colombian migrants in North Carolina. *Languages, 6*(2), 64. https://doi.org/10.3390/languages6020064

Lantolf, J. P., & Appel, G. (1994). Theoretical framework: An introduction to Vygotskian perspectives on second language research. In J. P. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 1–32). Ablex. https://archive.org/details/vygotskianapproa0000unse/page/n7/mode/2up

Lantolf, J., & Thorne, S. L. (2006). *Sociocultural theory and the genesis of second language development*. Oxford University Press.

Larson, L. C. (2009). Reader response meets new literacies: Empowering readers in online learning communities. *The Reading Teacher, 62*(8), 638–648. https://www.jstor.org/stable/20486619

Lauth, G. W., & Wiedl, K. H. (1989). Cognitive teaching methods for special education: Development of approaches for intervention and assessment in Germany. *International Journal of Disability, Development and Education, 36*(3), 187–202. https://doi.org/10.1080/0156655893603003

Law, Y.-K. (2011). The effects of cooperative learning on enhancing Hong Kong fifth graders' achievement goals, autonomous motivation and reading proficiency. *Journal of Research in Reading, 34*(4), 402–425. https://doi.org/10.1111/j.1467-9817.2010.01445.x

Lee, B. C., Pandian, A., Rethinasamy, S., & Tan, D. A. L. (2019). Effects of PWIM in the ESL classroom: Vocabulary knowledge development among primary Malaysian learners. *3L: The Southeast Asian Journal of English Language Studies, 25*(4), 179–197. https://doi.org/10.17576/3l-2019-2504-11

Levine, L. N., & McCloskey, M. L. (2009). *Teaching learners of English in mainstream classrooms (K–8): One class, many paths*. Pearson.

Licul, N. (2020). Teachers' views on the use of photography in teaching arts in Croatian primary schools. *Center for Educational Policy Studies Journal, 10*(4), 187–205. https://doi.org/10.26529/cepsj.909

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.

Lubis, R. (2018). The progress of students' reading comprehension through wordless picture books. *Advances in Language and Literary Studies, 9*(1), 48–55. https://doi.org/10.7575/aiac.alls.v.9n.1p.48

Lysaker, J., & Sedberry, T. (2015). Reading difference: Picture book retellings as contexts for exploring personal meanings of race and culture. *Literacy, 49*(2), 105–111. https://doi.org/10.1111/lit.12055

Mancilla-Martinez, J. (2020). Understanding and supporting literacy development among English learners: A deep dive into the role of language comprehension. *AERA Open, 6*(1), 233285842091219. https://doi.org/10.1177/2332858420912198

Marian, V. (2018a). Bilingualism and cognitive development: Contributions from research on bilingualism and cognition. *Language Learning, 68*(S1), 1–32. https://doi.org/10.1111/lang.12300

Marian, V. (2018b, March 22). The U.S. needs to embrace multilingual education—Our children will benefit from it. *The Hill*. https://thehill.com/opinion/education/378691-the-us-needs-to-embrace-multilingual-education-our-children-will-benefit

Mavilidi, M.-F., Okely, A. D., Chandler, P., Cliff, D. P., & Paas, F. (2015). Effects of integrated physical exercises and gestures on preschool children's foreign language vocabulary learning. *Educational Psychology Review, 27*(3), 413–426. https://www.jstor.org/stable/43548487

Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). Cambridge University Press.

McDonald, J. H. (2014). *Handbook of biological statistics*. http://biostathandbook.com/

Melzi, G., & Ely, R. (2009). Language and literacy in the school years. In J. B. Gleason & N. B. Ratner (Eds.), *The development of language* (pp. 390–435). Pearson.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Mills, G. E. (2010). *Action research: A guide for the teacher researcher* (4th ed.). Pearson.

Moll, L. C. (1992). Funds of knowledge for teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice, 31*(2), 132–141. https://doi.org/10.1080/00405849209543534

Morrow, L. M., Rand, M. K., & Young, J. (1997). Differences between social and literacy behaviors of first, second, and third graders in social cooperative literacy settings. *ERIC*. https://files.eric.ed.gov/fulltext/ED406667.pdf

Morse, J. M., & Cheek, J. (2014). Making room for qualitatively driven mixed-method research. *Qualitative Health Research, 24*(1), 3–5. https://doi.org/10.1177/1049732313513656

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology, 75*(1), 33–52. https://doi.org/10.1037/0022-3514.75.1.33

Mulholland, J., & Wallace, J. (2003). Strength, sharing and service: Restorying and the legitimation of research texts. *British Educational Research Journal, 29*(1), 5–23. https://www.jstor.org/stable/1501536

Murray, D. E. (2008). *Planning change, changing plans*. University of Michigan Press ELT.

Nassaji, H. (2015). Qualitative and descriptive research: Data type versus data analysis. *Language Teaching Research, 19*(2), 129–132.

National Reading Panel, & National Institute of Child Health and Human Development. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups*. U.S. Department of Health and Human Services.

Neuman, S. B., & Roskos, K. (1993). *Language and literacy learning in the early years: An integrated approach*. Harcourt Brace.

Nevin, A., Polewski, C., & Skieber, E. (1984). The impact of cooperative learning in a regular classroom. *Pointer, 28*(3), 19–21.

Newson, D. (1998). Translation and foreign language learning. In K. Malmkjaer (Ed.), *Translation and language teaching: Language teaching and translation* (pp. 63–76). St. Jerome.

Nicholas, H., & Lightbrown, P. M. (2008). Defining child second language acquisition, defining roles for L2 instruction. In M. Alison, J. Philp, & R. Oliver (Eds.), *Second language acquisition and the younger learner: Child's play?* (pp. 27–51). John Benjamins.

Noddings, N. (1998). Thoughts on John Dewey's "Ethical principles underlying education." *The Elementary School Journal, 98*(5), 479–488. https://doi.org/10.1086/461910

Norris-Holt, J. (2001). Motivation as a contributing factor in second language acquisition. *The Internet TESL Journal, 7*(6). http://iteslj.org/Articles/Norris-Motivation.html

O'Connor, C. A. (1993). Resistance: The repercussions of change. *Leadership & Organization Development Journal, 14*(6), 30–36. https://doi.org/10.1108/01437739310145615

O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R. P., & Kupper, L. (1985). Learning strategy applications with students of English as a second language. *TESOL Quarterly, 19*(3), 557–584. https://doi.org/10.2307/3586278

Orr, K. L., & Davidson, G. V. (1993). The effects of group computer-based instruction and learning style on achievement and attitude. *ERIC*.

Ortega, L. (2009). *Understanding second language acquisition*. Hodder Education. https://archive.org/details/understandingsec0000orte/page/n7/mode/2up

Ortiz, A. E., Johnson, D. W., & Johnson, R. T. (1996). The effect of positive goal and resource interdependence on individual performance. *The Journal of Social Psychology, 136*(2), 243–249. https://doi.org/10.1080/00224545.1996.9713998

Padgett, D. (2020). Learning theories: Understanding four major ones for the classroom. *Leader in Me*. https://www.leaderinme.org/blog/learning-theories/

Paivio, A. (2010). Dual coding theory and the mental lexicon. In P. M. Connolly (Ed.), *Cognition and second language instruction* (pp. 53–80). Cambridge University Press.

Pate-Clevenger, R., Dusing, J., Houck, P., & Zuber, J. (2008). Improvement of off-task behavior of elementary and high school students through the use of cooperative learning strategies. *ERIC*.

