# IMPROVING READING ACHIEVEMENT OF ELLS ONE CONVERSTATION AT A TIME: IMPLEMENTATION OF THE IC MODEL IN UPPER ELEMENTARY SCHOOL CLASSROOMS—VOICES FROM THE FIELD

by

REBECCA K. GOKEE

(Under the Direction of Stacey Neuharth-Pritchett and Pedro R. Portes)

## ABSTRACT

This study used a multiple-case study approach to examine the complexities of implementing the IC Model of teaching in upper elementary classrooms, which has been found in previous research to have a positive impact on the achievement outcomes of ELLs and others, particularly in reading. After conducting both a deductive and inductive thematic analysis across four cases (i.e., teachers), fourteen themes of interest were identified in relation to teacher practices, challenges, and external factors that affected the implementation of this model. Lastly, these themes are discussed in terms of their broader meaning and significance, their relation to previous literature, and their implications for practice, research, and theory.

INDEX WORDS: Conversation, Elementary, ELLs, Teaching Practice, Case Study

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# DEDICATION

To current and future generations of teachers who see every child in their classroom as a future difference-maker and do all they can to help them succeed in this crazy thing called life.

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# CHAPTER 1

# INTRODUCTION

Over the last few decades, an enormous rise in immigration has been witnessed. The number of immigrants seeking new homes in the United States has more than quadrupled since 1970, growing from 9.6 million to 41.3 million in 2013 (Zong & Batalova, 2015a). The increase in immigration is mirrored by a rise in the Limited English Proficient (LEP) population. Operationalized as "anyone above the age of 5 who reported speaking English less than 'very well,' as classified by the U.S. Census Bureau", individuals with LEP comprised about half of the immigrant population in 2013 with 25 percent living in households with incomes below the national poverty line. These poverty figures are stark with rates almost twice as high as their English-proficient counterparts at 14 percent (Zong & Batalova, 2015b). In addition, adults with limited English proficiency were less educated, with 47 percent of adults over the age of 25 having earned no high school diploma, compared to 10 percent of adults who are English-proficient. Linguistically, languages vary across the nation, however Spanish was the most dominant language spoken by individuals whose primary language was not English (Zong & Batalova, 2015b). Consequently, at the school level, the number of Hispanic students enrolled in public schools is on the rise, as evidenced by an increase from 8.6 million in 2002 to 12.1 million in 2012 (NAEP, 2015).

Within the English Language Learner (ELL) student population, Hispanic students constitute the majority with Spanish the most common first or home language

spoken by 71 percent of ELL students. Spanish was followed by Chinese at 4 percent and Vietnamese at 3 percent (Soto, Hooker, & Batalova, 2015). Despite Hispanic students' progress in achievement over the past 20 years, achievement gaps still exist between Hispanic and non-Hispanic whites (Hemphill & Vanneman, 2011). When compared to their non-ELL peers, ELL students often tend to be at higher risk for performing poorly academically, especially in the domain of literacy (Cheung & Slavin, 2012; Kieffer, 2008). In relation to reading, Snow et al. (1998) noted although low English proficiency in a Hispanic child is a strong indicator the child might be at risk for reading difficulty, one must also consider other factors such as school quality, home literacy, and socioeconomic status.

On average ELLs tend to come from low socioeconomic backgrounds and disproportionately attend schools with higher numbers of children in poverty (Fry, 2008; Hernandez, 2011; Snow et al., 1998). According to Wilde (2010), although the intersection cannot be fully explained as a causal relationship, language status and poverty do interact to have a negative effect on the educational attainment of students with limited English proficiency. Based on the 2004 and 2008 National Assessment of Educational Progress (NAEP) and Long Term Trend Assessments (LTTA), students who were identified as English language learners and who lived in poverty had the lowest average scores on both reading and mathematics assessments; while students who were not identified as English language learners nor who lived in poverty had the highest average scale scores on the same assessments. On the most recent 2015 NAEP assessment, the fourth grade national reading results revealed 68% of ELLs performed below Basic, 32% of ELLs performed at or above Basic, and only 8% performed at or

above Proficient. For children who were not identified as English language learners, only 27% scored below Basic, with 73% at or above Basic, and 39% performed at or above Proficient.

## Statement of the Problem

Although there are a lack of studies strictly examining the impact of poverty on ELL achievement (Ballantyne, Sanderman, & McLaughlin, 2008), it is clear that the two variables are inextricably linked. The majority of studies investigating the performance of ELLs on reading achievement have been conducted in high-poverty areas. Students placed at this intersection often are at a disadvantage compared to their peers on academic achievement measures. With the increase in diversity within our nation's schools, there is a growing need for instructional approaches that enhance learning and raise achievement for all students, particularly groups of students who are culturally and linguistically diverse. To foster increases in achievement, the current study examines one instructional approach, the Instructional Conversation Model.

## Purpose of the Study

Situated within a larger research project funded by the Institute of Education Sciences (IES), this study is an extension of a randomized control trial (RCT) conducted by the Center for Latino Achievement and Success in Education (CLASE). The goal of the larger study was to examine the effects of the Instructional Conversation (IC) model for improving the academic development of third and fifth grade English language learners (ELLs), predominantly Latinos, from high poverty elementary schools in

Northeast Georgia. Specifically, the CLASE team was looking at the effectiveness of this approach on students reading achievement scores as measured by the CRCT and the Georgia Milestones Assessment. Preliminary findings from the first two cohorts of this RCT are demonstrating promising results (Portes, Gonzalez-Canche, & Boada, 2016). The current study will examine the implementation of this teaching model in classrooms where teachers had high fidelity of implementation and whose students outperformed students in business-as-usual classrooms on state achievement outcomes, particularly in reading. The goal of this research is to provide insights that will aid in the future implementation of this model. This contribution of knowledge will be especially beneficial for teacher educators, administrators, and classroom teachers working with culturally and linguistically diverse students.

# CHAPTER 2

# LITERATURE REVIEW

The instruction of English Language Learners (ELLs) is a pressing topic in education, as achievement gaps still exist in many classrooms. There is a growing body of research concerning what works with this population regarding reading achievement, ranging from isolated strategies to whole classroom teaching models. The focus of the current study is on one such pedagogical model, which has demonstrated promising results on the reading achievement of ELLs—the Instructional Conversation (IC) Model. This chapter begins with an overview of the IC Model, followed by an examination of the theoretical framework, and ends with a review of other evidence-based instructional programs found to increase reading achievement for ELLs.

## The Instructional Conversation Model

The Instructional Conversation (IC) model is a comprehensive classroom pedagogy focused on collaboration and conversation as a means of teaching instructional objectives. Based on the earlier work of Tharp and Gallimore (1989, 1991), an instructional conversation is meant to foster dialogue between students and teachers where the teacher tailors the discussion to meet the emerging understanding of the students. The IC Model is grounded in the five standards for effective pedagogy identified by The University of California Berkeley's Center for Research on Education, Diversity, & Excellence (CREDE) (Tharp, Estrada, Dalton, & Yamauchi, 2000). These

standards describe the ideal conditions for instruction and were developed through a five-year consensus process, where CREDE synthesized three decades of research focusing on practices noted to promote achievement of all learners, with a strong emphasis on linguistically and culturally diverse learners (Dalton, 1998).

The first standard is *Joint Productive Activity (JPA),* and refers to facilitating learning through joint productive activity. The second is *Language and Literacy Development,* which refers to developing language and literacy across the curriculum. The third is *Contextualization,* which focuses on connecting schools to students' lives. The fourth is *Challenging Activities,* meaning teaching complex thinking. And finally, the fifth standard is *Instructional Conversation*, which is both a focus on teaching through conversation as well as is an actual small group event facilitated by the teacher called an "IC".

Defined in this research project as a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal, the IC incorporates all 5 standards. One can think of the IC as the capstone in this pedagogical model, where all 5 standards are incorporated in a small group activity that allows for the teacher to be present, bumping up each of the standards. It is in the IC, where the teacher is facilitating a joint activity with the students with a clear academic goal (standard 1), where s/he is fostering dialogue between students and tailoring the discussion to meet the emerging understanding of the students (standard 5). It is during this time that the teacher is also focusing on attending to language (standard 2), contextualizing instruction (standard 3), and challenging students when appropriate to introduce complex thinking (standard 4). To illustrate an IC in a real classroom context, below is an example of an IC

from one of the treatment teachers from the larger study followed by an example of a regular small group lesson submitted by one of the control teachers.

**IC Example**

As other students in the class are participating in center work around the room, the teacher gathers six students on the floor, seated in a circle. She gently asks them to "spread out a little more" to make room for the activity, situating their bodies in a way that allows for collaboration and conversation. The teacher begins the lesson by reviewing expectations for participating in an IC such as "everyone on task, listen to others, everyone participates, no one interrupts, be open to others ideas, help others understand, support opinions with text or evidence." She then proceeds to give the goal of the lesson (i.e., reviewing the structure of sentences), to explain the reason why this lesson is important for the students (i.e., the importance of using a variety of sentences types in their writing), and to review/contextualize the activity (e.g., by referencing the mini lesson earlier that day and pointing out comments made by students during that time on reference to this topic). She then proceeds to give them specific instructions for the activity:

T: "Right here we have categories—run on, complex, compound, other, fragment, compound-complex. "

The teacher places strips of paper in the middle of the circle with the category names labeled as she reads them aloud.

T: "Ok, I want you guys to look at these sentences and you are going to talk amongst yourselves and sort these sentences according to is it a run on, is it a complex, is it compound, is it compound-complex, fragment, or other. So before we even start, I'm going to give you all a couple of seconds to think about the background knowledge that you have about this specific skill already. (pause).

T: "Only a few seconds."

After giving some time for the students to think, she continues.

T: "Ok, I am going to read it (the sentence) and place it down on the carpet and then you all are going to discuss where you feel it should go, where it belongs. "

Student 6 asks a question in a tone not able to be heard.

T: “Excuse me?”

He repeats in a louder voice.

S6: “Can you say where there’s a comma?”

T: “Well I am going to put it down so you can see it. Ok?

The teacher turns to address the group:

T: “That’s a great question. He wanted me to say whether the comma is included but since I’ll put it down, you guys can see the structure of that sentence. Ok?”

The teacher begins to read aloud the first sentence strip.

T: “When she got close to the head of the line, she heard the same conversation several times.”

After laying it down in the middle of the group, the students all lean in, turning their heads to see the paper.

S6: “That’s a complex sentence because it has awubis at the front and it’s an independent clause and a dependent clause. “

Two students begin to talk “I…” and one backs off letting the other continue.

S1: “I respectfully agree, because it has awubis at the beginning and if it didn’t have awubis, it would be a run on sentence.”

S3: “I respectfully agree with Josh and Toby because at the beginning is says awubis which is when, and um without the comma you um won’t be able to um separate the two sentences.”

S4: “Um I agree and I just want to ask something ‘cause if it wasn’t, if it didn’t have awubis at the front, if it didn’t have the comma in the awubis, it would just be a dependent sentence and an independent sentence…”

T: “When you’re saying awubis, which word is the awubis?”

S (all): “When”

S1: “At the beginning.”

S6: “Um, Jonas, What do you think Jonas?”

S2: “I, I agree.”

S5: “I think it’s a complex sentence too because if, ‘cause the independent clause, there’s an independent clause and a dependent clause. And if you took away the awubis and the comma it just be basically a fragment.”

S6: “If you put the awubis at the, after the comma, it could still be a complex sentence.”

T: “Ok, complex. You guys are saying complex.”

Several student reach for the sentence strip at the same time. Student 1 picks it up and places it under the heading for complex sentence, as the other two lean back into their seats. The teacher continues to move the conversation along.

T: Next sentence: Because Toby’s Bugati was in the shop.”

Teacher and student begin to chuckle and excitedly all jump in with something to say.

S3: “It’s a fragment” (the other students join in on this answer excitedly)

S6: “It’s not a complete thought.”

S2: “Yeah.”

S4: “Cause it’s like, it’s like… cause well a sentence shouldn’t like, shouldn’t be so short like that.”

S6: “If there was a comma between them and there was another sentence there, it could be a complex sentence.”

Students begin to jump in with “Yeah” and “It could be a complex sentence”.

S3: “I agree with Toby, Josh, and Tia because I think it’s a um fragment because it um doesn’t have like a compete sentence. It’s just starts with because Toby’s Bugati was in the shop. It doesn’t tell *why* his Bugati was in the shop.”

S1: “I respectfully agree with everyone because um it doesn’t have a, a main idea. It’s just like a random, a random fragment that like, what is it about? Why is it in the shop?”

S4: “Yeah like. What happened to it?”

Students agree.

S6:” If I went up to somebody and said ‘Because Toby’s Bugati was in the shop’ they wouldn’t know what I was talking about.”

S3: “Yeah.”

S1: “So what do you think Jonas?”

S2: “Um I think its is a fragment because it’s not a complete sentence cause it start because.”

S6: “You can start because, but…”

S4: “It doesn’t have a meaning to it.”

S6: “It doesn’t have a comma and another sentence.”

S3: “Yeah.”

S1: “So fragment. Everyone agrees? Wait, do you agree Kennedy?”

S5: “Yes.”

Student 5 then places the sentences under the heading of fragment.

*Figure 1*. IC example

In this example, one can see indicators from each of the five standards exemplified. For example, the teacher designed an instructional activity requiring student collaboration to accomplish a joint product (Standard 1: JPA); responded to students' talk and questions, making 'in-flight' changes during conversation that directly relate to students' comments and encouraged students to use content vocabulary to express their understanding (Standard 2: Language and Literacy); began the activity with what students already knew referencing a previous lesson in school and designed the instructional activity with students’ name in order to make it meaningful to students (Standard 3: Contextualization); encouraged students to support their answers with text or evidence (Standard 4: Challenging Activities); and had a clear academic goal that guided the conversation while ensuring that student talk occurred at higher rates than teacher talk

(Standard 5: Instructional Conversation). It is evident here that students are having to work together on this activity, with everyone participating, giving their reason for where they think the sentence belongs. Students are building on one another's comments, *using* academic vocabulary in context (e.g., "independent clause" and "dependent clause"), and participating in a collaborative dialogue with an academic goal.

**Non-Example**

This small group activity includes four students, who are seated in a row on the floor, with the teacher, who is standing up in front of a smart board. The teacher begins the lesson by reading the objective on the board:

T: "The students will make inferences by using text clues and what you already know."

Tapping to the next "page", she then reviews the definition of an inference, giving two ways to think about the meaning of this word.

T: "What is an inference? An inference is something you can clue based partly on evidence—something you've read in the book—and partly on your own knowledge—which is what you already know in your own head. Ok?"

The teacher scrolls down the "page" on the smart board and points as she reads aloud:

T: "So another way to look at it is what I read plus what I already know equals what I infer"

She taps to the next "page" and rereads the simple definition of inference:

T: "What is an inference? What I read plus what I already know equals what I infer."

She immediately begins reading cloze sentences, pointing to the words on the board as she reads them, where the students answer in unison filling in the missing word.