Penfield, W., & Roberts, L. (1959). *Speech and brain-mechanisms*. Princeton University Press. https://archive.org/details/speechbrainmecha0000penf/page/n7/mode/2up

Pfiffner, L. J., Rosén, L. A., & O'Leary, S. G. (1985). The efficacy of an all-positive approach to classroom management. *Journal of Applied Behavior Analysis, 18*(3), 257–261. https://doi.org/10.1901/jaba.1985.18-257

Philp, J., Mackey, A., & Oliver, R. (2008). Child's play? Second language acquisition and the younger learner in context. In *Language learning and language teaching* (pp. 3–23). John Benjamins. https://doi.org/10.1075/lllt.23.02phi

Piaget, J. (2010). *The language and thought of the child*. Routledge. https://archive.org/details/languagethoughto0000unse/page/n7/mode/2up

Piaget, J. (2013). *The moral judgment of the child*. Routledge. https://doi.org/10.4324/9781315009681 (Original work published 1932)

Pica, T., Lincoln-Porter, F., Paninos, D., & Linnell, J. (1996). Language learners' interaction: How does it address the input, output, and feedback needs of L2 learners? *TESOL Quarterly, 30*(1), 59–84. https://doi.org/10.2307/3587607

Piro, J. M. (2002). The picture of reading: Deriving meaning in literacy through image. *The Reading Teacher, 56*(2), 126–134. https://www.jstor.org/stable/20205164

Piske, T., & Young-Scholten, M. (2008). *Input matters in SLA*. Multilingual Matters.

Prawat, R. S. (1995). Misreading Dewey: Reform, projects, and the language game. *Educational Researcher, 24*(7), 13–22. https://doi.org/10.3102/0013189X024007013

Pressley, M., & McCormick, C. (1995). *Advanced educational psychology: For educators, researchers, and policymakers*. HarperCollins. https://archive.org/details/advancededucatio0000pres/page/n3/mode/2up

Putman, M. (2009). Running the race to improve self-efficacy. *Kappa Delta Pi Record, 45*(2), 53–57. https://doi.org/10.1080/00228958.2009.10516671

Putnam, J. W. (1998). *Cooperative learning and strategies for inclusion*. Brookes. https://archive.org/details/cooperativelearn02edunse

Rakes, G. C. (1999). Teaching visual literacy in a multimedia age. *TechTrends, 43*(4), 14–18. https://doi.org/10.1007/BF02763227

Raymond, H. (2004). *The saber-tooth curriculum*. McGraw-Hill. https://archive.org/details/sabertoothcurric0000jabn/page/n9/mode/2up

Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In R. Murnane & G. Duncan (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 91–116). Russell Sage Foundation.

Reeves, D. B. (2009). The value of culture. *Educational Leadership, 66*(7), 87–89.

Reimann, A. (2018). Behaviorist learning theory. In J. I. Liontas (Ed.), *The TESOL encyclopedia of English language teaching* (pp. 1–6). Wiley. https://doi.org/10.1002/9781118784235.eelt0155

Reineke, J., Sonsteng, K., & Gartrell, D. (2008). Nurturing mastery motivation: No need for rewards. *YC Young Children, 63*(6), 89–97. https://www.jstor.org/stable/42730368

Rhodes, M., Brickman, D., & Gelman, S. A. (2008). Sample diversity and premise typicality in inductive reasoning: Evidence for developmental change. *Cognition, 108*(2), 543–556. https://doi.org/10.1016/j.cognition.2008.03.002

Richardson, A. R., Lerman, D. C., Nissen, M. A., Luck, K. M., Neal, A. E., Bao, S., & Tsami, L. (2016). Can pictures promote the acquisition of sight-word reading? An evaluation of two potential instructional strategies. *Journal of Applied Behavior Analysis, 50*(1), 67–86. https://doi.org/10.1002/jaba.354

Ritco, D. (2007, September 12). What can Taiwan do about its education? *Taipei Times*. https://www.taipeitimes.com/News/editorials/archives/2007/09/12/2003378405

Roelofs, A., Piai, V., & Schriefers, H. (2013). Context effects and selective attention in picture naming and word reading: Competition versus response exclusion. *Language and Cognitive Processes, 28*(5), 655–671. https://doi.org/10.1080/01690965.2011.615663

Roever, C., & Pan, Y.-C. (2008). Test review: GEPT: General English Proficiency Test. *Language Testing, 25*(3), 403–408. https://doi.org/10.1177/0265532208090159

Rojas-Drummond, S., Hernández, G., Vélez, M., & Villagrán, G. (1998). Cooperative learning and the appropriation of procedural knowledge by primary school children. *Learning and Instruction, 8*(1), 37–61. https://doi.org/10.1016/S0959-4752(97)00001-7

Romo, S. (2018). Factors that influence language development. *Synonym*. https://classroom.synonym.com/factors-influence-language-development-6018235.html

Roseth, C. J., Johnson, D. W., & Johnson, R. T. (2008). Promoting early adolescents' achievement and peer relationships: The effects of cooperative, competitive, and individualistic goal structures. *Psychological Bulletin, 134*(2), 223–246. https://doi.org/10.1037/0033-2909.134.2.223

Roussel, S., Joulia, D., Tricot, A., & Sweller, J. (2017). Learning subject content through a foreign language should not ignore human cognitive architecture: A cognitive load theory approach. *Learning and Instruction, 52*, 69–79. https://doi.org/10.1016/j.learninstruc.2017.04.007

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25*(1), 54–67. https://www.sciencedirect.com/science/article/pii/S0361476X99910202

Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). SAGE.

Santamaria, L. J. (2009). Culturally responsive differentiated instruction: Narrowing gaps between best pedagogical practices benefiting all learners. *Teachers College Record, 111*(1), 214–247. https://doi.org/10.1177/016146810911100105

Santos, M., & Cheuk, T. (2021). Teacher development to support English language learners in the context of Common Core State Standards. *Stanford Understanding Language*. https://ul.stanford.edu/sites/default/files/resource/2021-12/10-Santos%20LDH%20Teacher%20Development%20FINAL.pdf

Sapon-Shevin, M. (2004a). Cooperative learning and teaching for social justice. In E. G. Cohen, C. M. Brody, & M. Sapon-Shevin (Eds.), *Teaching cooperative learning: The challenge for teacher education* (pp. 203–209). State University of New York Press.

Sapon-Shevin, M. (2004b). Introduction. In E. G. Cohen, C. M. Brody, & M. Sapon-Shevin (Eds.), *Teaching cooperative learning: The challenge for teacher education* (pp. 1–10). State University of New York Press.

Schram, T. H. (2006). *Conceptualizing and proposing qualitative research*. Pearson Merrill Prentice Hall. https://archive.org/details/conceptualizingp0000schr

Segundo Marcos, R. I., López Fernández, V., Daza González, M. T., & Phillips-Silver, J. (2020). Promoting children's creative thinking through reading and writing in a cooperative learning classroom. *Thinking Skills and Creativity, 36*, 100663. https://doi.org/10.1016/j.tsc.2020.100663

Shadish, W. R. (2002). Revisiting field experimentation: Field notes for the future. *Psychological Methods, 7*(1), 3–18. https://doi.org/10.1037/1082-989X.7.1.3

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin.