T: "The waves crashed against the…

S (all): “Beach.”

T: “Thunder cracked and lightening hit the…”

S (all): “Sky.”

T: “The wind howled and bent trees over sideways. People put shutters on their windows, bought supplies, and were ready. So what were people expecting?”

She clicks an image on the smart board that uncovers what they read, and immediately begins reading, pointing to the words as she read them aloud.

T: “What I read was the waves crashed, the wind howled, the trees were bending, they were putting shutters on their windows, and they bought supplies. Ok?”

She then clicks another box on the smart board that uncovers what they already know, and immediately begins reading, once again pointing to the words as she read them aloud.

T: “What I already know is people in Florida get ready for hurricanes, which is bad weather- a lot of wind, a lot of rain—by buying supplies and putting up shutters. (slight pause) Do you know what shutters mean?”

The two students in the middle look towards student one. Student one shakes his head.

T: “No? Ok. Let’s look and see if we can find a picture of a shutter for you.”

The teacher walks to her computer and begins searching online for a picture of shutters. Student one stands up and watches from the side as she searches while the other three remain seated on the floor. Soon images of shutters appear, both on her computer screen and the smart board. She begins explaining to student one as she points to her computer:

T: “Look right here. See the shutters right here? You can out them over a window.”

Student 2 stands up to come towards the computer screen as well. The teacher turns and points towards the smartboard.

T: “Ok it’s also showing right there on the board, but y’all can look at the screen if you want to.”

The other three students stand up and gather around the computer screen.

“It’s putting the shutter on the board so you can close it. What do you think will happen to the light if we close the shutter?”

S3: “It’s gonna get dark.”

T: “It’s gonna get darker.”

The teacher repeats in an approving tone.

T: “Ok, so when would we close those shutters? During the…”

Two students answer quietly at the same time:

S2: “Bad weather.”

S4: “Nighttime.”

T: “Yeah, bad weather or during the nighttime. And then if I open the shutters how they have them here (pointing to a picture), it’s gonna let what through?”

S3: “Light.”

T: “The light through. Ok? Good.”

*Figure 2*. IC non-example

In this example, one can see evidence of several indicators that align with some of the five standards presented earlier. For example, the teacher had a clear academic goal that guided the lesson (i.e., to make inferences by using text clues and what you already know); made “in-flight” changes and assisted oral language development through modeling by stopping and explaining the meaning of the word “shutters” when one of the students didn’t understand (Standard 2: Language and Literacy); and showed real world photos to connect the meaning of shutters to something the student might have seen in real life (Standard 3: Contextualization)—all great teaching! However, the students are not working on an activity that requires the students to work together and there is hardly any interaction between the students themselves. They are seated in a row, which does not allow for collaboration or conversation, and the teacher is clearly leading this lesson,

doing most of the talking and only eliciting one or two word answers from the students in a typical initiation—response—evaluate (IRE) style.

Notice the difference between the *ratio of teacher talk and student talk*. In the IC example presented, the teacher talks 45% of the time and the students talk 55% of the time. In the non-example presented, the teacher talks 96% of the time and the students talk 4% of the time. Pay attention to the *academic vocabulary that the students are actually using*. In the IC example, the students use words such as "dependent clause", "independent clause", "complex sentence", and "fragment"; and they are using them in complete sentences. In the non-example, there is no academic language used by the students, only the teacher (e.g., "inference"). Notice the *amount of collaboration* and the *engagement level* of the students between the two small group lessons. In the IC example, the students are working together to sort sentences into the correct type categories. To complete this they have to talk to one another to make sure everyone agrees before moving forward. All the students are engaged in the activity and must state their ideas, giving reasons for why they think it should fit within a certain category. The students even pull each other into the conversation when one student notices that another has not spoken yet. In the non-example, the students are filling in cloze sentences "together" at the same time, but there is no collaboration or interaction between them. They all say the answer in unison and then move to the next. Pay attention to the *arrangement of students*. In the IC example, the students and teacher are arranged in a circle that allows for them to work together and engage each other in conversation in a joint activity; while in the non-example, the students are seated in a row and the teacher is standing above them.

In both of these examples, the teacher is conducting a lesson that has a clear instructional goal with a small group of students. However, the focus on collaboration and conversation—where the students are working together on a task and are expected to explain their reasoning, listen to one another, ask questions, and grapple with the concept, while actively using academic vocabulary in context—is what makes the IC lesson distinctive from a regular small group lesson.

## Theoretical Framework

Consistent with constructivist approaches to learning, the Instructional Conversation (IC) Model of teaching is grounded on Vygotsky's sociocultural theoretical framework. At the heart of Vygotsky's theory lies the understanding of human learning and cognition as a function of social and cultural processes rather than a strictly individual process (Kouzulin, Gindis, Ageyev, & Miller, 2003). Vygotsky did not deny the role biological development; however, he posited biological development is shaped through societal (historical) experiences (Moll, 1990). Wertsch (1991) offered three main themes that characterize the core work of Lev Vygotsky; these include (1) the mediation of human development through the use of cultural tools and signs, (2) the social origin of higher mental functions, and (3) a developmental (genetic) approach to studying the mind. All three of these distinct, yet related tenets constitute the foundation of Vygotsky's theory and provide an approach to learning and development centering on the dynamic relationship between socio-cultural conditions and the biological foundation of individual behavior (John-Steiner & Souberman, 1978).

**Use of Cultural Mediation**

The first major tenet of Vygotsky's theory is the use of cultural mediation. For Vygotsky (1978), cultural tools play an important role in the cognitive development and transform the relation between humans and their environment. Just as tools of labor produce new physical structures, Vygotsky suggested tools of thinking produce new mental structures. He emphasized the process of internalization in which the social interactions and use of artificially (human) created tools and sign systems play a pivotal role in the development and formation of higher functions. As people interact with their worlds, the mediation of these cultural artifacts and tools influence the child's development (Moll, 2014). Regarding cultural tools, Vygotsky (1978) distinguished between tools (technical tools) and signs (psychological tools), with technical tools being externally oriented with a goal of changing the environment and signs being internally oriented with a goal of mastering oneself. Although they are both characterized by a mediating function that alters the process of development, Vygotsky's focus was mainly on the use of signs or psychological tools in the development of higher order functions.

Vygotsky (1978) claimed the main difference between elementary functions and higher functions was that elementary functions were directly determined by stimulation from the environment; while higher functions were determined by the creation and use of self-generated stimulation, which became the immediate cause of behavior. The use of cultural tools and signs creates a new relation in the stimulus-response (S-R) structure, inserting an intermediate link in the structure. The new mediated process that is enacted inhibits the direct elementary function (determined by the environment) and allows the indirect higher function (self-generated) to complete the operation. This inhibition of the

initial response allows for control over the behavior and moves the locus of control from an internal biological reaction to an externally mediated higher function that allows for control over the behavior. As Vygotksy noted, "The use of signs leads humans to a specific structure of behavior that breaks away from biological development and creates new forms of a culturally-based psychological processes" (Vygotsky, 1978, p. 40). One of the main sign systems that interested Vygotsky was the use of language which was considered foundational to his ideas on concept development, the development of intellectual thought, and the development of self-regulation—all areas that teachers using the IC model of teaching aim to develop in their students by encouraging the use of language in interaction with others through conversation.

**Role of Language in Concept Development.** In relation to the development of concepts, Vygotsky (1986) posited it was the functional use of words that allowed for the generation of meaning and common understanding of concepts. He claimed, "real concepts are impossible without words; and thinking in concepts does not exist beyond verbal thinking" (p. 107). In his theory, the use of words not only influences, but fundamentally re-structures one's thinking and perception (van der Veer, 1994); and it is in learning to control one's mental processes (through the use of words) that is fundamental in the formation of concepts (Vygotsky, 1986).

Heavily influenced by Piaget's ideas of spontaneous and non-spontaneous concepts, Vygotsky (1986) developed his notion of everyday and scientific concepts, where the former referred to concepts formed through everyday experiences and the latter referred to concepts acquired through systematic instruction. Vygotsky was particularly interested in the impact of formal schooling on the development of higher order functions

and the role they played in concept formation; he saw a distinct, yet interconnected relationship between structured and spontaneous learning (Panofsky, John-Steiner, & Blackwell, 1990). Both of these processes are formed through the semantic use of speech. Although they originate from different conditions and processes, they are intricately interconnected, as each one influences and enhances the development of the other (Vygotsky, 1986).

To further illustrate his ideas between the two types, Vygotsky used the analogy of the development of languages to the development of concepts, with native language acquisition akin to the formation of everyday concepts and second language acquisition akin to the formation of scientific concepts. Everyday concepts and native language are learned unsystematically through everyday experiences; and although one may be able to use the correct form or word, understanding of underlying rules for use or explanation is often lacking. However, the development of scientific concepts and a second language, both are learned in a systematic fashion, where the underlying rules are made known explicit through instruction. Furthermore, both have a mediated nature (Van der Veer & Valsiner, 1991). For example, words in the native language can be translated to the second language and in turn aid the understanding of the new word. Likewise, everyday concepts provide concrete examples and points of connection for the formation of more abstract (scientific) concepts (Vygotsky, 1986). This interweaving of concrete everyday experiences with the instruction of more abstract scientific concepts is key in the development of higher order functions as a whole.

**Role of Language in the Development of Thought.** Additionally, Vygotsky (1986) noted "thought development is determined by language" (p 94). Language is what

allows us to attach meaning to things and it is the internalization process of these word meanings that fundamentally changes the structure of our thinking (Vygotsky, 1986). The reciprocal relationship between thought and language is one that Vygotsky was particularly interested in (Kozulin, 1986). In this dynamic relationship, Vygotsky (1986) makes a distinction between the origins of each and describes their reciprocal influence in each one's development. Kozulin (1986) summarizes: "a child's development knows preintellectual speech as well as nonverbal thought; only with the establishment of interfunctional systemic unity does thought become verbal, and speech become intellectual" (p. xxxii).

Vygotsky described this development through a three-stage process moving from external speech to egocentric speech and resulting in internal speech. Internal speech is what allows one to reason, organize, and plan (Vygotsky, 1978; Kozulin, 1986); and in essence, it is an internal mental function that becomes the basic structure for one's thinking (Vygotsky, 1986; Kozulin, 1986). This type of speech develops through the internalization of external (social) speech, which is used to communicate and interact with others; while egocentric speech is the transitional form between external and inner speech. As external, social speech is turned inward, the ability to use language as a problem-solving tool takes place (Vygotsky, 1978). Here one sees how the function of speech fundamentally changes through the internalization process of an external communicative function to an internal organizational, planning function (Kozulin, 1986). In sum, Vygotsky (1986) concludes that the development of logic "is a direct function of his socialized speech. The child's intellectual growth is contingent on his mastering the social means of thought, that is, language" (p. 94).

**Role of Language in the Development of Self-Regulation.** Furthermore, language provides the child an auxiliary tool that aids in thinking, problem solving, planning, overcoming impulsive action, and mastering one's behavior (Vygotsky, 1978). According to Vygotsky (1978), speech allows for the development of a dynamic system including elements of the past, present, and future (i.e., memory, attention, and goals/intentions) that allows for purposeful action. Vygotsky discusses how Kohler's work emphasized the distinguishing point between apes and humans being the ability to voluntarily modify their sensory field. With one's development of language comes the ability to not only see the world through one's eyes, but also through one's speech. The use of this tool (i.e., speech) provides an alternative to the initial motor impulse that comes directly from one's natural perception. Through the use of words, one is able to reconstruct their perception, which creates new "structural centers" to base their movements on (p. 35). Thus, the use of speech restructures the initial stimulus response and one's movement is no longer attached to the immediate sensory field, but comes under the control of their sign system, which makes a new behavior possible. In addition, memories from the past and future goals (as represented through speech) can be brought to the current activity, which also restructures the current situation. One's behavior is not regulated solely by their immediate sensory field anymore, but is able to be controlled through this complex mediated process of language use. The progression from an increasing independence from one's stimulus field, along with an increasing mastery of one's behavior, results in the development of self-regulation (Diaz, Neal, & Amaya-Williams, 1990; Vygotsky, 1978).

**Social Origins of Individual Mental Functioning**

The second major theme that characterizes the core work of Vygotsky is a focus on the social origins of individual mental functioning. A central component to the IC Model is getting students to talk, or use language, *in interaction with others*. According to Vygotsky (1978), all higher mental functions are social in origin and human interaction is the beginning of the development of higher functions in individuals. He elaborated:

> From the very first days of the child's development his activities acquire a meaning of their own in a system of social behavior and, being directed towards a definite purpose, are refracted through the prism of the child's environment. The path from object to child and from child to object passes through another person. This complex human structure is the product of a developmental process deeply rooted in the links between individual and social history. (p. 30).

Vygotsky's position on the social origins of mental functioning surfaces in connection with his concept of internalization. Defined as the process of internal reconstruction of an external operation, internalization is the result of a long series of developmental events where interpersonal processes are transformed into intrapersonal ones. For Vygotsky (1978), "every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, *between* people (*interpsychological)*, and then *inside* the child (*intrapsychological)"* (p. 57). This transformation of social processes external to the child into more complex internal operations is mediated by cultural tools that play an auxiliary role in permitting the child to "master their own behavior, at first by external means and later by more complex inner operations" (p. 73).

This claim of the social nature of learning is further supported by his ideas on the zone of proximal development and his notions on thinking and speech.

**Zone of Proximal Development.** The zone of proximal development rests on the idea cognitive development is fostered by interactions with adults or more capable peers. It is defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86). Vygotsky agreed with the accepted notion that learning should be matched in some way to the level of the child, however he suggested that two levels needed to be determined—the actual developmental level *and* the zone of proximal development. By determining the zone of proximal development, educators and psychologists would be able to define and address the functions that were in the process of maturing rather than ones that had already been completed (as determined by the actual developmental level). According to Vygotsky (1978), "what a child can do with assistance today she will be able to do by herself tomorrow" (p. 87).

In discussing the zone of proximal development, Vygotsky (1978) linked it to a broader discussion on learning and development. His theoretical position regarding the interaction between learning and development was that they do not coincide with one another, but rather they represent a complex dynamic relationship. In this relationship, he suggested learning should be in advance of development. This is illustrated by his emphasis on "properly organized learning" (p. 90) resulting in mental development. He elaborated:

> We propose that an essential feature of learning is that it creates the zone of proximal development; that is, learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Once these processes are internalized, they become part of the child's independent developmental achievement. (p. 90).

Vygotsky saw social interaction as a key part in the learning process that led to development whereby, with assistance from others in collective activity within this dynamic space, others are able to influence the child's developmental trajectory; and when properly organized, this interaction can lead to further development.

**A Developmental Approach**

For Vygotsky (1978), the developmental approach to analysis involved "tracing the qualitative changes in behavior occurring in the course of development" (p. 7). This method is motivated by the assumption to fully understand phenomena, one must understand their origin and the transitions in which they progress (Wertsch, 1991). Vygotsky (1978) focused on process over product, emphasizing all phenomena must be studied in motion (Cole & Scribner, 1978). According to Vygotsky (1978) the psychological development of humans is part of a broader cultural-historical development of humankind and must be understood in that context. He posited a dialectical approach that acknowledges the influence of nature on man but emphasizes the influence man has on nature in the overall development and understanding of human history.