Shaaban, K. (2006). An initial study of the effects of cooperative learning on reading comprehension, vocabulary acquisition, and motivation to read. *Reading Psychology, 27*(5), 377–403. https://doi.org/10.1080/02702710600846613

Shor, I., & Freire, P. (1987). *A pedagogy for liberation: Dialogues on transforming education*. Bergin & Garvey. https://archive.org/details/pedagogyforliber00iras

Simon, K. G. (2011). *Moral questions in the classroom: How to get kids to think deeply about real life and their schoolwork*. Georgetown University Press. https://archive.org/details/moralquestionsin0000simo

Sinatra, R. (1986). *Visual literacy: Connections to thinking, reading, and writing*. Charles C. Thomas.

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417–453. https://doi.org/10.3102/00346543075003417

Skinner, B. F. (1953). *Science and human behavior*. Free Press. https://archive.org/details/sciencehumanbeha00skin

Skinner, B. F. (1987). *Upon further reflection*. Prentice Hall. https://archive.org/details/bf-skinner-uponfurtherreflection/page/n3/mode/2up

Slavin, R. E. (1980). Effects of individual learning expectations on student achievement. *Journal of Educational Psychology, 72*(4), 520–524. https://doi.org/10.1037/0022-0663.72.4.520

Slavin, R. E. (1994). *A practical guide to cooperative learning*. Allyn & Bacon.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Allyn & Bacon. https://archive.org/details/cooperativelearn0000slav_o2v2

Slavin, R. E., & Madden, N. A. (1994). Team assisted individualization and cooperative integrated reading and composition. In *Handbook of cooperative learning methods* (pp. 20–33). Greenwood Press.

Smith, A. D., & Kelly, A. (2015). Cognitive processes. In *The encyclopedia of adulthood and aging* (pp. 1–4). https://doi.org/10.1002/9781118521373.wbeaa213

Sockett, H., & LePage, P. (2002). The missing language of the classroom. *Teaching and Teacher Education, 18*(2), 159–171. https://doi.org/10.1016/S0742-051X(01)00061-0

Stahl, R. J. (1994). *Cooperative learning in social studies: A handbook for teachers*. Addison-Wesley.

Stansfield, C., & Hansen, J. (1983). Field dependence–independence as a variable in second language cloze test performance. *TESOL Quarterly, 17*(1), 29–38. https://doi.org/10.2307/3586422

Strauber, C. B., Sorcar, P., Howlett, C., & Goldman, S. (2020). Using a picture-embedded method to support acquisition of sight words. *Learning and Instruction, 65*, 101248. https://doi.org/10.1016/j.learninstruc.2019.101248

Strickland, D., & Riley-Ayers, S. (n.d.). Early literacy: Policy and practice in the preschool years. *Reading Rockets*. https://www.readingrockets.org/topics/policy-politics-statistics/articles/early-literacy-policy-and-practice-preschool-years

Strike, K. A. (1995). Professional ethics and the education of professionals. *Educational Horizons, 74*(1), 29–36. https://www.jstor.org/stable/42925139

Sun, L. (2013). The effect of meta-cognitive learning strategies on English learning. *Theory and Practice in Language Studies, 3*(11), 2004–2009. https://doi.org/10.4304/tpls.3.11.2004-2009

Supovitz, J. A., Mayer, D. P., & Kahle, J. B. (2000a). Promoting inquiry-based instructional practice: The longitudinal impact of professional development in the context of systemic reform. *Educational Policy, 14*(3), 331–356. https://doi.org/10.1177/0895904800014003001

Supovitz, J. A., Mayer, D. P., & Kahle, J. B. (2000b). Promoting inquiry-based instructional practice: The longitudinal impact of professional development in the context of systemic reform. *Educational Policy, 14*(3), 331–356. https://doi.org/10.1177/0895904800014003001

Susanti, S. (2021). The pictures in enhancing students' English learning. *JUDIMAS, 1*(1), 74–84. https://doi.org/10.30700/jm.v1i1.1050.g722

Swartzendruber, K. (2007). *The picture word inductive model and vocabulary acquisition* (pp. 177–178). Wichita State University. https://soar.wichita.edu/server/api/core/bitstreams/ef8076fd-4134-40e0-95e9-43736dcca185/content

Sweeney, L. (2002). k-Anonymity: A model for protecting privacy. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems, 10*(5), 557–570. https://doi.org/10.1142/S0218488502001648

Tan, J. P.-L., & McWilliam, E. (2009). From literacy to multiliteracies: Diverse learners and pedagogical practice. *Pedagogies: An International Journal, 4*(3), 213–225. https://doi.org/10.1080/15544800903076119

Taylor, D., & Strickland, D. S. (1989). Family storybook reading: Implications for children, families, and curriculum. In D. S. Strickland & L. M. Morrow (Eds.), *Emerging literacy: Young children learn to read and write* (pp. 27–34). International Reading Association.

Teale, W. H., & Sulzby, E. (1989). Emergent literacy: New perspectives. In D. S. Strickland & L. M. Morrow (Eds.), *Emerging literacy: Young children learn to read and write*. International Reading Association.

Thibodeau, G. M. (2008). A content literacy collaborative study group: High school teachers take charge of their professional learning. *Journal of Adolescent & Adult Literacy, 52*(1), 54–64. https://www.jstor.org/stable/30139650

Thomson, C. K. (1998). Junior teacher internship: Promoting cooperative interaction and learner autonomy in foreign language classrooms. *Foreign Language Annals, 31*(4), 569–583. https://doi.org/10.1111/j.1944-9720.1998.tb00600.x

Thousand, J. S., Villa, R. A., & Nevin, A. (2002). *Creativity and collaborative learning*. Brookes. https://archive.org/details/creativitycollab0000unse

Triacca, S. (2017). Teaching and learning with pictures: The use of photography in primary schools. *Proceedings, 1*(9), 952. https://doi.org/10.3390/proceedings1090952

Tsai, C. (2019). Statistical analysis of the item-count technique using Stata. *The Stata Journal: Promoting Communications on Statistics and Stata, 19*(2), 390–434. https://doi.org/10.1177/1536867X19854018

Uribe, M., & Nathenson-Mejia, S. (2008). *Literacy essentials for English language learners*. Teachers College Press. https://archive.org/details/literacyessentia0000urib/page/n5/mode/2up

U.S. Census Bureau. (2020). *About metropolitan and micropolitan statistical areas.* U.S. Department of Commerce, Economics and Statistics Administration. https://www.census.gov/programs-surveys/metro-micro/about.html

Van der Veer, R., & Valsiner, J. (1994). *The Vygotsky reader*. Blackwell. https://archive.org/details/vygotskyreader0000vygo/page/n1/mode/2up

Van Maanen, J. (1988). *Tales of the field: On writing ethnography*. University of Chicago Press. https://archive.org/details/talesoffieldonwr00vanmrich/page/n7/mode/2up

Vandenberg, D. (1992). Harry Broudy and education for a democratic society. *Journal of Aesthetic Education, 26*(4), 5–18. https://doi.org/10.2307/3332713

VERBI Software. (2020). *MAXQDA: All-in-one qualitative and mixed methods data analysis tool*. https://www.maxqda.com

Vermette, P. J. (1998). *Making cooperative learning work: Student teams in K–12 classrooms*. Merrill. https://archive.org/details/makingcooperativ0000verm/page/n1/mode/2up

Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Vygotsky, L. S. (1998a). Infancy. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L. S. Vygotsky* (Vol. 5). Springer.

Vygotsky, L. S. (1998b). The problem of age. In R. W. Rieber & A. S. Carton (Eds.), *The collected works of L. S. Vygotsky: Child psychology* (Vol. 5). Springer.

Wallace, J., & Louden, W. (1997). Preconceptions and theoretical frameworks. *Journal of Research in Science Teaching, 34*(4), 319–335. https://doi.org/10.1002/(SICI)1098-2736(199704)34:4<319::AID-TEA1>3.0.CO;2-U

Wallace, J., & Louden, W. (2000). *Teachers' learning*. Springer.

Wang, J. C.-S. (2012). *John Dewey in China*. State University of New York Press.

Wang, X. (2014). *Understanding language and literacy development*. John Wiley & Sons.

Whitehead, M. R. (2010). *Language & literacy in the early years 0–7*. SAGE. https://archive.org/details/languageliteracy0000whit_z2x1

Wiersma, W., & Jurs, S. G. (2009). *Research methods in education: An introduction* (9th ed.). Pearson. https://archive.org/details/researchmethodsi0000wier

Williams, R. L., & Stockdale, S. L. (2004). Classroom motivation strategies for prospective teachers. *The Teacher Educator, 39*(3), 212–230. https://doi.org/10.1080/08878730409555342

Wilson-Jones, L., & Caston, M. C. (2004). Cooperative learning on academic achievement in elementary African American males. *Journal of Instructional Psychology, 31*(4), 280–283.

Wolfenden, L., Kypri, K., Freund, M., & Hodder, R. (2009). Obtaining active parental consent for school-based research: A guide for researchers. *Australian and New Zealand Journal of Public Health, 33*(3), 270–275. https://doi.org/10.1111/j.1753-6405.2009.00387.x

Wong, A. C.-M. (2009). *The influence of Picture Word Inductive Model on kindergarten students' development of literacy skills* [Master's thesis, University of Toronto].

https://er.lib.k-state.edu/login?url=https://www.proquest.com/dissertations-theses/influence-picture-word-inductive-model-on/docview/305111838/se-2

Yager, S., Johnson, R. T., Johnson, D. W., & Snider, B. (1985). The effect of cooperative and individualistic learning experiences on cross-handicap relationships. *Contemporary Educational Psychology, 10*(2), 127–138. https://doi.org/10.1016/0361-476X(85)90013-X

Yang, S. C., & Liu, S. F. (2005). The study of interactions and attitudes of third-grade students learning information technology via a cooperative approach. *Computers in Human Behavior, 21*(1), 45–72. https://doi.org/10.1016/j.chb.2004.02.002

Yuwinda, Y., & Insani, S. (2018). Language learning: What factors may influence it. *Journal of English Language Teaching and Linguistics, 3*(1), 1–10. https://doi.org/10.21462/jeltl.v3i1.87

Zhou, Y., Fei, F., & Chen, H. (2021a). Effects of text–picture integration on reading comprehension: A meta-analysis. *Educational Psychology Review, 33*(3), 1057–1085. https://doi.org/10.1007/s10648-020-09580-4

Zhou, Y., Fei, T., & Chen, J. (2021b). The integration of Internet and picture book: Using online picture book reading project to promote primary school students' reading literacy. *SHS Web of Conferences, 123*, 01025. https://doi.org/10.1051/shsconf/202112301025

# Appendix A - Professional Development

**Professional Development Session: Implementing the PWIM Study**

**Agenda**

1. Welcome and Introduction

2. Overview of the Picture Word Induction Model (PWIM)

3. The Interview Process

4. Data Security Protocols

5. Q\&A and Discussion

6. Review and Reflection

**1. Welcome and Introduction**

The session began with a welcome by the presenter, who introduced the purpose of the training and provided context for the PWIM study. Objectives were outlined for the participating teachers: (a) to understand the PWIM methodology, (b) to learn about the interview process for the study, and (c) to review the approved data security protocols.

**2. Overview of the Picture Word Induction Model (PWIM)**

PWIM is an instructional strategy that uses pictures to help students generate words, phrases, and sentences to enhance vocabulary and comprehension.

**Benefits**: The PWIM engages students visually and verbally, supports vocabulary growth, enhances reading comprehension, and fosters critical thinking and discussion.

**Implementation Process:** Teachers were guided through the step-by-step process of presenting a picture, labeling items, categorizing words, and developing sentences. The session emphasized encouraging students to create short stories or descriptive paragraphs aligned with curriculum standards.

**3. The Interview Process**

The training described the purpose of semi-structured interviews, which were conducted to gather qualitative data on students' experiences with PWIM. Teachers reviewed informed consent and assent procedures, interview preparation, and strategies for building rapport with students.

**Sample Questions Included:**

- How did you feel about using pictures to learn new words?
- Can you describe a time when PWIM helped you understand a story better?
- What do you think about your reading skills after using PWIM?

**4. Data Security Protocols**

Teachers were trained in ethical standards for protecting student data. Security measures reviewed included password-protection of digital files, encryption, locked storage of physical documents, anonymization of participant data, and controlled access limited to the research team. Transcription security protocols using an approved service (Otter.ai) were also covered. Procedures for retention and secure destruction of data were explained.

**5. Q\&A and Discussion**

An open floor session allowed participants to ask questions about PWIM, the interview process, and data security protocols. Teachers shared reflections and experiences related to literacy instruction and the planned study.

**6. Review and Reflection**

The training concluded with a review of key points and a reflection activity in which teachers considered how PWIM could support their students' vocabulary and comprehension growth.

**Supporting Materials**

Participants received printed and digital handouts summarizing PWIM steps, sample interview questions, and data security protocols. A presentation slide deck was used to guide the training.

**Contact Information**

For follow-up questions and support, teachers were provided with the presenter's email address and phone number.

**Materials Needed for Implementation**

Visual aids (pictures), vocabulary lists, and lesson plans aligned with curriculum standards.

# Appendix B - Parent and Guardian Consent Forms (English)

**Appendix Figure B. 1.** Parent Consent Form page 1 (English)

**K-State IRB Informed Consent Form**

**PROJECT TITLE:**
Evaluating the Effectiveness of the Picture Word Induction Model (PWIM) on Reading Skills and Confidence among 5th-Grade English Learners

**PROJECT APPROVAL DATE:**
August 1, 2024

**PROJECT EXPIRATION DATE:**
May 23, 2025

**LENGTH OF STUDY:**
One academic year

**PRINCIPAL INVESTIGATOR:**
Eugene V. Struzik, Ed.D. Student, K-State University

**CONTACT DETAILS FOR PROBLEMS/QUESTIONS:**
Eugene V. Struzik
Email: estruzik3@ksu.edu
Phone: 620-253-6143

**IRB CHAIR CONTACT INFORMATION:**
Lisa Rubin, Chair, Committee on Research Involving Human Subjects
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506
Phone: (785) 532-3224
Brad Woods, Associate Vice President for Research Compliance
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506
Phone: (785) 532-3224

**PURPOSE OF THE RESEARCH:**
This study aims to evaluate the effectiveness of the Picture Word Induction Model (PWIM) in improving the reading skills and confidence of 5th-grade English Learners at Northwest Elementary School in Dodge City, Kansas. The research seeks to understand how PWIM influences students' attitudes toward reading and writing and their self-confidence in their reading abilities.

**PROCEDURES OR METHODS TO BE USED:**

- **PWIM Intervention:** All 5th-grade students will participate in the PWIM unit as part of their regular curriculum.
- **Assessments:** Fastbridge Scores will be used from the fall data and the winter data to measure changes in reading skills.
- **Surveys:** Students will complete surveys before and after the intervention to assess their attitudes towards reading and writing and their self-confidence in reading. This will only be done after receiving consent from the parents/guardians and assent from the students.