The term *cultural* signifies the dialectical nature of human activity; and specifically, the way that humans interact with their surrounding social context, with the

help of cultural tools (Portes & Vadeboncoeur, 2003). For Vygotsky (1978), cultural tools play an important role in development and transform the relation between humans and their environment. In outlining developmental change, Vygotsky emphasizes the active nature of humans in acquiring, developing, and using cultural tools to both progress and adapt to the world around them. Vygotsky (1978) also asserted historical conditions determine to a large extent the tools available or opportunities one may experience. According to Valsiner (1989), *historical* refers to the developmental nature of psychological phenomena, alongside the understanding that thinking in *historical* terms involves an association not just with the past, but with the present and future as well (p. 60).

The social, cultural context one lives in can serve as a constraining or auxiliary role in development, depending on the social interactions and tools afforded to the child. "Cultural tools may be seen as extending along a continuum constrained by social institutions and economic conditions on one end, and moving to the other where individuals transform them through mediated action(s)" (Portes & Vadeboncoeur, 2003, p. 374). For example, in relation to reading skills particularly, Snow et al. (1998) discussed how children who have normal language skills, are afforded experiences that expose them to literacy in use, have been given explanations about the relationship of printed and spoken words, have had the opportunity to practice reading, and have attended schools with effective reading instruction tend to acquire reading skills in a relatively predictable way. However, lack of any of these experiences or interactions increases the possibility that the development of reading skills will be hindered (Snow et al., 1998). Students placed at risk by the interaction of a second parental language (ELL)

and poverty (i.e., students whose language skills are at a lower level than is developmentally appropriate for their age or students from a social class that does not enable them to have the same literacy-rich experiences for economic or familial reasons) may experience the constraining end of that continuum due to lack of access to the same cultural tools (e.g., language and resources) as their peers. The IC model is designed to ameliorate that by providing rich experiences for students to acquire, develop, and practice using language in an environment that is scaffolded for learning of academic content at their particular level.

**Summary**

In summary, the IC model is consistent with Vygotsky's (1978, 1986) theory in that it focuses on the development of higher order functions by providing experiences for students with external assistance that are sensitive to their cultural background, everyday experiences, and learning potential to promote meta-cognitive awareness, language development, and concept development. Inherent in this model is a focus on small group dialogue that fosters social interaction, active engagement, and higher order thinking while utilizing students' funds of knowledge (Moll, Amanti, Neff, & Gonzalez, 1992) with the objective of moving students toward the completion of an academic goal. This culturally responsive pedagogy centers on assisted instruction in the learners' zone of proximal development while emphasizing the use of language in conversation to develop new academic concepts. The emphasis on utilizing students' cultural background and experiences in concept formation is directly in line with Vygotsky's (1978, 1986) ideas on the relationship between routine and scientific concepts as discussed previously. The teacher's role as facilitator affords opportunity for the students to participate in verbally

mediated activities, both by the teacher and other peers in the group, where the teacher is present to give in-time feedback, address misconceptions as they arise, provide assistance when necessary to develop deeper understanding, and formatively assess students understanding of concepts during these conversations (Ruiz-Primo, 2011). As one can see, this teaching model is heavily anchored in many of Vygotsky's ideas including the importance of teaching to the students' potential development, the use of speech and language in concept formation, the active nature of the learner, and the use of mediation.

## Review of Evidence-Based Interventions

Over the last few decades, language of instruction has been a critical issue in the discussion on the best way to educate ELLs. This debate on which language is most effective—a child's native language or English-only—has produced significant interest among researchers, policy-makers, and educators. Several meta-analyses of the impact of bilingual education on reading have been conducted and the results have been mixed (e.g., Greene, 1997; Rossell & Baker, 1996; Slavin & Cheung, 2005; Willig, 1987). While language of instruction is still considered an important factor in the education of ELLs, the current conversation has moved beyond this language debate to focus on identifying actual pedagogical strategies that help ELLs succeed in English, with instruction in the native language being one of many potential effective strategies (Cheung & Slavin, 2012; Adesope et al., 2011). Therefore, this review will focus on quasi-experimental and experimental studies of teaching models that show learning gains for elementary school ELL students in the area of reading, where the majority of

instruction is done in English and results are focused on outcomes related to reading achievement in English.

**Success for All**

Three studies were found that looked at the effects of different variations of Success for All (SFA), a whole-school reform model that focuses on reading, writing, and oral language development. Designed for students in pre-K through eighth grade, the objective of SFA is for all students to be reading on grade level by the end of the third grade. This program emphasizes systematic phonics in Grades K-1 and cooperative learning with direct instruction in comprehension skills among other fundamentals in Grades 2-6, while offering a comprehensive, collaborative approach that includes extensive professional development and follow-up coaching for teachers, a school-wide support system for facilitating the model, early intervention for students who are struggling readers, one-to one tutoring, parent involvement programs, and frequent assessment of students where they are matched and regrouped according to their instructional level (WWC, 2012; Cheung & Slavin, 2012).

The first study (Ross, Smith, & Nunnery, 1998) looked at the effects of an English language development (ELD) adaptation of SFA on the reading achievement of 540 Spanish-dominant first-graders, as measured by the Woodcock Word Identification, Word Attack, and Passage Comprehension scales and the Durrell Oral Reading Test. Six schools in an Arizona school district participated in this study—two using the SFA adapted model where and four using the locally developed Title 1 projects. After conducting a 1-year matched control study and adjusting for initial differences using the English Peabody Picture Vocabulary Test (PPVT), students in the treatment schools

outperformed their control counterparts on all measures, with a mean effect size of .52 (Cheung & Slavin, 2012).

The second study (Chambers, Slavin, Madden, Cheung, & Gifford, 2004) evaluated the effectiveness of a SFA model with an embedded video component that provided clear visuals to reinforce reading skills being taught such as letter sounds, sound blending, and new vocabulary words. These video components last anywhere from 30 seconds to three minutes and are woven into lessons. The vocabulary skits, in particular, were developed to preview words so that ELL students were introduced to new words before seeing them in the text; while the sounds and blending components were designed to reinforce and build up language as well as reading skills. Participants included 455 K-1 Hispanic students from eight schools in New York, Washington, DC, Arizona, and California. After one year of implementation, students in the four schools using the SFA model outperformed the students in the four control schools that used a traditional basal approach. Controlling for pretests using the PPVT, analyses of covariance showed that students that were taught using the SFA video embedded model scored significantly higher on the Woodcock Word Identification (ES = .40), Word Attack (ES = .36), and Passage Comprehension (ES = .21) scales than those in the matched control group, with an overall mean effect size of .32 (Cheung & Slavin, 2012).

The third study (Calderon, August, Slavin, Duran, Madden, & Cheung, 2004) investigated the impact of an enriched bilingual transition program using SFA. This program was geared for students who had previously been taught reading using a SFA model in Spanish who were transitioning to an English program in the third grade. This enriched model incorporated elements such as rich vocabulary instruction with frequently

repeated exposures applied in multiple contexts, as well as pre-instruction of vocabulary and reorganizing procedures and materials to support text comprehension (Slavin, Madden, & Datnow, 2005). Conducted in Texas, this study included 238 Spanish-dominant students from eight schools and matched treatment and control groups based on pretest Spanish and English Woodcock scales. After one year of implementation, results showed that students in the treatment group scored significantly higher on the Woodcock Word Attack (ES = .21), Passage Comprehension (ES = .16), and Picture Vocabulary (ES = .11) scales than students in the control group for an overall mean effect size of .16 (Cheung & Slavin, 2012).

**Bilingual Cooperative Integrated Reading and Composition (BCIRC)**

The BCIRC program is an adaptation of the Cooperative Integrated Reading and Composition (CIRC) program, a cooperative learning model designed for elementary reading instruction (see Stevens, Madden, Slavin, & Farnish, 1987). The BCIRC model was designed to specifically to meet the needs of students that were currently reading in their home language (Spanish) and transitioning to reading in English through instructional practices that aimed to develop social, academic, and communication skills. Both models involve placing students in learning teams where students work together on various tasks such as partner reading, identification of story elements, summarization and vocabulary activities, comprehension strategies, and creative writing with the following series of steps: teacher presentation, team practice, peer pre-assessment, additional practice, and testing. However, the BCIRC adaptation combines these core practices with instructional strategies that have been found to be effective for second language learners such as offering rich language experiences that integrate speaking, listening, and reading

while capitalizing on students' cultural backgrounds (Calderon, Hertz-Lazarowitz, & Slavin, 1998).

Calderon, Hertz-Lazarowitz, and Slavin (1998) evaluated the impact of this program model on 222 second and third grade students in bilingual programs from seven high poverty schools in El Paso, Texas (3 treatment, 4 control). These schools were the seven lowest achieving schools with the highest percentages of Spanish-dominant LEP students and were matched on pretest and demographics. Using the Spanish Texas Assessment of Academic Skills as a measure for second graders, the English Norm-Referenced Assessment Program for Texas as a measure for third grade, and adjusting for Bilingual Syntax Measure scores on both, analysis of covariance showed that second graders in the BCIRC schools scored marginally higher ($p < .06$) in reading and third graders in the BCIRC schools scored significantly higher ($p < .01$) in reading than their control counterparts, with a mean effect size of .54 as reported by Cheung and Slavin (2012).

**Peer Assisted Learning Strategies (PALS)**

PALS is a class-wide reciprocal peer-tutoring strategy that includes activities such as partner reading with retell, paragraph shrinking, and prediction relay with the intention of increasing strategic reading behavior, reading fluency, and comprehension. The program also contains a teams and points incentive to create motivation among students. Saenz, Fuchs, and Fuchs (2005) examined the effectiveness of this program model on 132 Spanish-speaking ELL students with learning disabilities in grades three through six. Participants came from 12 general education classrooms from one school district in south Texas, and classrooms were randomly assigned to either treatment or control, with

control classrooms carrying on with their traditional reading instruction. In the treatment classrooms, PALS was conducted 3 times a week for 35 minutes each session during regularly scheduled reading instruction. After 15 weeks of implementation, students in the PALS condition showed significant improvement over their control counterparts on all three subtests of the Comprehensive Reading Assessment Battery (CRAB). Although only statistically significant treatment effects were found on the comprehension subtest ($p<.001$), the combined effect for reading achievement across all three was substantial, with an overall mean effect size of .36 (Cheung & Slavin, 2012).

**Instructional Conversations and Literature Logs**

Two studies were found examining the use of instructional conversations and literature logs with ELL elementary students. The Literature Log component involves use of writing prompts where students respond after reading a specified chunk of reading. Students complete this prompt at an independent center, prior to meeting in a teacher-led small group to discuss elements of the story, their log entries, related personal experiences and themes for the unit. These discussions, referred to as Instructional Conversations, are facilitated by the teacher, which affords the opportunity to offer in time feedback— addressing misconceptions and enriching students' thinking—while students are able to hear and build on other's understandings (Saunders & Goldenberg, 1999; WWC, 2006).

Saunders and Goldenberg (1999) looked at the effect of these two instructional practices on 116 fourth and fifth graders from five classrooms in a school where 62% of the student population qualified for federal meals. The purpose of this study was to look at the independent and combined effects of these two instructional practices on ELLs and

fluent English-speaking students' story comprehension (factual and interpretive) and theme understanding. The five teachers involved in the study were provided extensive professional development, aided by two instructional advisors who helped in planning for and implementing these interventions. This randomized control trial focused on the short-term impact of this intervention after four days of implementation. Students were matched on English proficiency and reading levels, then randomly assigned to one of four conditions in each classroom—literature logs only, instructional conversations only, literature logs and instructional conversations, or control. Results indicates students in the literature logs and instructional conversations group scored significantly higher than students in the control group on both the factual and interpretive measures of comprehension ($p<.05$). These effects on comprehension were found, regardless of English proficiency levels. Effects of the combined intervention on understanding of story theme were dependent on English proficiency levels, with results demonstrating effects were more pronounced for ELLs than their fluent English-speaking peers.

Saunders (1999) implemented a quasi-experimental longitudinal study that focused on the long-term effects of this intervention in 10 schools in one southern California school district, where 74% of students were limited English proficient and 95% qualified for free/reduced lunch. The intervention was delivered as part of a broader transitional bilingual program for ELLs in grades 2-5. Teachers involved in the study received support from project staff for every year while the intervention was implemented. By grade 5, students were taught and assessed in English. Eighty-four of the 125 ELLs who remained in the study by the end of fifth grade were randomly selected and matched, which resulted in 42 ELLs from the treatment group and 42 ELLs from the

control group. Fifth grade students in the treatment sample scored significantly higher ($p < .05$) than their control counterparts on standardized reading assessments, with an effect size of .60 (Saunders, 1999). Overall, results showed that the intervention had a statistical significant positive effect on reading achievement (WWC, 2006).

**Direct Instruction Model (DI)**

Direct Instruction System for Teaching Arithmetic and Reading (DISTAR or Direct Instruction) is a highly structured approach that focuses on academic engagement through small group instruction. The curriculum used in this approach explicitly teaches problem solving strategies. Used in reading, oral language, and mathematics, the DI model trains educators to teach fast-paced, dynamic lessons with high levels of unison responses that allow teachers to systematically correct errors (Becker & Gersten, 1982, p.76).

Becker and Gersten (1982) conducted a follow up to the Follow Through study of the 1970s that originally evaluated the DI approach (Stebbins, St. Pierre, Proper, Anderson, & Cerva, 1977) to examine the later effects of this intervention on low-income fifth and sixth grade ELLs who had previously completed the full three years of the K-third grade program. Students at each site were matched on demographic factors with a control group. One of the sites included in this follow up study had a high percentage of low SES Hispanic students. Participants at this site included 225 Hispanic ELLs in the fifth and sixth grade; these students were tested on all subtests of the intermediate level Metropolitan Achievement Test (Durost, Bixler, Wrightstone, Prescott, & Balow, 1970) and the reading subtest of the Wide Range Achievement Test (WRAT) (Jastak & Jastak, 1965). Results showed that students who had previously completed the DI program 2

years prior consistently scored significantly higher than the matched control group, especially in reading as measured by WRAT at effect sizes ranging from .38 to .56 (Becker & Gersten, 1982).

**Reading Mastery and Corrective Reading**

Reading Mastery and Corrective Reading are both Direct Instruction programs that focus on several building blocks of reading including phonological awareness, sound-letter-correspondence, decoding, and fluency where students are grouped according to their instructional level. Instructional components of these programs include direct instruction of new skills, immediate feedback, teacher modeling, opportunities for students to practice, and cumulative review of material. Gunn, Biglan, Smolkowski, & Ary (2000) conducted a randomized experiment looking at the effects of supplemental small group instruction in reading on Hispanic and non-Hispanic elementary students. This small group intervention implemented two Direct Instruction models—Reading Mastery and Corrective Reading—with an emphasis on decoding skills. Participants included 256 students (158 Hispanic, 98 non-Hispanic) in grades K-3 from nine schools in three districts in Oregon who performed below grade level on initial screening measures. Students were then randomly assigned to treatment or control groups and assessed three times throughout the two year study: (1) in the fall of the first year, (2) in the spring of the first year, and (3) in the spring of the following year.

At the end of the first year, students in the treatment condition scored significantly better on the Woodcock Word Attack subtest (ES = .70) and outperformed their control peers on both the Woodcock Letter-Word ID (ES = .22) and Fluency (ES = .16) subtests, for an overall average effect size of .36 for the first year of the intervention. At the end of

the second year, students who were taught with the intervention scored significantly better on all five measures, with an average effect size of .54 on English measures after the second year of the intervention (Cheung & Slavin, 2012). Results indicated that native English speakers as well as ELL students responded similarly to the intervention, as there were no differences in the effectiveness of instruction as a function of Hispanic students' level of English proficiency (Gunn, Biglan, Smolkowski, & Ary, 2000).

**An Explicit, Systematic Supplemental Reading Intervention**

This supplemental program intervention uses a systematic, explicit instructional approach to teach phonemic awareness, phonemic decoding skills, fluency in word recognition and text processing, construction of meaning, vocabulary, spelling, and writing. This model is built on the six instructional practices effective for ELLs in reading, as posited by Gersten and Geva (2003). These practices include explicit teaching, phonemic awareness and decoding development, development of vocabulary and English language learning and, interactive teaching that creates student engagement, and opportunities for assessment and feedback. During this intervention, students meet daily in small groups for five days a week, where the teachers were able to scaffold instruction to meet the needs of the learners and use activities that promoted high student engagement and learning of critical content.

Vaughn et al. (2006b) conducted a small-scale randomized study looking at the impact of this intervention on first grade ELLs from four low SES schools in Texas. Participants included 48 students who failed to pass the initial screening of the Woodcock Letter-Word Identification in both languages (English and Spanish); these students were randomly assigned to either the treatment or control group. The intervention was

conducted in English and delivered daily for seven months, in addition to the core reading instruction. At the end of the study, results showed that treatment students scored significantly higher that their control peers on half of the English outcome measures, with a mean effect size of .68 for all 14 English measures (Cheung & Slavin, 2012).

Vaughn et al. (2006a) replicated the above study on a separate sample of ELLs that included 91first graders (43 treatment and 48 control). These students participated in the study where the intervention, a modified version of Proactive Reading (Mathes et al., 2005) with language support activities interwoven, was delivered in English. Findings showed treatment students scored statistically significant higher than controls on phonological awareness, word attack, word reading, and spelling, with effect sizes ranging from .35-.42 (Vaughn et al., 2006a).

**English Language and Literacy Acquisition (ELLA)**

The English Language and Literacy Acquisition (ELLA) program is an intervention program developed for native Spanish-speaking students who are acquiring English language and literacy. Consisting of three tiers, this comprehensive program emphasizes English language development across content areas. In tier I, students in Kindergarten and first grade receive instruction in Spanish for regular language arts, mathematics, science, and social studies subjects. In tier II, students received an English intervention consisting of three integrated components: (a) daily small group tutorial instruction in content areas, (b) storytelling and retelling activities incorporating culturally relevant literature and using ESL strategies and incorporating questions based on Bloom's Taxonomy, and (c) teacher-conducted academic oral language for students in kindergarten and academic language oral language in science for students in first grade.

In tier III, low-performing students receive intensive small group tutorials in English delivered by highly trained paraprofessionals (Tong, Lara-Alecio, Irby, & Mathes, 2011).

As part of a larger 4-year experimental longitudinal study conducted in an urban school district in Texas where approximately 89-98% of students were low SES and 28.4% were ELLs (Irby, Tong, Lara-Alecio, Mathes, Acosta, & Guerrero, 2010), where shortly after Tong, Lara-Alecio, Irby, & Mathes (2011) examined the effect of this intervention on the development of oral language and reading skills for a subset of ELLs from kindergarten through the end of first grade. 140 students (70 in each condition) were randomly selected from the larger longitudinal study. These students were placed in transitional bilingual programs from 10 schools and 12 classrooms. Students were tested in both English and Spanish on the Woodcock Language Proficiency Battery-Revised (which included five subtests) and the IDEA Oral Language Proficiency Test. Results showed that students in the treatment condition outperformed their peers in the control condition on two of the six measures in English— the IDEA Oral Language Proficiency Test (ES = .48) and the Woodcock Passage Comprehension subtest (ES = .15). However, on the Spanish outcome measures, students in the treatment condition scored significantly higher on five out of the six measures, with a mean effect size of .28 (Cheung & Slavin, 2012).

Furthermore, Tong, Irby, Lara-Alecio, and Mathes (2008) conducted a three year longitudinal randomized study, derived from the same original 4 year longitudinal study mentioned above, examining the development of ELL students' language and literacy acquisition from kindergarten to second grade in developmental bilingual programs. The final sample included 262 students (141 treatment, 121 control) from 19 schools.

Treatment students received an enhanced bilingual program using the ELLA intervention where 30% of instruction was taught in English, as opposed to only 20% in the business as usual control classrooms. Overall, findings showed that treatment students scored significantly higher ($p$ <.05) on English measures of oral language, pre-literacy skills, reading fluency, and reading comprehension, with a combined effect size of .23 across all English measures (Cheung & Slavin, 2012).

**Discussion**

After reviewing these studies, several themes are apparent across interventions that highlight common pedagogical practices that may give insight into why these interventions showed promising results. First, the use of cooperative learning, which gives ELLs the opportunity to develop their language skills while practicing in meaningful contexts, was apparent across several intervention models. Second, the use of small group instruction that allows the teacher to formatively assess and provide corrective feedback as well as keep students actively engaged was exemplified in many interventions. ESL strategies such as embedded vocabulary and emphasis on language development were key in several studies, as well as opportunity for practice. Furthermore, teacher modeling, scaffolded instruction that met students at their instructional level, discussion, and the use of direct instruction to explicitly teach beginning reading skills were present across several of these interventions.

The common pedagogical practices from these intervention models are corroborated by the discussion put forth by Martinez et al. (2014). After reviewing several seminal reports put out in the last decade (e.g., Gersten et al., 2007; August & Shanahan, 2006; Genesee et al., 2006), three major themes were identified in relation to

practices that promote English reading for ELLs: (1) Develop academic English at all stages of second-language acquisition, (2) Conduct frequent formative reading assessments and use the data to drive instruction by providing accommodations that support English reading, and (3) Use small groups and peer-assisted methods to deliver literacy instruction within a welcoming and sensitive learning climate.

Furthermore, the US Department of Education also published a practice guide on teaching academic content and literacy to ELLs (Baker et al., 2014) and summarized with four recommendations: (1) Teach a set of academic vocabulary words intensively across several days using a variety of instructional activities, (2) Integrate oral and written English language instruction in content area teaching, (3) Provide regular, structured opportunities to develop written language skills, and (4) Provide small-group instructional intervention to students struggling in areas of literacy and English language development. Although this second guide focuses more broadly on academic content and literacy in general, there is still an overlap of pedagogical practices including the importance of vocabulary, regularly structured opportunities for practice, and small group instruction that meets students at their level—all which are integral parts of the IC approach.

## Summary

As one can see, there is not one magic strategy, but a set of practices that support academic achievement for ELLs. Regarding ELLs and literacy instruction particularly, August & Shanahan (2010) noted most research has targeted only one or two components of literacy and call for better comprehensive interventions that "accommodate the

language learning and literacy needs within the same classroom of students with diverse skills and capacities" (p. 345). The IC approach is one such comprehensive model that incorporates a system of practices to meet the needs of all learners, but that is especially helpful for culturally and linguistically diverse students. Although the IC approach is well documented in terms of theoretical framework and application (e.g Goldenberg, 1991; Doherty & Hilberg, 2007; Doherty, Hilberg, Pinal, & Tharp, 2003; Saunders, 1999; Saunders and Goldenberg, 1999; Saunders, Goldenberg, & Hamann, 1992; Tharp, Estrada, Dalton, & Yamauchi, 2000) literature on the implementation of the full IC model that incorporates all five standards in upper elementary grades is underrepresented (e.g., Dalton, 2007). The difficulty of implementing such a model lies in the execution of each of the components in a way that operates like a systematic whole. This study will address these issues by providing a deeper understanding of how teachers implemented the full IC model in upper elementary classrooms by looking at the system as a whole as well as looking at how each component (or standard) is implemented, what the common challenges were, and what other factors may contribute or hinder the implementation process.

# CHAPTER 3

# METHODOLOGY

This study centered on *how* teachers implement the instructional conversation (IC) model of teaching, which has been found to have a positive impact on student achievement outcomes in a previous randomized control study (see Portes, Gonzalez-Canche, & Boada, 2016). Yin (2014) posits in K-12 education, the effectiveness of an intervention model is often studied using an experimental design, which has the potential to address the statistical significance of the differences between groups and indicate if a particular intervention works; however, "the data are not likely to explain how and why the treatment actually produced the observed results" (National Research Council, 2004, pp. 167-168). For such an explanation, Yin (2014) suggests a case study would be most appropriate, as it may offer more in-depth insights into how a particular intervention worked, that an RCT cannot provide.

One of the distinct advantages in using case study research is it allows the researcher to ask "how" or "why" questions in an attempt to serve an explanatory function that provides insights and a deeper understanding of the phenomenon under study (Yin, 2014). These questions often arise from practical experiences and commonly include questions about process or understanding (Merriam 1988). Therefore, this study used a case study approach to answer the following questions:

RQ1: How do teachers implement the Instructional Conversation (IC) model in their classrooms? (What do they attend to before, during, and after an IC?)

RQ2: What are the major challenges in implementing the IC model?

RQ3: What conditions or external circumstances affect the implementation of the IC model?

## Research Design

This study employed a multiple-case study design with four cases in total. According to Stake (2006), cases should be nouns, things, or entities rather than verbs or functions; however, within each case, he posits that the researcher is able to examine functioning in motion. Even when the focus of a study is a function, such as teaching, the researcher must choose a case that is a noun. Due to the close connection of context and case in case study research, the situation or environment often shapes the activity (Yin, 2014)— in studying the case, the researcher often studies the context as well (Stake, 2006). Therefore, for this study the *teacher* was the case, investigated within the IC context. To yield compelling evidence, a multiple-case holistic design was employed, as illustrated in Figure 3 (Yin, 2014), with four teachers representing the individual cases and the IC Context representing the context of each classroom where the IC model was implemented—both of which will be described in further detail below.

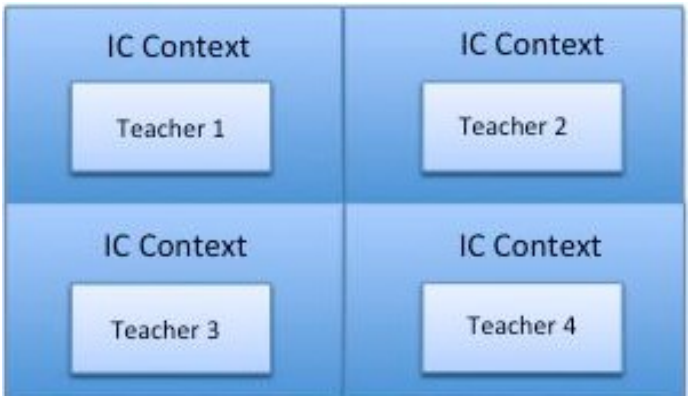


*Figure 3*. Multiple-case holistic research design

**The IC Classroom Context**

The teachers (i.e., cases) in this study were selected from the treatment group of third and fifth grade teachers from northeast Georgia who were part of a larger randomized control trial (RCT) designed to evaluate the effectiveness of the IC model on student achievement, particularly for ELL students. As part of this study, the four teachers were engaged in the project for two years—one practice year and one efficacy year (during which student achievement data were collected). To ensure each teacher was given the support necessary to develop expertise in the IC Model, the following multi-step professional development (PD) approach was enacted across the two years that these treatment teachers were involved in the project.

First, each participant attended a five-day training in the summer of 2012 that introduced foundational theory regarding CREDE's Five Standards where they participated in activities that allowed them to apply that theory in classroom based lessons. Next, throughout the following 2012-2013 school year, teachers were given close in-class support through individualized coaching that included monthly coaching cycles (consisting of a pre-planning conference, a lesson observation, and feedback). In the fall of 2013, teachers attended a face-to-face renewal training workshop to prepare for the following 2013-2014 school year, where they received in-class coaching as needed. Videos were collected of IC lessons in the fall and spring of each school year that were used both as a stimulus for discussion during the coaching cycles and as a way to measure fidelity of implementation (discussed below). In addition, teachers responded to online bi-weekly logs via Survey Monkey throughout the two years where they were

required to reflect on their pedagogy, of which the research team then reviewed to inform the ongoing in-class coaching and the renewal training.

To establish fidelity of implementation, two independent, blind raters objectively scored each teacher's spring video from the second year using an instrument containing 20 indicators that aligned with the IC Model (see Appendix D). Each indicator was marked "one" if evidenced in the video and "zero" if not. The total combined score possible was 40 points.

**The Case(s)**

According to Yin (2014), because the goal of case study research is to gain an in-depth understanding of a phenomenon or situation, given access, the case should be chosen based on its ability to illuminate one's research questions (Yin, 2014, p. 28). Stake (1995) echoed this notion regarding selection of cases, noting that opportunity to learn should be the priority in determining the case. Furthermore, Yin (2014) proposes choosing a multi-case design entails selecting two or more cases thought to be direct replications (e.g., "literal replication logic"). An example of this may be a set of cases demonstrating "exemplary outcomes" related to the research question. Selecting these cases "requires prior knowledge of the outcomes", where the researcher is hoping for replications across cases (Yin, 2014, p. 62).

Since the goal of this study is to examine the implementation of the IC model, four treatment teachers—two third and two fifth—who demonstrated high levels of fidelity (i.e., scored in the top $20^{th}$ percentile of the maximum possible score of 40 points) and whose students outperformed controls on state standardized tests, particularly in

reading (see Portes et al., 2016) were selected as cases for this study and literal replication logic was employed. Below is a description of the participants selected.

**Participants**

All four teachers were from separate schools in three different districts across Georgia. Three of the participants were female, and one was male. Two of the participants were proficient in two languages (e.g., English and Spanish) and two were proficient only in English. Regarding teaching experience, one participant had nineteen years of overall teaching experience, two had twelve years, and the other had five years. In terms of working with ELL students specifically, two of the participants had nine to eleven years of experience teaching ELLs and two had three to five years of experience. Table 1 provides an overview of the teacher and school characteristics of each case. Pseudonyms were used for each teacher to protect their anonymity in this study.