**Appendix Figure B. 2.** Parent Consent Form page 2 (English)

- **Interviews:** Semi-structured interviews will be conducted with students who have provided consent and assent. These interviews will be recorded using digital voice recorders, and the recordings will be transcribed by a professional transcription service. This will also only be done after receiving consent from the parents/guardians and assent from the students.

**ALTERNATIVE PROCEDURES OR TREATMENTS, IF ANY, THAT MIGHT BE ADVANTAGEOUS TO THE SUBJECT:**
There are no alternative procedures or treatments being offered as part of this study.

**RISKS OR DISCOMFORTS ANTICIPATED:**
No significant risks or discomforts are anticipated as part of this study.

**BENEFITS ANTICIPATED:**
Participants may benefit from improved reading skills and increased confidence in their reading abilities. The study will also provide valuable insights that can inform future educational practices and interventions for English Learners.

**EXTENT OF CONFIDENTIALITY:**
- **Data Protection:** All electronic data will be stored on an encrypted, password-protected external hard drive. The drive will be only accessible to the researcher. Physical copies of consent forms, test results, and survey responses will be stored in a locked filing cabinet in the researcher's classroom.
- **Anonymity:** To protect the identity of the participants, pseudonyms will be used in place of real names in all data records and reports. Unique identifiers will be assigned to each participant to ensure their anonymity. Any personal information that could potentially identify participants will be removed from the data set.
- **Voice Recordings:** Digital voice recorders will be used to record semi-structured interviews. When not in use, they will be securely stored in a locked box in the researcher's classroom. The recordings will be maintained on the recorder until they are securely transferred to Otter.ai for transcription. The original recordings will be securely destroyed once the transcriptions are completed and verified.
- **Access Control:** Access to all data, both digital and physical, will be strictly limited to the researcher. No unauthorized individuals will have access to the data at any point during or after the study.
- **Data Retention:** After the study and data analysis are completed, data will be stored for three years. At that time, all personal data, including voice recordings, physical documents, and digital files, will be securely destroyed to prevent future access or misuse.
- **Confidentiality Agreements:** Any personnel involved in the transcription or analysis of the data, such as the transcription service, will be required to sign confidentiality agreements to ensure they understand and commit to maintaining the confidentiality of the data.
- **Your Information:** Your information that is collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

**Appendix Figure B. 3.** Parent Consent Form page 3 (English)

**IS COMPENSATION OR MEDICAL TREATMENT AVAILABLE IF INJURY OCCURS?**
No

**PARENT/GUARDIAN APPROVAL FOR MINORS:**
I understand that my child will participate in the PWIM unit as part of the regular 5th-grade curriculum. Participation in the data collection and interviews for this study is voluntary. My child may withdraw from this part of the study at any time without penalty or loss of benefits. I consent to my child's participation in the data collection and interviews for this study under the terms described.

**PARENT/GUARDIAN APPROVAL SIGNATURE:**

______________________________

**Date:** ___________________

**PARTICIPANT NAME:**

______________________________

**PARTICIPANT SIGNATURE:**

______________________________

**Date:** ___________________

**WITNESS TO SIGNATURE (PROJECT STAFF):**

______________________________

**Date:** ___________________

______________________________

# Appendix C - Parent and Guardian consent form in Spanish

**Appendix Figure C. 1.** Parent Consent Form page 1 (Spanish)

**Formulario de Consentimiento Informado del IRB de K-State**

**TÍTULO DEL PROYECTO:** Evaluación de la Eficacia del Modelo de Inducción de Palabras con Imágenes (PWIM) en las Habilidades de Lectura y la Confianza entre los Estudiantes de 5° Grado de Inglés

**FECHA DE APROBACIÓN DEL PROYECTO:**
1 de agosto de 2024

**FECHA DE VENCIMIENTO DEL PROYECTO:**
23 de mayo de 2025

**DURACIÓN DEL ESTUDIO:**
Un año académico

**INVESTIGADOR PRINCIPAL:**
Eugene V. Struzik, Estudiante de Ed.D., Universidad Estatal de Kansas (K-State)

**DETALLES DE CONTACTO PARA PROBLEMAS/PREGUNTAS:**
Eugene V. Struzik
Correo electrónico: estruzik3@ksu.edu
Teléfono: 620-253-6143

**INFORMACIÓN DE CONTACTO DEL PRESIDENTE DEL IRB:**
Lisa Rubin, Presidenta, Comité de Investigación sobre Sujetos Humanos
203 Fairchild Hall, Universidad Estatal de Kansas, Manhattan, KS 66506
Teléfono: (785) 532-3224
Brad Woods, Vicepresidente Asociado de Cumplimiento de Investigación
203 Fairchild Hall, Universidad Estatal de Kansas, Manhattan, KS 66506
Teléfono: (785) 532-3224

**PROPÓSITO DE LA INVESTIGACIÓN:**
Este estudio tiene como objetivo evaluar la eficacia del Modelo de Inducción de Palabras con Imágenes (PWIM) para mejorar las habilidades de lectura y la confianza de los estudiantes de 5° grado de inglés en la Escuela Primaria Northwest en Dodge City, Kansas. La investigación busca entender cómo el PWIM influye en las actitudes de los estudiantes hacia la lectura y la escritura, y su autoconfianza en sus habilidades de lectura.

**PROCEDIMIENTOS O MÉTODOS A UTILIZAR: • Intervención PWIM:**
Todos los estudiantes de 5° grado participarán en la unidad PWIM como parte de su currículo regular.

- **Evaluaciones:** Se utilizarán los puntajes de Fastbridge de los datos de otoño y de invierno para medir los cambios en las habilidades de lectura.
- **Encuestas:** Los estudiantes completarán encuestas antes y después de la intervención para evaluar sus actitudes hacia la lectura y la escritura y su autoconfianza en la lectura.

**Appendix Figure C. 2.** Parent Consent Form page 2 (Spanish)

Esto solo se hará después de recibir el consentimiento de los padres/tutores y el asentimiento de los estudiantes.

• **Entrevistas:** Se realizarán entrevistas semiestructuradas con estudiantes que hayan proporcionado consentimiento y asentimiento. Estas entrevistas se grabarán utilizando grabadoras de voz digitales y las grabaciones se transcribirán por un servicio profesional de transcripción. Esto también solo se hará después de recibir el consentimiento de los padres/tutores y el asentimiento de los estudiantes.

**PROCEDIMIENTOS O TRATAMIENTOS ALTERNATIVOS, SI LOS HUBIERA, QUE PODRÍAN SER VENTAJOSOS PARA EL SUJETO:**
No se ofrecen procedimientos o tratamientos alternativos como parte de este estudio.

**RIESGOS O INCOMODIDADES ANTICIPADAS:**
No se anticipan riesgos o incomodidades significativas como parte de este estudio.

**BENEFICIOS ANTICIPADOS:**
Los participantes pueden beneficiarse de habilidades de lectura mejoradas y una mayor confianza en sus habilidades de lectura. El estudio también proporcionará información valiosa que puede informar las prácticas educativas futuras y las intervenciones para los estudiantes de inglés.