Table 1. Teacher and School Characteristics for Each Case

| | **Gender** | **Grade Taught** | **Proficient Languages** | **Years Teaching Overall** | **Years Teaching ELLs** | **School %ELL** | **School %free lunch** | **District %ELL** | **District %Free Lunch** |
|---|---|---|---|---|---|---|---|---|---|
| **Case 1/ "Kasey"** | Female | 5 | English | 19 | 9-11 | 20% | 79% | 16% | 52% |
| **Case 2/ "Victoria"** | Female | 5 | English/ Spanish | 12 | 9-11 | 10% | 66% | 8% | 61% |
| **Case 3/ "David"** | Male | 3 | English/ Spanish | 5 | 3-5 | 43% | 93% | 16% | 52% |
| **Case 4/ "Olivia"** | Female | 3 | English | 12 | 3-5 | 2% | 58% | 12% | 79% |

## Data Collection Methods

Case study research employs multiple sources of data to increase the quality of a study and illuminate a more holistic understanding of the phenomenon under investigation. Termed *data triangulation*, the goal of gathering multiple sources is to develop convergent evidence where the findings of the study are supported by more than

one source of evidence. These *converging lines of inquiry* help strengthen the construct validity of your case study (Yin, 2014, p. 120), as each method of collecting data has its strengths and weaknesses. The data sources used in this study included documents, observations, and interviews.

**Documents**

Documents help the researcher uncover meaning or gain insights relevant to the phenomenon under study (Merriam, 1988) and are most useful in corroborating and extending evidence from other sources (Yin, 2014). Teachers who participated in the larger RCT completed biweekly logs via Survey Monkey across the two years in which the teachers engaged in the study. For the participants in this study, twelve logs were completed in the 2012-13 academic school year and thirteen logs were completed in the 2013-14 academic school year. Each log contained an average of 8-12 questions that were developed based on literature surrounding the 5 Standards for Effective Pedagogy (and additional questions were added as needed to support the data gathered for the larger RCT). Topics ranged from student language use in the classroom to teacher classroom practice and barriers to implementing culturally responsive pedagogy. For the purpose of this study, questions related most directly to the implementation of the IC model were selected, as well as demographic questions for each participant. Questions selected included ones such as "What factors impact how many ICs the ELL students in your classroom can participate in?" and "Can you describe how you incorporate your student's home and community funds of knowledge into your teaching?" (see Appendix A for a sample of log questions). Data from the log responses were used to support all three research questions.

**Video-Recorded Observations**

Observations allow the researcher to gain a first-hand account of the phenomenon under study. Collecting data through observation "maximizes the advantages of the human being as instrument" as the researcher is capable of attending to the complexity of the human interaction within the case that other methods may not capture (Merriam, 1988, p. 103). Teachers who participated in the larger RCT study were video recorded in the fall and spring of each school year. For the participants in this study, these videos were collected in fall 2013 and spring 2014. Each video averages approximately 20 minutes in length and shows the teacher implementing an actual lesson in the classroom. These video recordings are of instructional conversations involving a small group lesson with the teacher and groupings of students that range from three to seven students. For this study, the spring video recording of each participant in this study was observed and analyzed to provide further insight into the first research question.

**Interviews**

Both Yin (2014) and Merriam (1988) note although interviews represent a second-hand account of the experience or situation, interviews can provide important insights into the situation as they offer a great opportunity for the researcher to ask intentional questions that may illuminate the phenomenon under study and to probe for clarification while in the process. For this study, follow-up interviews were conducted with each participant in summer of 2016. When applicable, during the interviews, data excerpts from the original RCT study (i.e., video and log responses) were used to trigger memories of each teacher's implementation (Patton, 2002). Each participant was interviewed one time; and the interview process followed an interview protocol (see

Appendix B), was semi-structured in nature, lasted around 60 minutes, and took place at an agreed-upon location convenient for each teacher. Each interview was audio-recorded and later transcribed for analysis. Limited follow up communication occurred with select participants when needed to provide clarification and further information upon request regarding the research questions. Data from the interviews were used to support all three research questions.

**Piloting the Interview Protocol.** Prior to conducting the actual interviews with each teacher, the interview guide was piloted in a simulated interview (Maxwell, 2013). The purpose was to get a realistic sense for the time commitment and the type of answers the questions would elicit. Notes were taken during the pilot interview on adjustments needed and the feedback was used to refine the interview protocol in preparation for the interview process with participants in the study.

Specifically, the simulated interview was conducted with an elementary teacher who was currently using the IC Model in her own teaching and who was also previously a coach on the original IES grant. The pilot interview lasted about 38 minutes and questions were reviewed for clarity and understanding. Several questions were adjusted after receiving feedback concerning how to make the questions as clear as possible. One example includes adapting the question: "How do you contextualize your instruction during an IC?" to "How do you connect your instruction to your student's lives during an IC?" The feedback received was that the word "contextualization" needed to be clarified, as a lot of time had passed since the initial training and teachers may not have remembered the meaning of that word. Another example was breaking down the question "What do you do before an IC?" to three more specific questions: 1) "What do you to

before an IC to prepare your classroom for the IC Model?"; 2) "What do you do before an IC to prepare your students to participate?"; and 3) "Before an IC, how do you plan for your students to participate?".

## Data Analysis

Thematic analysis, a method in line with both a constructivist paradigm and a case study methodological framework, was used to analyze the data collected throughout the study (Braun & Clarke, 2006). Thematic analysis is a method that involves "identifying, analyzing, and reporting patterns (themes) within data" (Braun & Clarke, 2006, p. 79). Themes represent a pattern or something interesting or unique found in the data that "capture something important in relation to the overall research question" (p. 82). The following phases of thematic analysis were used, as outlined by Braun and Clarke: 1) Familiarizing oneself with the data, 2) Generating initial codes, 3) Searching for themes, 4) Reviewing themes, 5) Defining and naming themes, and 6) Producing the report. These analysis steps were applied to all three data sources—the teacher logs (documents), the video recordings (observations), and the transcripts (interviews).

Yin (2014) suggests starting the data analysis process by identifying the evidence that addresses each research question. Therefore, sections of interview transcripts and teacher log responses that addressed each research question were identified. Note: The video recordings collected only pertained to the first research question, so there was no reorganization needed. The following paragraphs detail the phases of data analysis conducted for each research question.

Phase one of the analysis started with the teacher logs and the video recordings. During this phase, the teacher logs and video recordings were read/watched in an active way for each teacher, where notes of possible patterns or interesting ideas found in the data were taken to be used in the interviews as a stimulus for further discussion and clarification when applicable (Patton, 2002). Once the interviews were collected and transcribed, they were read over to become familiar with each teacher/case and preliminary notes were taken. This provided the basis of ideas for themes to be built through the remainder of the phases.

During phase two, codes were applied across data sources. Codes are "labels that researchers apply to sections of data… that represent some aspect of the data" (Roulston, 2010, p. 151). Deductive coding involves applying pre-conceptualized ideas to the data (e.g., driven from the research questions and previous literature); while inductive coding involves looking for patterns emerging from the data without any predetermined ideas applied (e.g., locating patterns initiated by the participants). For this study, codes were generated both deductively and inductively. First, initial codes were applied deductively across data sources, beginning with the interview data, then the log data, and ending with the video. For RQ1, the initial deductive codes identified areas in the data related to each of the five standards, teacher context, classroom context, and teacher thought processes. For RQ2 and RQ3, the initial deductive codes identified areas where the teacher discussed any challenges or external factors. Secondly, each data source was then coded inductively and initial codes were applied across each data source in the same order, to take a closer look at each of the areas coded above as well as to indicate possible patterns of practices not explicit in the model. The codes were then synthesized for each case

separately and individual case descriptions were written for each teacher including extracts from the data to illustrate each case (see chapter four).

During phase three, initial themes were applied both deductively and inductively and the analysis was refocused at the broader level across all four cases. Braun and Clarke (2006) suggest using visual representations to help sort codes into themes, therefore a cross-case summary table was created to aid in the development of themes across each case and examples were given.

In phase four, two levels of refinement were applied to the data—first, the examples in each theme were reviewed, ensuring there was coherent meaning among them (and they were revised if not); and second, the themes were considered in relation to the data set as a whole. Here the cross-case summary table was refined and adjusted to reflect the coherent meanings so they fit together to tell an "overall story of the data" (Braun & Clarke, 2006, p. 92) and a concise summary of the findings found across cases was written, organized around the standards in the model and the subsequent research questions. In addition, overarching themes were identified that represented a broader synthesis of the findings for each research question (see chapter five).

In phase five, the essence of each broader theme was identified and synthesized in order to write a narrative for each one—noting what each theme was, what was of interest, and why. Finally, in phase six, the synthesis of each theme was combined and the final narrative was written in a concise way to illustrate themes related to overall implementation, challenges, and external factors that facilitated or hindered the implementation process (see chapter six).

According to Patton (1990), the analytic process should comprise of a progression from description, to summarization, to interpretation. Therefore, in this study, chapter four presents the description of findings for each individual case, chapter five uses a cross-case lens to present and integrate the findings across cases, and chapter six engages in a discussion around the findings, their relation to previous literature, and an interpretation of the significance of the patterns and their broader meanings and implications for practice, research, and theory.

## Establishing Research Quality

Yin (2014) identifies several tactics that address the four most common tests or criteria for judging the quality of a research design in social science research: construct validity, internal validity, external validity, and reliability. To establish construct validity, multiple sources of data were collected, including documents, observations, and interviews to seek convergent evidence for findings. Secondly, a chain of evidence was established by ensuring questions asked to the participants connected back to the original research questions; recording circumstances around each piece of data collected (i.e., time and place) and ensuring these circumstances were consistent with the procedures outlined in the research protocol (described below); and linking relevant sources of evidence to specific findings.

To establish internal validity, two techniques were employed. First, "pattern matching logic" (Yin, 2014, p. 143) was used. This was illustrated in this study during the analysis stage by comparing patterns in the findings from the study with predicted ones found in the literature. This is a technique to find congruence between empirical and

predicted patterns and was employed specifically during the deductive coding process and later when connecting findings to previous literature. Secondly, a multiple-case study design was employed and an "explanation building" analytic technique was used. This technique was illustrated in this study during the cross-case analysis phase, by looking for patterns and similarities across the four cases to offer a more robust explanation of the complexities of implementing this model in upper elementary classrooms.

To establish external validity, replication logic was employed in the use of a multiple-case study design. Specifically, four teachers who implemented the IC model with high fidelity were selected as cases to understand common practices replicated across each case. Yin (2014) refers to these types of cases as "literal replications" due to them being chosen based on their ability to predict similar results, noting that this logic is similar to that used in multiple experiments (p. 57).

To establish reliability, a case study database was developed, which allowed for the management and orderly documentation of the data collected. For this purpose, Atlas Ti software was used as a management system because of its ability to accommodate diverse types of data. Log responses, video recordings, and transcripts were imported into the software, which allowed for a complete data set that could be organized by case and manipulated in an organized fashion. In addition, a case study protocol was developed, piloted, and used for each participant to provide a standardized agenda for the line of inquiry across each case. A copy of the research protocol used is found in Appendix C.

## My Role as Researcher

It's important to note I have prior relationships with the Center for Latino Achievement and Success in Education (CLASE) and the Instructional Conversation Project, as I have been a graduate assistant on this project from fall of 2011 until now, assisting in many aspects of the project including: coaching support, professional development, data collection, data management, and data analysis. As the researcher, I recognize my own subjectivity in this process. My experiences in this project have provided me with a deep understanding of the pedagogical standards individually, as well as the enactment of the full model. This is a positive in that I understand the model in a way that allows me to notice when I see parts being enacted. However, my deep involvement in the project could potentially lead to bias, in that I may be overly positive about the teachers' enactment of the model and may chose participants based on personal relationships. To guard against these biases, I employed triangulation methods by gathering multiple sources of data for each case (Stake, 1995); and my selection process included choosing teachers according to predetermined selection criteria: those who showed high fidelity of implementation, as judged by two independent and blind coders who objectively scored videos of each treatment teacher; and those whose ELL students outperformed students in business-as-usual classrooms on state achievement outcomes that year.

## Summary

The epistemology of qualitative case study research is constructivist in nature, where understanding the phenomenon under study requires looking at the case within the

context, as they are inextricably linked and closely influence one another (Stake, 1995). The current study centered on the Instructional Conversation model where students and teachers are participating in small group conversations with clear instructional goals. Given the interactive nature of this model of teaching, the case study approach is ideal for catching the intricacy of each case, looking "for the detail of interaction with its contexts… and coming to understand its activity within important circumstances" (Stake, 1995, p. xi).

# CHAPTER 4

# INDIVIDUAL CASE ANALYSIS

This chapter will provide individual case descriptions for each teacher. Each of the four cases will be presented separately and will include an introduction to the context of the teacher (i.e., teacher and school characteristics); how she or he implemented the IC model in her or his classroom, organized around each of the five standards (i.e., Joint Productive Activity, Language and Literacy, Contextualization, Challenging Activities, and Instructional Conversation); what the challenges were in implementing this model, and any external factors that might have contributed or hindered the implementation process. The format of each case is parallel in structure, which allows for each case to be read individually as well as collectively.

It is important to reiterate that the difficulty of implementing such a model lies in the execution of each of the components in a way that operates like a systematic whole. Therefore, a detailed description of how these teachers facilitated ICs (i.e., the 20-minute small group facilitation of a JPA by the teacher), including their thought processes before, during, and after the event, is provided after a description of how each teacher engaged with each of the individual standards in the classroom. The evidence reported in each case relies on teacher interviews, teacher logs, and supplemental video data.

## Case 1: Introduction and Context

Case 1 was a female fifth grade teacher ("Kasey") who taught in a district with a 16% ELL population and with 52% of the total district school population on free /reduced lunch. Kasey taught in a school that had a 20% ELL population and 79% of the total school population on free/reduced lunch. Kasey had 19 years of teaching experience with 9-11 years of experience working with ELLs; and her proficient language was English. Her classroom context was described as one with clear expectations and freedom of choice when expectations were met.

### Implementation of the IC Model

Below is a description of how Kasey implemented the IC model in her classroom. The findings are presented according to each of the standards in which this model is grounded.

**Standard I: Joint Productive Activity (JPA).** In terms of working together to produce products, Kasey's classroom was a place where collaboration and conversation were intertwined in almost all that she did, as evidenced throughout both the logs and the interview. *"We have a lot of conversation in here,"* she said. *"It is hectic in here, but I swear it works… I do believe in group work, they always have a partner. Everybody in here can always have a partner for anything— reading, science— these kids are never separated."* In the logs, she described how she created opportunities in her classroom for students to assist their peers in academic activities: *"We work in collaborative learning groups. Sometimes, students work together to become experts on a topic and then they share and teach others about their topic."* However, in the beginning of the year, getting her students to work together was a struggle. For example, in a log response written

towards the beginning of the school year, she stated*: "I am still struggling to set up a classroom that supports small group instruction without a teacher lead. It has really been a struggle this year. I have so many attitudes, and so many new students."*

Group work was an essential component in Kasey's classroom across all content areas. *"We do social studies, science-- we do all curriculum as work, we call them stations,"* she described in the interview. This was evidenced in the logs as well: *"(We) use partners and/or small group setting in everything we do."* This was corroborated in the video. In the beginning of the IC, after reviewing the task with the group, she asked: *"Now has your group made decisions on how you all are going to approach this?"* One student took the initiative and began by asking the group*, "Ok so the first thing we need to do is like make a series circuit. Do you guys want to work on it together as a table or as just like individual groups?"* Another student answered: *"No I think we should work on it as a table..."*

In terms of the activities themselves, the majority of her stations were conversation led, almost always had a problem, and required the students to work together to complete a task. *"They always have a product,"* she explained. *"We do a lot of stations. We have umm there's always five work stations going on and then a cent- a teacher station (IC) and then most all the centers are conversation led."* This was evidenced in the video. Her students were given a set of science materials and the task was to see if they could build a circuit. The students had to work together as a group to discuss and produce the final product.

She noted in the interview that although her centers changed in relation to the content and standards covered, the format of the centers were very similar and rarely

change. *"Our centers change but it's always in a very similar format."* She gave an example of an activity format that she used frequently in her stations called "Stick It." In this activity, the group was given one problem (or prompt) and each student was given a different color post it (i.e., "stick it") note. The students first discussed the problem together to determine what was being asked. Secondly, each student solved the problem individually on their sticky notes. Then, as a group, they had to solve the problem together, coming up with the one best answer. *"Then the conversation comes in because they put them all on here and they all have to read each other's and explain what they did. And then they have to use something from everybody's and come up with the one best answer and that's called stick it."* In this activity, the students must work collaboratively to solve a problem and come up with one answer as a group. The usefulness of an activity like this is the ability to use it across different content areas. Here she gives an example of using this activity in English Language Arts:

> *So they have a cold read (short story) like The Messy Room… and so the kids have the prompt. And so it's 'write a story…' or 'how would you explain the relationship…' or 'do you think…' and so you take one of these prompts and put it here… They all have to read and then they're just writing a quick answer. 'How do you think they both learned a lesson?' So they would write and then they have to discuss it, talk about it… and this is the milestone. This is the milestone!*

Another activity format that she described was called "Eliminate It." In this activity, the students were given four pictures and they had to choose what did not belong and give evidence for why they chose that item. This activity was also used across the curriculum; for example, she used it in science when teaching about rocks and minerals,

as well as in math when teaching number sense. The strength of an activity like this is that there is not one right way to solve the problem but multiple ways; and the students have to discuss which item would be eliminated and come up for reasons for that particular answer. "*Oh you should hear them- because it's not about… you don't always want them to always have right answers…You want them to think about, what it is!"*

**Standard II: Language and Literacy Development.** Several strategies were identified in relation to how Kasey implemented the standard of language and literacy in her classroom. Some specific ways included a consistent focus on vocabulary instruction, an emphasis on word work across the curriculum with particular attention paid to words in the context of the students' learning, and peer interaction.

Described by the teacher as a focus on suffixes, roots, prefixes, and base words as well as vocabulary, word work was a consistent strategy in her classroom. *"(We do) word work every day"* she explained in the interview. *"And there's always a word work center and the word work centers are usually umm, I use a lot of drawing paper in here and they have to write the word, draw a picture of the word, use word in a sentence."*

Teaching vocabulary across the curriculum was evident through her *"word work boards"* that she had displayed for each subject, where pertinent vocabulary was explicitly taught, posted, and referred to throughout each unit. She had four boards up throughout the year with vocabulary related to the current teaching standard displayed in her classroom. In the interview, she talked specifically about math and science: "*So here is repel, we just did magnets; and then you know I have my math vocabulary, these are always up and we're always talking… We have the twelve words in math… you know 'what is analyze?' and we talk those big words every day."* This was supported in the

logs as well when she described an activity she implemented that encouraged students to use formal, "schooled," or scientific language and tools to solve "real-world" problems*: "Math. Using Math vocabulary—analyze, evaluate. I am also having my students write to explain their math using words, pictures and numbers."*

*"Words, numbers, pictures"* was a strategy Kasey used to provide options for her students to represent their answers for a given prompt. She described how some students may like to write their answer using words, some may want to represent their answer in number form (especially in math), and others may want to represent their answer in picture form. Giving students choices in representing their answers in her classroom encouraged participation from students for whom language might have been a struggle.

In addition, there was an intentional focus on word work and vocabulary in the context of the students' learning. For example, in the interview she explained how she intentionally focused on word work when using a mentor text to teach during ELA: *"What happens is once you get it (the book) out there, see the kids will be working with stuff like this and then, there's vocabulary and so what we're doing is we're maybe using this in syllables, we are breaking it up…"*

And in the video, she was intentional about focusing on vocabulary in context. For example, she prompted students to summarize how they completed the task of building a circuit by utilizing their science vocabulary words in their explanation*, "Who can summarize (write to explain)… who can tell me what we did and what the results were, using science vocabulary!"*

Evidenced in the logs, interview, and the video, Kasey used a variety of ways to teach literacy in her classroom including, writing, peer interaction, poetry, and mentor

texts. When asked in the logs to describe an instance when the IC model had a positive impact on academic English language proficiency, she noted: *"In writing. When students hesitate because they lack the correct word, they encourage each other to substitute $10 words for "dead" words and now have made a game of it. This breaks down the negative appearance of peer pressure on my ELL students."* In the interview, she elaborated how important writing was to encourage participation from students for whom language might be a struggle: *"I let my children write things. They can write. That's why you'll see that in a lot of my instructional conversations, there's writing in it. You know there's always got to be a writing piece because some children like to draw and all and their language isn't strong enough sometimes to participate, they feel like."* In the video, she used writing and peer interaction as ways to focus on vocabulary instruction. During the IC lesson, she continually asked the students to explain to each other certain academic vocabulary words*: "Now what's the difference between a series circuit and a parallel circuit? Explain the difference to your partner..."*, as well as words that maybe weren't on their vocabulary lists*: "What does 'more lighter' mean?"* she asked in response to one student's comment. Both of these examples used peer interaction as a way to encourage language and literacy in this IC lesson. At the end of the IC lesson, the students then had to summarize in writing how they completed the task, making sure to use their science vocabulary in their answer.

Peer interaction and peer assistance were also strategies she uses to encourage language use specifically for her students for whom English was not their first language. This was evident throughout the logs and the interview. In the logs, she reported *"Quite a bit"* in response to having opportunities for her students to assist their peers in academic

activities and "*Assigning a peer partner to guide a student"* as a strategy that she used on a regular basis to encourage student participation. In the interview, she elaborated: *"All of my children have a buddy—that's the only time I high-low pair. And my ELLs and ESOLs have a high buddy that they can ask anything. They can ask them to read questions to them even on quizzes, not on summative assessments, but even quizzes. And you teach the children how to do it and they do sit next to each other when we're testing. They can give them vocabulary, but they can never help with answers. But they can read and help them with vocabulary… My lowest kids all have a partner and they go to that partner for anything."*

In the interview, after describing that she used a mentor text in her classroom to teach literacy, she then explained how she used these texts in her ICs to emphasize language and literacy*: "…but in the IC what they have to do is … they will have to play act or take a chapter and they have to do a play on it, reteach it, and they can write a song, write a poem do any of that kind of stuff and that's their work…when they come back here for the Instructional Conversation, it's theirs, they get to decide how do they want (to use the content)… They sing songs with vocabulary words. They make up (a) rap. They love rap. And then they're talking and sharing. And they are working together to finish products."* Of important note is the integrated nature of these language and literacy strategies and the other IC model standards used throughout the year. In the example above, an integration of Standard I (students involved in a joint productive activity), Standard II (an emphasis on language and literacy), Standard III (having students make meaningful connections to the content), and Standard IV (engaging in challenging tasks) are exemplified all in one ELA lesson. The students were working

together to create a product, using newly acquired vocabulary words in a way that was meaningful to them.

**Standard III: Contextualization.** Several approaches were evident across data sources for how Kasey contextualized her instruction, including being intentional about getting to know her students, providing opportunities for students to share about themselves, and listening to what they had to say. Furthermore, connecting lessons and academic content to the students' lives, creating home connections, and giving them choice in the classroom were all strategies she used to make learning meaningful for them.

**"***You've got to know your kids,"* she said in the interview. *"We just did a worksheet with find a friend who has lived in another country, find a friend who has brother, sisters... You know, find a friend who's done this and then we'll get to know each other."* In the logs, she reported that she learned about her students' cultural background by accessing school records and having conversations with them: "*I also speak to my students and work with them to establish a positive rapport and openly speak about their backgrounds, home, and community."*

She was intentional about giving her students opportunities to share about themselves and make content meaningful. "*Every day*," she said. *"When you are (in) any kind of lesson, you need to let your children own it. And for them to be able to own it, they've got to know each other and talk about theirs, you know, who they are. I believe in that. "*

In response to a question in the logs that asked her to discuss an activity that supported first-language use and other familiar forms of interaction, she replied: *"I use a*

*lot of personal reflections during day, my favorite vacation, name a fun event your family attends, etc. as writing prompts. We also use a lot of menus in the classroom to support adding, subtracting, multiplying, etc. decimals. It's a great way to reinforce this concept - and the students can pick and choose menus their families are familiar with."* In this example, she purposefully included activities that the students were familiar with in order to help cement their learning, whether it was help with writing conventions or understanding math concepts.

Giving her students opportunities to get to know one another also created a sense of empathy among her students and allowed space for them to connect. *"Kids have so much to share… it also helps them umm see that a lot kids go through the same thing they go through because a kid may say, I've lived in another country because I'm from Mexico and my grandparents are still there and then this little child goes 'oh my grandparents are too' and then they say 'well my daddy, you know, got deported and my daddy got deported too'. It starts conversations."* For Kasey, showing her students that she cared about them as a person and that what they brought to the classroom mattered in relation to school was key in opening spaces for them to learn and make learning real and relevant.

*"If you can get kids to buy into what you're doing and believe you as a teacher, that you want what's best for them that you're interested in their lives that their lives count, they will do anything in the world for you inside this classroom,"* she explained in the interview. One way she enacted this was by listening to her children and using that information in her teaching and interaction with them in the classroom.

For example, she described an instance when listening to her students changed the way she did homework folders with a select few students based on their individual home circumstances. These students were losing recess and getting in trouble every day because their folders were not signed each week. After further investigation, she learned that *"There was no one there. Grandma was there, (but) Grandma didn't… wasn't going to sign anything. She didn't even- couldn't read it. She didn't even know what it was."*

With regard to using information gathered from listening to her students in her content teaching, she revealed a process of identifying the standard and then intentionally connecting it with her students' lives. *"Every lesson needs to be tied in. They've got to own it and buy into it or they are bored to tears with you,*" she explained. She described teaching math and globe skills in relation to where her students are from or where they have family. She explained in the interview about how she used what she knew about her students to make the topic of inventors (one of the third grade standards) relevant. *"You really key in on like, umm Cesar Chavez is big in third grade. (A) migrant farmer, migrant workers' rights— almost half these kids, their parents (are migrant workers). They understand that."* The words "*key in"* show her intentionality in making the content relevant to her students' lives.

Creating a school to home connection is something she also did intentionally, especially through her homework assignments. "*I gear my homework towards my kids. Like budgets, instead of just giving math work sheets or whatever, (I tell them) go home. Talk to your parents about your budget… You turn lessons, especially homework, homework lessons are good because a lot of times when kids go home their parents at home can't help them because there's a language barrier (but) you've got to be able to*

*turn your homework."* By requiring her students to talk to their parents about school related content, she connected content to students' lives, showed the student that where they come from and what they brought to the classroom mattered, and provided a way to build a home connection that enabled parents—who were often disconnected because of a language or cultural barrier—to be involved.

Another way that she enabled students to make their learning meaningful was by giving them choice. For example, in the IC example discussed in the section above, her students could choose how they wanted to apply their understanding of the book chapter through a song, play, rap etc. *"It's theirs, they get to decide how do they want (to present the information)."* She also described an economics unit she taught, where she allowed her students to be entrepreneurs and the task was that they had to come up with their own business—deciding which goods and services they would like to offer. Both of these examples exhibit a sense of ownership by the students where by the students were able to make the content real to them.

**Standard IV: Challenging Activities.** Several ideas emerged in relation to how Kasey incorporated challenge into her teaching. These ideas were consistent across data sources and included use of assessment, differentiating lessons, and requiring her students to not just give an answer but to expand on it and show it in different ways. *"That's something that they really require us to do… to make sure that we are always pushing our kids and making sure there's something appropriate for every child,"* she explained in the interview. *"We use a lot of information to look at our kids."* This allowed her to see where her students were, which was coupled by an understanding that all of her students were not on the same level: *"My kids could never tell you who is a*

*high, who is low. I mean they know, but at any point anybody can be high or low, you know what I mean? GOK: Depending on the task? TCH: That's right."*

In the logs, she described setting high performance standards for all of her students through the use of assessment and using that information to inform next steps for each student: "*We discuss all of our grades. Low, high, passing and failing. We look at CRCT scores from past years, we look at grades from each week together and decide on strategies together for those learners who did not reach their highest performance level. If everyone doesn't succeed, then we haven't all done our job."*

Kasey employed several techniques to help track her kids including giving quizzes every nine weeks, creating profile sheets for each student, and using technology. She used several computer programs that allowed her to simultaneously assess and differentiate material for her students: Star Reading, Star Math, and IXL Math. Furthermore, each student in her classroom had a Nook on which they could complete each of these programs, in addition to participating in her "e class" where each student had a personal profile. In this "e class", she posted lessons adjusted to the level of the student and the students could post videos of themselves explaining their answers to the questions.

Another way she differentiated the level of challenge for her students was by giving choice, while simultaneously holding high standards for them. For example, in the example discussed above regarding answering math problems, her students were able to choose which way they would like to answer-- using words, pictures, or numbers. *"They can choose but, the goal is that you're doing all three,"* she explained in the interview. *"And by mid-year, it's almost required… Same thing though, with writing, same thing*

*with literacy. I want a Venn diagram, I want a T chart. I want some kind of graphic organization… and then I want writing to go along with it. But I've gotta have some kind of pre-writing."* She further explained using graphic organizers to help students *"work through their own steps with literacy"* and allowing them to choose which one works for them. *"They get to choose, but you have to teach them."*

Lastly, requiring her students to elaborate on answers and show them in various ways, rather than just giving "an answer" was a staple in her classroom when it comes to incorporating challenge. "*I rarely use closed-ended questions. Only when we are reviewing and even then, they become open-ended,"* she reported in the logs.

*"One of the greatest ways, I think, to promote higher (level thinking) are these type lessons like "stick-it", where the child gets to solve a problem and they don't have to just solve it one way, you know if you can solve it two ways, prove it to us, let's go!"* Here she described how her lesson format (described earlier in Joint Productive Activity) promoted higher level thinking by having her students solve problems in different ways, emphasizing that there was not always just "one way" to solve a problem but that the important part was that they could defend their answer. This required deeper thinking and required that the students understand how they got the answer they did.