**GRADO DE CONFIDENCIALIDAD:**

• **Protección de Datos:** Todos los datos electrónicos se almacenarán en un disco externo cifrado y protegido por contraseña. Las copias físicas de los datos se almacenarán en un archivo cerrado con llave.
• **Anonimato:** Para proteger la identidad de los participantes, se utilizarán seudónimos en lugar de nombres reales en todos los registros de datos e informes. Se asignarán identificadores únicos a cada participante para asegurar su anonimato. Cualquier información personal que pueda identificar a los participantes se eliminará del conjunto de datos.
• **Grabaciones de Voz:** Las grabaciones de las entrevistas se almacenarán de forma segura y se destruirán después de la transcripción. Las transcripciones se almacenarán electrónicamente junto con otros datos.
• **Control de Acceso:** El acceso a todos los datos, tanto digitales como físicos, estará estrictamente limitado al investigador. No se permitirá el acceso a individuos no autorizados en ningún momento durante o después del estudio.
• **Retención de Datos:** Después de que el estudio y el análisis de datos se completen, los datos se almacenarán durante tres años. En ese momento, todos los datos personales, incluidas las grabaciones de voz, documentos físicos y archivos digitales, se destruirán de manera segura para prevenir el acceso o el uso indebido en el futuro.
• **Acuerdos de Confidencialidad:** Cualquier personal involucrado en la transcripción o análisis de los datos, como el servicio de transcripción, deberá firmar acuerdos de confidencialidad para asegurar que entienden y se comprometen a mantener la confidencialidad de los datos.
• **Su Información:** La información que se recolecte como parte de la investigación,

**Appendix Figure C. 3.** Parent Consent Form page 3 (Spanish)

incluso si se eliminan los identificadores, no se utilizará ni distribuirá para futuros estudios de investigación.

**¿HAY COMPENSACIÓN O TRATAMIENTO MÉDICO DISPONIBLE SI OCURRE UNA LESIÓN?**
No

**APROBACIÓN DE LOS PADRES/TUTORES PARA MENORES:**
Entiendo que mi hijo/a participará en la unidad PWIM como parte del currículo regular de 5° grado. La participación en la recolección de datos y entrevistas para este estudio es voluntaria. Mi hijo/a puede retirarse de esta parte del estudio en cualquier momento sin penalización ni pérdida de beneficios. Doy mi consentimiento para la participación de mi hijo/a en la recolección de datos y entrevistas para este estudio bajo los términos descritos.

**FIRMA DE APROBACIÓN DEL PADRE/TUTOR:**

---

**Fecha:** ___________________

**NOMBRE DEL PARTICIPANTE:**

---

**FIRMA DEL PARTICIPANTE:**

---

**Fecha:** ___________________

**TESTIGO DE LA FIRMA (PERSONAL DEL PROYECTO):**

---

**Fecha:** ___________________

# Appendix D - Student Assent Form in English

**Appendix Figure D. 1.** Student Assent Form page 1 (English)

**Assent Form for 5th Grade Students**

**PROJECT TITLE:**
Evaluating the Effectiveness of the Picture Word Induction Model (PWIM) on Reading Skills and Confidence among 5th Grade English Learners

**PRINCIPAL INVESTIGATOR:**
Mr. Eugene V. Struzik, Ed.D. Student, K-State University

**CONTACT DETAILS FOR PROBLEMS/QUESTIONS:**
Mr. Eugene V. Struzik
Email: estruzik3@ksu.edu
Phone: 620-253-6143

**PURPOSE OF THE STUDY:**
We are doing a study to find out if using pictures to help learn words (the Picture Word Induction Model or PWIM) can make reading easier and more fun for students like you.

**WHAT WILL HAPPEN:**

- **PWIM Activity:** All students in your 5th grade class will do the PWIM activities as part of your regular school work.
- **Tests:** We will look at your reading test scores from the fall and the winter to see if your reading improves.
- **Surveys:** You will answer some questions before and after we do the PWIM activities to tell us how you feel about reading and writing and how confident you are in reading.
- **Interviews:** If you and your parents/guardians say it's okay, we will talk to you and ask you some questions about your experience with the PWIM activities. We will record these talks to help us remember what you say.

**RISKS:**
There are no known risks to you from being in this study.

**BENEFITS:**
You might become a better reader and feel more confident about your reading. What we learn from this study can help teachers teach reading better.

**CONFIDENTIALITY:**

- **Keeping Your Information Safe:** We will keep all your information safe and private. Your test scores, survey answers, and interview recordings will be stored in a special, locked place that only the researcher can access.
- **Using Fake Names:** To protect your identity, we will use fake names instead of your real name in all the data we collect. This means no one will know it's you.
- **Voice Recordings:** If we record your voice during interviews, these recordings will be kept safe and then deleted after we write down what you said.

**Appendix Figure D. 2.** Student Assent Form page 2 (English)

- **Storing Your Information:** We will keep all the information we collect for three years after the study ends. After that, we will delete everything to make sure no one can access it again.
- **Who Can See Your Information:** Only the researcher and trusted helpers will see your information. They will all sign a promise to keep your information private.

**YOUR RIGHTS:**

- **Voluntary Participation:** You don't have to be in the study if you don't want to. You can also stop at any time, and it will not affect your grades or anything else at school.
- **Questions:** If you have any questions, you can ask Mr. Struzik or your parents.

**AGREEMENT:**
I have talked to my parents/guardians about this study and they said it is okay. I understand what the study is about and what I will be doing. I know I can stop at any time if I want to.

**STUDENT ASSENT SIGNATURE:**

---

**Date:** ___________________

**STUDENT NAME:**

---

Please review the form for accuracy and completeness before distributing it to ensure all details are correct.

# Appendix E - Student Assent Form in Spanish

**Appendix Figure E. 1.** Student Assent Form page 1 (Spanish)

**Formulario de Consentimiento Informado del IRB de K-State**

**Formulario de Asentimiento para Estudiantes de Quinto Grado**

**TÍTULO DEL PROYECTO:** Evaluación de la Eficacia del Modelo de Inducción de Palabras con Imágenes (PWIM) en las Habilidades de Lectura y la Confianza de los Estudiantes de Quinto Grado que Aprenden Inglés

**INVESTIGADOR PRINCIPAL:** Sr. Eugene V. Struzik, Estudiante de Ed.D. de la Universidad Estatal de Kansas (K-State)

**DETALLES DE CONTACTO PARA PROBLEMAS/PREGUNTAS:** Sr. Eugene V. Struzik
Correo electrónico: estruzik3@ksu.edu
Teléfono: 620-253-6143

**PROPÓSITO DEL ESTUDIO:** Estamos realizando un estudio para averiguar si usar imágenes para ayudar a aprender palabras (el Modelo de Inducción de Palabras con Imágenes o PWIM) puede hacer que la lectura sea más fácil y divertida para estudiantes como tú.

**LO QUE SUCEDERÁ:**

- **Actividad PWIM:** Todos los estudiantes de tu clase de quinto grado realizarán las actividades de PWIM como parte de su trabajo escolar regular.
- **Pruebas:** Revisaremos tus puntuaciones de lectura de las pruebas de otoño e invierno para ver si mejoras en la lectura.
- **Encuestas:** Responderás algunas preguntas antes y después de realizar las actividades de PWIM para decirnos cómo te sientes acerca de la lectura y la escritura y cuán confiado te sientes en la lectura.
- **Entrevistas:** Si tú y tus padres/tutores lo permiten, hablaremos contigo y te haremos algunas preguntas sobre tu experiencia con las actividades de PWIM. Grabaremos estas conversaciones para ayudarnos a recordar lo que dices.