In the interview, she elaborated on how she encouraged her students to expand on their answers and give evidence for how they got them. *"You are looking for, you know, not that they can find the answer…but can they expand on the idea."* This often meant slowing her students down and making her students show their thinking and give evidence rather than just answering as quickly as possible. *"Even your highest kids, they still need to work on a low level and high level. They still need to do the groundwork and*

*they don't like that, they like a lot of mental math, no no no. You're going to prove to me how [you got there].”*

This was corroborated in the video, when the students were describing the brightness of the bulb in their circuit. She prompted, *“How could we prove it?”* She had her students use the materials given and prove what made the bulb brighter and encouraged them to find the evidence by changing different parts and exploring what actually made the bulb shine brighter and use the academic terms to explain what was happening. Furthermore, she also asked them to represent the circuit in a different way: *“How can I change a series circuit into a parallel circuit?”* This required the students to recreate the series circuit to make it a parallel circuit, therefore further cementing the difference between the two.

**Standard V: Instructional Conversation.** As noted previously, the fifth standard is both a focus on teaching through conversation as well as an actual way of conducting a JPA with the teacher present to lead a concrete “Instructional Conversation”, or an “IC” as it is referred to in this model. The IC is a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal that incorporates all 5 standards. The findings below will describe how Kasey implemented ICs in her classroom, with a focus on what happened before, during, and after.

***Before an IC*.** Before conducting ICs, Kasey did several things to prepare in terms of creating the classroom structure, setting up management strategies, planning for the activities, and preparing her students. In order to set the structure for ICs, Kasey organized her instruction during this time around “stations”—small group tasks related to her instructional goals that students rotate through each week. On average, her students

rotated through two a day and then Friday was a "*finish and complete"* day. *"We only do ICs when they're in stations,"* she explained. These "stations" were posted on a board in her room and each group was assigned a particular pattern for the week. *"We have the station board up there, and then we have Monday, Tuesday, Wednesday…"* In the beginning of the year she had set places in the room for each center; but as the year progressed, her students were able to choose where they wanted to work each day. In terms of her IC location, she either had them at a table in the back of the room or she would go to the floor.

*Classroom Management.* Evidenced in both the logs and the interview, Kasey took time to set up classroom norms and expectations. At the beginning of the year, a classroom agreement was created between her and the students that set the tone of the classroom for the year and it was revisited as needed throughout the school year. In the logs, she reported creating a classroom community agreement with her students and having "*to revisit and update after Winter Break."* She believed that this agreement impacts the learning environment in a positive way*: "(It) holds students and parents accountable,"* she noted. In the interview, she explained: *"At the beginning of the year, our classroom environment is built, and we continue to reestablish and reevaluate."*

She took time to explicitly teach procedures and routines. In the interview, she enumerated: *"I'm telling you if you set, get your routine and procedures in place in the first month… these things fly. But you gotta get that in place because all it takes is one kid arguing with his group, and this (IC) shuts down because they're going to need me."* At the beginning of year, she was very structured with her routine and procedures. There were set stations and she was very explicit about what was expected. She had station

cards for each station with the directions written out for each activity and all of her stations were listed on the "station board". *"They know exactly what they're doing,"* she explained. Expectations were set and consequences ensued when they were not met. *"If they argue, they lose recess… they're done. You will work on your own. I will give you a math workbook."*

*"Management is key,"* she emphasized. One management strategy that she used during station time was assigning team captains for each group. At the beginning of every week, she explained each station activity for the week to them. Then each captain was each assigned to a different group to serve as the team leader that week during station time. The responsibility of the team captain was to manage the voice level of the group, manage the work product, answer questions, keep the group on task, and facilitate the activity. Each team captain had a folder with expectation cards that reminded them of their role in the group, along with sticky notes that they used to communicate with the teacher during group time. If a classmate was acting outside of the classroom agreement, the team captain would write that student's name on a sticky and place it on the teacher's desk so appropriate consequences could be given at a later time (without interrupting the flow of the teacher-led IC group). One of the perks of being team captain was that if the group completed the task early, they got to choose what the group did afterwards. The groups and team captains changed throughout the year, and she was intentional about making sure every student had the chance at the job. *"You have to be careful when you do stations. Because sometimes it's a play time, sometimes there are awful behaviors and so you have to teach your captains, that you know, you gotta be working hard too. Just because you can solve the problem like that… Let me see you write about it and explain it*

*to where I can read it and know your answer without even seeing your answer. You have to teach those skills to kids."*

*Planning*. In terms of planning, the first thing she thought about was the goal of the lesson and what the standards were: *"First you've got to decide, what is it that you want to achieve. You've got to match it to your AKS (standards)."* She thought about what types of lessons would lend themselves to collaborative work and how to layer different content areas within the same lesson: *"I look at whatever the lessons are, I think what can I do that's hands on. How can I, umm, get math and science together… social studies, language arts. How can I, you know, there's a lot of preparedness for all of this because our days, our times, is so wow and so you want to make sure you've got social studies coming in you wanna make sure you got science coming in,"* she explained in the interview. She also thought about her data and intentionally planned her stations around having a variety of activities in terms of content and level: *"We do a lot of data work here. So I know maybe from the last summative that we took that item one B and seven C—that's what they struggled with…so then I think of that. That's how my planning begins. There's always the review then there's always whatever's happening this week (with) the AKS."*

When planning for an IC, she also thought about what her other stations were going to be— because in her classroom, they were always connected. This was evidenced in both the logs and the interview. In the interview, she explained that she plans for at least one review station and at least one preview station in addition to the current standard stations: *"I'm thinking that there's you know, we've gotta have the review, then we've got to have whatever we're working on here, and then I want them to go look*

*ahead. And so that's how I begin."* Her IC was typically on the current standard. She elaborated: *"…because the current standard can lead to the review. You know because we do build on everything here and that's why I try and tell my kids language and literacy builds on, math builds, everything builds on prior knowledge. And if you missed a chunk of that, you know you aren't moving forward. You're stuck. And so we do a lot of review, I'll just tell you that. We have a lot of review".*

In addition, she was always thinking about her kids: *"You've got to think about your kids… what's going on right now,"* not only to be able to contextualize her teaching but to group the students as well. She purposefully matched her kids so they were able to work together and her groups were usually mixed ability and continually changed, as demonstrated in both the interview and the logs. In the logs, she reported grouping her students by *"mixed academic ability"* in order to promote interaction. In the interview, she described her thought process in grouping according to other *"mixed abilities"* that are not always academic, such as personality: *"You're watching for the ones who are starting to speak out for the other one because the one is quiet and shy--you've got to separate that cause they become so dependent on each other. Who, you know, who might make someone feel uncomfortable or who's afraid to speak out because you've got some really strong kids in there that are the fastest ones to finish and then braggers, and they're bragging about it. And that stresses everybody else out so you're always thinking about all that."*

*Preparing the students.* In terms of prepping her students before an IC, she was very clear and explicit about what she expected from them at each station and what to do once they finished the task: *"We talk about the centers. I tell them exactly what I want*

*them, what I expect them to accomplish, what the outcome's going to be… They don't have choice. When you are finished, y'all go to workbook page forty-two in your math book,"* she described in the interview. As the school year progressed, she slowly started giving them freedom and choice on what to do when they finished the task: *"…and then you slowly start giving them freedom."*

Likewise, she was very explicit about teaching her students *how* to have a conversation. *"At the beginning of the year we start— I teach Accountable Talk,"* she said in the interview. She described Accountable Talk as a way to teach children how to lead, question, and engage in conversations using nonverbal hand signals with meanings such as I don't understand, I have a different approach, I disagree etc. *"It's really cool because the children learn they don't interrupt with each other, it's all hand signals, there's no writing, everybody's watching. And even if I start a lesson, they can agree with me, they can disagree by telling me they got a different approach."* She began teaching this in a whole group setting, but then the strategies were used in both whole and small group interactions. *"We teach our children how to have a conversation that isn't disruptive, that does not umm make another child feel inferior. And it's awesome… And when we're doing stations in small group, they're all using it and we practice it all year, it's pretty cool."*

Content-wise, she previewed the material or standard for her students: *"We always have a whole (group) lesson. That's the 'I (do), we (do), you (do)'… We do it together and then you're going to do it and then we break out to our stations and our ICs and all."* In this way, her students almost always came to the IC with some kind of background knowledge: *"You've got to give them a little bit of knowledge. And it can be*

*silly, it can be you can put a vocabulary word up in the middle of the table and ask somebody can you break any words out of this, what's the root, does anybody know this word. They can all laugh and say what does it reminds you of, a word. I mean I'm just giving you an example. Simple math problems, say 'who struggles with these kind of math problems' and then you can get them all talking'. But if they come back here (to the IC) without any knowledge-- ESOLs, ELLs— they are not talking."* And lastly, she had students set goals for their participation in the IC.

***During.*** Several themes emerged in relation to the teacher's role in facilitating instructional conversations including the importance of setting the structure, engaging in reflective action, allowing for productive struggle, being an intentional listener, and using the IC as a space for formative assessment.

According to Kasey, setting the structure was an importance first step. *"At first yes, you've got to set the ground rules. You've got to explain it. You've got to show how it's organized, because ICs really are organized. I mean, they aren't just everybody talking and you know, coming together and gonna end up with one little thing,"* she explained in the interview. She saw her role in that process as making sure that *"everybody feels good and safe in the environment, um, that everyone participates…"* This was further supported in her log responses when asked what she does to create an inclusive environment*: "We continue to reestablish and reevaluate our roles (successes and failures) so we can all work together to ensure that everyone feels a part of the classroom";* as well as in the video when she reviewed the task with the group at the beginning of the IC lesson to make sure everyone knew what was expected of them. *"…. And you teach children how to participate, how to encourage each other to participate."*

This was evidenced in the interview when she described using sentence starter cards at the IC table, in addition to encouraging the Accountable Talk framework throughout.

Once the structure was set, she saw her role as watching whether the lesson was working or not working and then modifying it if it wasn't. In the interview, she explained: *"I'm watching for struggles, I'm watching for kids that just take off, you know with ideas and all, and I'm thinking, 'Wow. That would be great to-to put out as a J(PA)'* (i.e., Joint Productive Activity). *You're looking for those JPAs at the same time, different ones. Ones of yours that don't work, you're watching and you are modifying. You know, things change all the time."* Here we see her engaging in reflective action and taking mental notes of changes that may need to be made, or lessons that may need to be created.

Engaging in an IC also allowed her to provide feedback to her students in the learning moment. In the logs, she reported that during an IC, she *"provided prompt, corrective feedback that informed and guided students' content understanding."* However, in the interview, she explained that when she saw students struggling with a concept or problem she didn't always correct them or jump in to save them right away. *"Oh, I'll help, but I like to see them struggle a little bit. I don't think that's so bad…. to watch kids, because maybe another child has an idea that can help them through it. Maybe they can see in their struggle a way (forward)."* She allowed for productive struggle where students can work themselves through an issue, but she didn't leave them stranded or confused. She continued, *"I'll take whatever group I've worked with, take it up front and show the whole class and we'll talk about it and let the kids talk to them about what they saw, ways they would do it different. It's the 'ah ha' moments as your*

*kids are going 'wow, I would have done it that way too' or 'wow, I've had a struggle with that'. If your kids (in the group) are struggling… then you know all these kids, they're going to go through it too. And I think Instructional conversations are important to let other children know that even these kids struggled even with the teacher there with them."* In the logs, she reported that implementing ICs in her classroom helped her students *"engage with other students at varying levels with confidence."*

Evidence of giving feedback and allowing for productive struggle was also found in the video. When her students were trying to figure out why the bulb was brighter, she allowed them time to wrestle with the idea before stepping in and asking some questions to prompt their thinking: *"What if we changed the light bulb?", "What if we put the new bulb back in?", "Are the bulbs different?"*

Having students in her classroom engage in instructional conversations allowed the space for her to take time to actually *listen* to her kids. This provided opportunities to not only get to know her students, as elaborated earlier in relation to contextualization, but it also provided opportunities for formative assessment and understanding group dynamics. In the interview, she explained how it provided the space to see where her students were struggling with a concept: *"I'm just watching for things. Like say I'm teaching… 'this is how we're gonna simplify a fraction'. And they're watching me and they're like 'hmm'. Their heads are spinning. But then if I'm watching them work, I see the steps that I need to spend more time on. When I'm watching my kids, I see what I can let go of and move through and then I see these are the real struggles"*; where her students were excelling: "*When you're listening and listening to them, I actually look for laughter. I look for umm, 'ah has', when the kids are like 'Oh my God, I got it. I got it. I*

*get it!' I'm watching for those because those need to be celebrated. And when a child does that, you celebrate that because that makes them stronger";* and lastly how she got information about her students in relation to each other: *"You're also seeing kids who maybe don't work well together, maybe you need to tweak your groups up a little bit. See there's a lot you can see when you have kids, kids who are too comfortable, kids who talk for the other child…"* This was further supported in the logs when she reported that implementing ICs in her classroom allowed her to address her student's varied ability levels and need for assistance by *"use(ing) informal assessments and anecdotal records."*

When asked what she did with all of this information gathered, she said: "*Oh I'm thinking what I need to go back and rework. That's the first thing I'm thinking about. What do I need to go and modify my own lessons…Then the second thing is, how can I reteach this? Do I need, do I need umm more manipulatives? Do they need more time on their own? Do I need to teach it whole class?"* This is another example of reflective action, where she was actively thinking about what she could change to better meet the needs of her students.

In the video, one student said, *"According to my calculations, that´s the positive side."* The teacher probed, *"What´s a calculation?"* to which the student replied: *"Oh sorry, that´s for geometry."* The teacher was able to take this opportunity to have a conversation and clear up a misconception that that word "calculation" was only used in math. The discussion evolved into how science and math are related and she was able to make a meaningful connection with her students about how math and science are related and that calculate means to solve, which can be applied in both subject areas.

Furthermore, Kasey praised her students for their contributions when appropriate: "*Say that again… that's good…"* she prompted in the video.

***After.*** After an IC, Kasey engaged in reflection, had her students engage in reflection, and took time to debrief both the IC activity and the other stations in a whole group setting. Kasey thought and reflected on several things such as what she saw in the IC, what her students struggled with, whether the students liked the activity, whether it worked, and whether it was motivating. During the interview, she explained her thought processes after an IC: *"You know did it work, is this- is this good for them… What is working, what motivates these kids to do work— that's what I'm thinking about… What's motivating them, did anything out of this motivate them to work, to explore, to want to know more?"* In addition, she thought about the behavior of the other students in the room and which students she needed to talk to (i.e., which students got their names put on her desk).