**RIESGOS:** No se conocen riesgos para ti por participar en este estudio.

**BENEFICIOS:** Podrías convertirte en un mejor lector y sentirte más seguro acerca de tu lectura. Lo que aprendamos de este estudio puede ayudar a los maestros a enseñar lectura mejor.

**CONFIDENCIALIDAD:**

- **Mantener tu Información Segura:** Mantendremos toda tu información segura y privada. Tus puntuaciones de prueba, respuestas de encuestas y grabaciones de entrevistas se almacenarán en un lugar especial y cerrado con llave al que solo el investigador tendrá acceso.
- **Usar Nombres Falsos:** Para proteger tu identidad, usaremos nombres falsos en lugar de tu nombre real en todos los datos que recolectemos. Esto significa que nadie sabrá que eres tú.

**Appendix Figure E. 2.** Student Assent Form page 2 (Spanish)

- **Grabaciones de Voz:** Si grabamos tu voz durante las entrevistas, estas grabaciones se mantendrán seguras y luego se eliminarán después de que escribamos lo que dijiste.
- **Almacenamiento de tu Información:** Mantendremos toda la información que recolectemos durante tres años después de que termine el estudio. Después de eso, eliminaremos todo para asegurarnos de que nadie pueda acceder a ello nuevamente.
- **Quién Puede Ver tu Información:** Solo el investigador y ayudantes de confianza verán tu información. Todos ellos firmarán una promesa para mantener tu información privada.

TUS DERECHOS:

- **Participación Voluntaria:** No tienes que participar en el estudio si no quieres. También puedes detenerte en cualquier momento y esto no afectará tus calificaciones ni nada más en la escuela.
- **Preguntas:** Si tienes alguna pregunta, puedes preguntar al Sr. Struzik o a tus padres.

**ACUERDO:** He hablado con mis padres/tutores sobre este estudio y ellos dijeron que está bien. Entiendo de qué se trata el estudio y lo que haré. Sé que puedo detenerme en cualquier momento si quiero.

**FIRMA DE ASENTIMIENTO DEL ESTUDIANTE:**

Fecha: ___________________
NOMBRE DEL ESTUDIANTE: ___________________
FIRMA DEL ESTUDIANTE: ___________________

# Appendix F - Teacher Consent Forms

**Appendix Figure F. 1.** Teacher Consent Form page 1

**K-State IRB Informed Consent Form for Teachers**

**PROJECT TITLE:**
Evaluating the Effectiveness of the Picture Word Induction Model (PWIM) on Reading Skills and Confidence among 5th Grade English Learners

**PROJECT APPROVAL DATE:**
**August 6, 2024**

**PROJECT EXPIRATION DATE:**
August 5, 2025

**LENGTH OF STUDY:**
One academic year

**PRINCIPAL INVESTIGATOR:**
Eugene V. Struzik, Ed.D. Student, K-State University

**CONTACT DETAILS FOR PROBLEMS/QUESTIONS:**
Eugene V. Struzik
Email: estruzik3@ksu.edu
Phone: 620-253-6143

**IRB CHAIR CONTACT INFORMATION:**
Lisa Rubin, Chair, Committee on Research Involving Human Subjects
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506
Phone: (785) 532-3224
Brad Woods, Associate Vice President for Research Compliance
203 Fairchild Hall, Kansas State University, Manhattan, KS 66506
Phone: (785) 532-3224

**PURPOSE OF THE RESEARCH:**
This study aims to evaluate the effectiveness of the Picture Word Induction Model (PWIM) in improving the reading skills and confidence of 5th grade English Learners at Northwest

**Appendix Figure F. 2.** Teacher Consent Form page 2

Elementary School in Dodge City, Kansas. The research seeks to understand how PWIM influences students' attitudes towards reading and writing, and their self-confidence in reading abilities.

**PROCEDURES OR METHODS TO BE USED:**

- **PWIM Intervention:** All 5th-grade students will participate in the PWIM unit as part of their regular curriculum.
- **Assessments:** Fastbridge Scores will be used from the fall data and the winter data to measure changes in reading skills.
- **Surveys:** Students will complete surveys before and after the intervention to assess their attitudes towards reading and writing and their self-confidence in reading. This will only be done after receiving consent from the parents/guardians and assent from the students.
- **Interviews:** Semi-structured interviews will be conducted with students who have provided consent and assent. These interviews will be recorded using digital voice recorders, and the recordings will be transcribed by a professional transcription service. This will also only be done after receiving consent from the parents/guardians and assent from the students.

**ALTERNATIVE PROCEDURES OR TREATMENTS IF ANY THAT MIGHT BE ADVANTAGEOUS TO SUBJECT:**
There are no alternative procedures or treatments being offered as part of this study.

**RISKS OR DISCOMFORTS ANTICIPATED:**
No significant risks or discomforts are anticipated as part of this study.

**BENEFITS ANTICIPATED:**
Participants may benefit from improved reading skills and increased confidence in their reading abilities. The study will also provide valuable insights that can inform future educational practices and interventions for English Learners.

**EXTENT OF CONFIDENTIALITY:**

- **Data Protection:** All electronic data will be stored on an encrypted, password-protected external hard drive. The drive will be only accessible to the researcher. Physical copies of consent forms, test results, and survey responses will be stored in a locked filing cabinet in the researcher's classroom.
- **Anonymity:** To protect the identity of the participants, pseudonyms will be used in place of real names in all data records and reports. Unique identifiers will be assigned to each participant to ensure their anonymity. Any personal information that could potentially identify participants will be removed from the data set.

**Appendix Figure F. 3.** Teacher Consent Form page 3

- **Voice Recordings:** Digital voice recorders will be used to record semi-structured interviews. When not in use, they will be securely stored in a locked box in the researcher's classroom. The recordings will be maintained on the recorder until they are securely transferred to Otter.ai for transcription. The original recordings will be securely destroyed once the transcriptions are completed and verified.
- **Access Control:** Access to all data, both digital and physical, will be strictly limited to the researcher. No unauthorized individuals will have access to the data at any point during or after the study.
- **Data Retention:** After the study and data analysis are completed, data will be stored for three years. At that time, all personal data, including voice recordings, physical documents, and digital files, will be securely destroyed to prevent future access or misuse.
- **Confidentiality Agreements:** Any personnel involved in the transcription or analysis of the data, such as the transcription service, will be required to sign confidentiality agreements to ensure they understand and commit to maintaining the confidentiality of the data.
- **Your Information:** Your information that is collected as part of the research, even if identifiers are removed, will not be used or distributed for future research studies.

**IS COMPENSATION OR MEDICAL TREATMENT AVAILABLE IF INJURY OCCURS?**
No

**TEACHER CONSENT:**
I understand that I will participate in the PWIM unit as part of the regular 5th grade curriculum. Participation in the data collection and interviews for this study is voluntary. I may withdraw from this part of the study at any time without penalty or loss of benefits. I consent to my participation in the data collection and interviews for this study under the terms described.

**TEACHER APPROVAL SIGNATURE:**

______________________________________________

**Date:** __________________

# Appendix G - Code Book

**Codebook**

The following codebook was used to analyze qualitative interview data. Codes are organized hierarchically, with broad categories, subcategories, and representative codes.

**1. Reading Attitudes (Affective)**

- Negative Reading/Writing Attitude
    - Negative attitude toward reading/writing
- Positive Reading Attitude
    - Enjoyment of specific book types

**2. Engagement and Motivation**

- Positive Engagement
    - Positive engagement with reading/writing

**3. Reading Behaviors and Perceptions**

- Positive engagement with reading/writing
- General Literacy Perception
    - General response about reading/writing
- Reading Habits Beyond School
    - Reading habit outside school

**4. Barriers and Challenges**

- Challenges in Literacy Tasks
    - Perceived difficulty with reading/writing task

**5. PWIM and Visual Strategies**

- Benefits of Visual Scaffolding
- Learning supported by visual aids

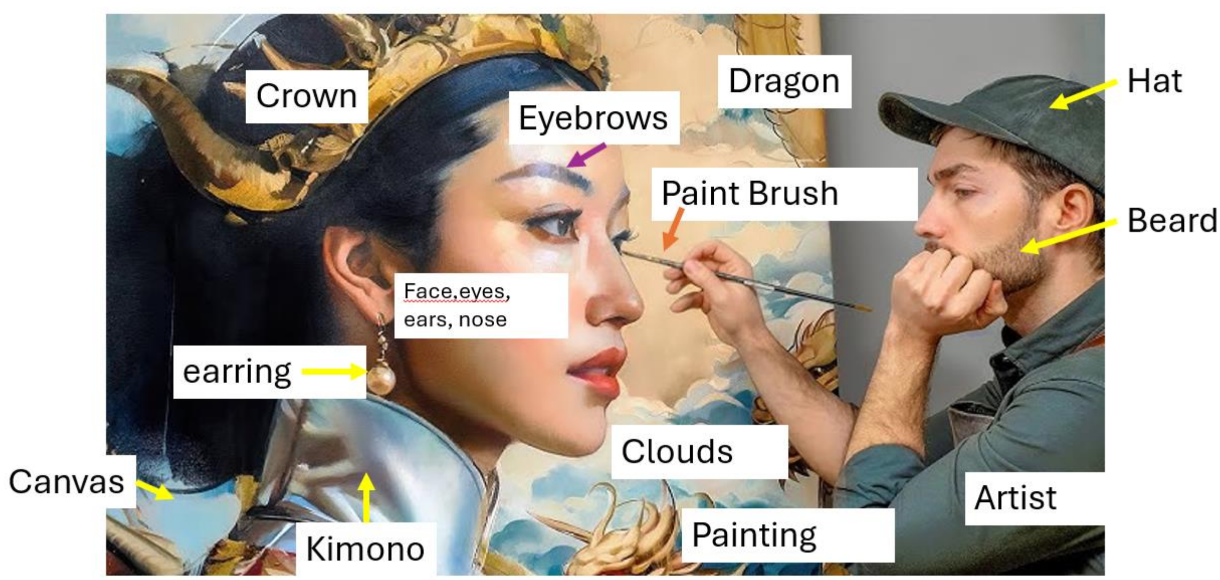
**6. Self-Efficacy and Identity**

- High Reading Confidence
    - High self-reported reading confidence
- Low Reading Confidence
    - Low reading confidence

# Appendix H - PWIM Picture Example

**Appendix Figure H. 1.** Student Groups work together adding words add to pictures.


**Appendix Figure H. 2.** The class working together adding words to a picture.



# Appendix I - Pre and Post Interview Protocols

This appendix presents the semi-structured interview protocols used with fifth grade English Learners to explore attitudes toward reading, confidence in reading aloud and perceptions of self as a reader, attitudes toward writing, reading habits inside and outside of school, and learning preferences and engagement with visual supports. Interviews were conducted in a quiet space during the school day. Student names were written for recordkeeping but not spoken on the audio recordings, and pseudonyms were used in all transcripts to protect privacy. Students could respond in English or Spanish. A certified bilingual teacher was present whenever Spanish was used and verified translations during transcript preparation to preserve accuracy and nuance. Each interview began with a reminder that participation was voluntary and that students could stop at any time without penalty. Sessions lasted approximately fifteen to twenty minutes and were recorded for verbatim transcription in *Otter.ai*. All procedures were conducted under institutional review approval as described in Chapter 3.

## Preintervention interview protocol

Question 1. How do you feel about reading books? Do you like it, or is it something you find hard to do?

Question 2. How confident do you feel when you have to read out loud in class?

Question 3. Do you think you are good at reading? Why or why not?

Question 4. How do you feel about writing stories or essays? Do you enjoy it?

Question 5. What is the hardest part about writing for you?

Question 6. How often do you read books at home or during your free time?

Question 7. What do you do if you come across a word you do not know while reading?

Question 8. Do you think using pictures could help you learn new words better? Why or why not?

## Postintervention interview protocol

Question 1. After participating in the Picture Word Induction Model activities, how do you feel about reading books now?

Question 2. Did your interest in reading change after using pictures to learn new words? How?

Question 3. Do you feel more confident reading out loud in class after the Picture Word Induction Model activities? Why or why not?

Question 4. Do you think your reading skills have improved? Can you give an example?

Question 5. How do you feel about writing stories or essays now compared to before the Picture Word Induction Model activities?

Question 6. Did the Picture Word Induction Model activities help you with writing? How?

Question 7. How often do you read books at home or during your free time now?

Question 8. Do you find it easier to understand and remember words after the Picture Word Induction Model activities? Can you give an example?

Question 9. Did using pictures help you learn new words better? How did it help?

Question 10. What did you like the most about the Picture Word Induction Model activities?

Question 11. What was your favorite part of the Picture Word Induction Model activities? Why?

Question 12. Did you enjoy the Picture Word Induction Model activities? What made them fun or interesting?

Question 13. How do you think the Picture Word Induction Model activities have helped you with reading and writing?

Question 14. Would you recommend the Picture Word Induction Model activities to other students? Why or why not?

## Administration notes

Interviewers should use neutral follow-up prompts such as "Can you tell me more about that," "What makes you say that," and "Can you give an example from class or home." When a student responds in Spanish, the bilingual teacher should verify meaning in English during transcript preparation. At the end of each interview, the interviewer should restate that participation is voluntary and confidential and confirm that the student has no additional questions. These procedures support credibility, dependability, and confirmability in the qualitative strand (Braun & Clarke, 2006; Lincoln & Guba, 1985; Saldaña, 2021; American Psychological Association, 2010).

# Appendix J - Kansas State University IRB Approval

**Appendix Figure J. 1.** Screen shot of IRB approval

IRB Protocol #IRB-12237 Approval

**Message**

**From:** comply@ksu.edu
**To:** estruzik3@k-state.edu; sporath@k-state.edu
**Sent:** 06/13/2024
**Subject:** IRB Protocol #IRB-12237 Approval
**Attachments:** EXEMPT 8-21-18 IRBManager.docx.pdf

**Body** **Raw Email**

Dear Suzanne Porath

Attached is the approval letter for protocol #IRB-12237, entitled "PWIM".

Please let us know if you have any questions.

Thanks!

MaKenna DeHart
Program Assistant
University Research Compliance Office
(785) 532-3224 | comply@ksu.edu

**Appendix Figure J. 2** IRB approval letter

KANSAS STATE UNIVERSITY | University Research Compliance Office

TO: Suzanne Porath
Curriculum and Instruction
Manhattan, KS 66506

Proposal Number: IRB-12237

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 06/12/2024

RE: Proposal Entitled, "PWIM."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category:Exempt Category 1.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Lisa Rubin on 06/12/2024 9:19 PM ET