In terms of her students, she had them reflect on how they engaged in the IC. *"First we'll usually talk about how we thought we worked as a group."* This was connected to the goals that the students set at the beginning of the IC. *"They have to write this at the end, how I did. How we did as a group and what was your goal."* She used a rubric numbered one to five (connected to smiley faces) that was propped up at the IC tables for the students to use as they reflect on their participation. She then gave them feedback on their reflection: *"It was interesting because at first they would all would say I spoke at least five times and then I would tell them (I wrote you a tally mark) on your card every time. Let's tally mark and then they would be like at the end, they're like, you know, and would have one maybe and do the big frowny face but that's just part of*

*routine and teaching routine."* For Kasey, having her students reflect on their goals helped them see where they were and how to participate better next time: *"It kinda lets them see whether they're overdoing it, under doing it, where is your happy median, are you not talking, are you talking way too much. You know, are you just shouting out are you using accountable talk…"* She asked them a few questions related to how to apply what they learned going forward in addition to questions that help them reflect on their learning in particular: *"Then I'll just ask one or two questions you know… where can you go with this, how did it work for y'all, what do you think, you know what should we do next, what's a good way of learning next, learning more about this, what can we do?" "They've got to own it, for these things to work. It's all about ownership,"* she said, in relation to including student input in the learning process.

Finally, Kasey engaged in a center debrief with the whole class where she lets her students from both the IC and other stations share any "ah-has" or anything they learned that they might do differently if they did the activity again. She took this time to review activities or concepts that might have been a struggle: *"Then we do go through each one if it was hard,"* she explained. If her students were struggling with a concept during an IC, she usually addressed it in front of the whole group after station time. *"I usually bring it back to whole group, because I know that if my group struggling, then they're all going to be struggling."* She also took this time to let her IC group "reteach" what they learned in order to cement their learning: *"I let them go up front and model the lesson for the whole class…and my kids love it… I'll just let them reteach the class everything that they know and learned. Oh they love it, they're confident. They're ready to roll."*

**Challenges**

The most challenging standard to implement for Kasey was Standard IV: Challenging Activities with Standard I: Joint Productive Activity as the next most challenging. She consistently described the limiting factor in these as *time* across both the interview and the logs. In the interview she elaborated: *"…teaching complex thinking because of the time limit. I mean, for these things to work beautifully, you really should almost have forty-five minutes to an hour because you've got to develop whatever it is. They can work it and get the answer, but if they really don't understand why… so it's really time. Time is the hardest thing."*

Time was a challenge for teaching complex thinking, not only during the IC or other stations, but in planning for them as well. It took time to develop and plan good JPA lessons that were going to be differentiated and challenging for every student in the class: *"Those (activities) aren't always going to work. That might work for one group of my kids but I can't just throw a center out like that, so you're still modifying and looking—time… And let me tell you that's why next year, I have so many ready to roll, it's all about time!"*

*"Time, organizing, getting it ready, getting new fresh stuff out here—I mean these are great to do but you always wish someone was just handing it to you. That would be nice, if they said here, here's a great one, just do this!"* This was reiterated in the logs when she reported *"Creating good JPAs"* and *"Integrating the Common Core standards into my ICs"* and *"Creating challenging lessons"* as issues she felt she needed more support in.

She also described time as a challenge due to the number of instances that students were pulled out of the classroom for additional needs that arose outside of actual teaching time: *"You're testing constantly, doing running records, I mean actually the hardest thing to do is to have stations working every day and get to them… Because I have kids that go to speech I have kids that work with a counselor or I have the kids that go out for three segments for special ed. I have, you know, this and that and this…"*

In the logs, she repeatedly reported time spent testing as a factor that prevented her from doing ICs throughout the year: "*My students took the Writing Exam today. We have participated in cafe writing whole grade level most of last week; Time. 5th grade, we have been preparing for the State Writing Exam, and all of our time and energy is spent in writing right now; Testing, Observations, Pull Outs, Pictures, SST meetings."*

Lack of prior knowledge among many of her students, especially in terms of language and vocabulary, was another challenge in implementing ICs. This was evidenced in both the logs and the interview when she discussed the difficulty of the language barrier in getting students to participate, as well as the struggle with translating for her students.

In the logs, she reported: *"I have learned that the translation from English to Spanish is not always an easy one. I always thought there was a word for every word and it was an easy transition... It's really about tone, inflection, dialect—with translations it can become extremely confusing."* Here she elaborated in the interview: *"Do you know what's interesting is the language barrier— the words that we think are common, but mean one thing here and mean one thing there and umm I found that to be challenging."*

*"Encouraging the students to talk"* was also reported in the logs as another issue that she felt she needed support in. She elaborated in the interview that getting children to participate was challenging, especially for her ELL students because they were often some of her shyest kids.

Lastly, in terms of behavior, she described the difficulty of navigating when kids would get frustrated when working together: *"When one child gets frustrated, that happens quite a bit, they get frustrated (and) they shut down. They don't want to work and their whole group has to finish together before the can move on to anything else. And that's- so that's a challenge-- kids when they get frustrated."* On the flip side, she described the hardest challenge for her as the teacher was letting go and allowing the students to talk. *"The kids have to have the conversation. And that's hard for us to let it go…That's the hardest part sometimes."*

**External Factors**

In terms of factors external to the classroom that may have affected the implementation of the IC model, Kasey reported high support in terms of administration, language, technology, and resources overall. *"My principal is very supportive of this whole program!"* she explained during the interview. This was also evidenced in the logs, when she reported that her principal was *"very"* supportive of her work with ICs. In terms of language support, she reported in the logs that she used the *"family language line"* in order to communicate with parents who spoke a different language. She elaborated in the interview: *"Oh we have tons. We have a parents' center that's for our non-English speaking families. They'll call parents, they'll talk to parents, explain*

*homework. They'll umm if a child they'll come in and talk with a child, especially new children when you're first starting".*

*"I'm very fortunate; I have 'Miss Gonzalez' right there. I have 'Mrs. Rose' — they're our Spanish teachers. And let me tell you, they come over and work with my kids, they read with my kids, I mean they come over and translate for me…"*

She described language support not only from other adults in the school, but also from other students in the class: *"But I have to tell you, my ELLs and all—when new kids come in, they take them right under their wing— they're kind and sweet. They are lovely. They take them right in and make sure everybody is good."*

Overall, she felt she had the support she needed in terms of resources: *"I have everything I need here supply wise, or any of that…We have computers. We have technology."*

**Case 2: Introduction and Context**

Case 2 was a female fifth grade teacher ("Victoria") who taught in a district that had an 8% ELL population and 61% of the total district school population on free/reduced lunch. Kasey taught in a school that had a 10% ELL population and 66% of the total school population on free/ reduced lunch. Victoria had 12 years of teaching experience with 9-11 years of experience working with ELLs; and her proficient languages included English and Spanish. Her classroom context was described as a responsive classroom that fostered independence with her classroom management approach based on Glasser's reality theory. She described this approach as one that stressed the idea that for every choice or action, there is a real consequence: *"You're*

*going to either reap the benefits or get a repercussion,"* she said. Her classroom environment was also one where her students felt it was ok to say they didn't know or understand something: *"We talked about that… we don't automatically know the answers. And if you already knew third grade content, you wouldn't be in third grade you'd be in fourth grade."* Furthermore, her classroom was very structured: *"It was again, a very open classroom where they were able to move about. Was it extremely structured? Yes. Because I can handle organized chaos, but it has to be organized chaos."*

**Implementation of the IC Model**

Below is a description of how Victoria implemented the IC model in her classroom. The findings are presented according to each of the standards in which this model is grounded.

**Standard I: Joint Productive Activity (JPA).** Across the time span, as evidenced throughout all three data sources, Victoria's classroom was organized to support teachers and students working together. As reported in the logs, Victoria "*strongly agreed"* to finding value in having students work together to accomplish an academic goal and reported providing opportunities for her students to assist one another in academic activities. She had *"peer leaders"* that her students knew they could go to if they had a question or needed help with something. *"They also know that they can move around the room and sit with a peer. My peer leaders also have been taught to ask if anyone would like some assistance,"* she explained.

According to both the logs and the interview, Victoria fostered a collaborative environment in her classroom. One way she accomplished this was through the use of

"class meetings". Described in the interview, class meetings were held to discuss ongoing issues in the classroom. She gave an example of a bullying situation where the students wanted to call a class meeting and discuss the issue as a class because this student felt more comfortable discussing it in a group setting with his peers because this "bully" was mean to others in the class too. *"It came to my attention that several other people may have something to say… and it's amazing how that peer interaction, that conversation… fosters an environment of collaboration and cooperation."* During those class meetings, Victoria had her students reflect on their actions to create understanding among the class. She also created a classroom community agreement at the beginning of the year. In the logs, she described how this helped create an environment where students felt safe to interact with one another: *"It (the community agreement) allows students to work together in an environment that allows them to take risks without the fear their peers making fun of them."*

Evidence of group work was present across all three data sources. Centers were a regular part of instruction in Victoria's classroom. For reading, they were called *"literacy stations"* and these occurred regularly, as did her math groups. *"I also did this (centers)… for social studies and science… It wasn't every day and it wasn't every week, but there was always reading groups and always math groups,"* she explained in the interview. This was echoed in the logs when she reported: *"My students have been working in center-based learning in both math and reading, each week."* Evidence of students working together to create a joint product was also evident in the video. In that particular IC, a group of five students were working together with the teacher on an activity where they had to create a poster that would teach others how to find the volume

of a cube and a rectangular prism. Students had various ideas about which formula to use, but they had to come to a consensus as a group and create one poster.

In a typical day, students rotated through two 30-minute centers per subject and these centers usually lasted two weeks before being changed. There were typically five students in each group and her centers were a mixture of tasks, some where students had to complete together as a group and some tasks where students completed them independently. In the interview, she explained *"It was always a mixture, some centers required more independent work... And some were umm a group, group work or joint productive activities so that they could all work together."* She developed a structured procedure regarding group work and the movement in-between groups: *"We follow a rigorous schedule and we also use timers and bells to change groupings and subject matter,"* she reported in the logs. However, in the beginning of the year, she reported the challenge of implementing centers and getting her students to work together: "*Students are not used to working together and need a lot of instruction and training."*

In terms of grouping, Victoria grouped her students based on reports from the previous year's teacher at the beginning of the year and then regrouped as necessary depending on a variety of variables. In the logs, she reported grouping by friendship, mixed ability grouping, homogeneous ability academic ability, interests, and random assignment. This was reiterated in the interview when asked how she grouped her students, she replied: *"It would depend. It would depend on interest. So some of my centers throughout the year umm were homogeneously grouped… other times throughout the year, it was heterogeneous."* In reading specifically, she described in the interview

that she usually grouped homogeneously by ability according to her students' reading levels, but in math she typically grouped heterogeneously.

Here she gives an example of a JPA in one of her math centers: *"When I had centers, a lot of my groups were heterogeneous, so that my kids can work with each other and teach each other and discuss the math problems…My math JPAs weren't just computation. they weren't just about number signs... because they could all solve the math. They could all do the process. You know it may take you a little longer to do it, but you could do it. So, we would do a lot of problem solving a lot of, umm, real life you know, building a recipe, preparing a garden umm making a menu…"* In this example, the integration of certain elements of several of the standards including students working together on a task (Standard I), making math meaningful by applying concepts to real world situations (Standard III), and requiring higher order thinking to complete the task by creating or building something new (Standard IV) were evident.

One strategy that Victoria used to encourage all her students to participate and work together in a group was assigning roles. This was evident in the interview when she explained: "*One of the things that I did create for math was a math circle, where everybody had a role for my joint productive activities."* A few of the example roles she discussed included someone who was in charge of dissecting the problem, someone responsible for illustrating the math problem, someone in charge of solving the problem etc. *"Somebody always had a part to play, a role,"* she noted. These roles were initially assigned, but as the year progressed, students were able to choose their roles.

Conversation was also present in collaborative group work, as she expected her students to come to the group with something to contribute: *"They also knew that I*

*expected them to talk in every small group, so you had to come with something to say that pertained to what we were gonna be learning about and be ready to have something to contribute to the group,"* she stated in the interview. This was evident in the video as well, when students were discussing together the best way to teach how to find the volume of a cube.

Collaboration and conversation were present not only in small group work, but in large group settings as well: *"We had discussions. We debated issues, and we grappled with an idea. We came to a consensus… Even when I taught a whole group lesson, they were able to interject, they were able to say 'you know, you said this, but I thought about this',"* she elaborated. Although she stressed collaborative work in her classroom, Victoria was always aware that sometimes or days, a student may need to work alone and she gave them that option when they asked. *"I try never to have a child isolated... because it's not conducive to learning, unless they requested it. They've learned to say 'I can't be with a group. Can I work on my own?'"*

**Standard II: Language and Literacy Development.** Evidence of developing language and literacy across the curriculum was present across all three data sources for Victoria. In the interview, she explained: *"Literacy is the curriculum. I would argue that everything that every standard and everything that happens in a classroom is literacy oriented…Math literacy is different than language arts or science and social studies-- it's embedded. It's what it is…it's not separate. We read in every subject. We write in every subject."* Victoria also consistently reported developing student's literacy and academic language expression in speaking and writing as a regularly occurring practice in her classroom. Evidence reported in the logs of activities used to support language and

literacy development through speaking include: *"daily conversation— formal and informal— in small groups and whole group discussions"; "invite(ing) students to paraphrase and retell in their own words"; "listen(ing) to students"*; "*question(ing) to ensure that students respond"* and *"praise(ing) students for talking".*

With regard to language development and writing, Victoria reported in the interview using journals in each subject. Students were given prompts to respond to where they would reflect on their thinking and learning. Often times, this was given as homework if the students did not have time to complete it in class. These reflections were frequently used the following day as a starting point for discussions. *"That's why we have the journals. That's why we have our prompts. That's why we had our discussion groups— language development. You have to use the vocabulary!",* she elaborated.

Victoria also made a point to focus on vocabulary *across the curriculum*. As noted in the interview, she reviewed the standards in each subject daily, identifying words ahead of time that students would need to learn or might not know within a given concept. This gave the students a goal, a focus on what vocabulary words were important. *"We read the standards every time, every day, every time we move to the new subject… our learning objective, how are we gonna learn this? What vocabulary words do we think we need to know? What does that mean?"*

In addition to identifying vocabulary words prior, she was intentional about focusing on language *in the context* of their learning. If a student was unsure about a word while they were reading or working on a task, she would pause and ask if anyone else could explain it; and if not, she would pause and let them look it up: "*We'd have kids who would go and Google it. They love Google,"* she explained in the interview. This

was also evidenced in the video when they were discussing volume in the IC and she asked the students, *"What's volume?"* And the students responded, *"length times width times height."* Then another student chimed in, *"Also, how much space it takes"*. Victoria responded, *"Ok, so capacity..."* and repeated the definitions. Other academic vocabulary that Victoria made a point to focus on in the context of that IC lesson included *decimals, communicative properties, additive properties, rounding, estimation, cube, rectangular prism, vertices, sides,* and *cubed*. Victoria not only modeled the correct usage of these words throughout the lesson, but also asked the students to describe their meaning and use them in context.

**Standard III: Contextualization.** Evidence of contextualization was present across all three data sources. Examples included creating an environment where students felt safe, giving students opportunities to share, learning about students, intentionally listening, capitalizing on teachable moments and prior knowledge to make meaningful connections, and offering choices for her students.

As evidenced across all three data sources, Victoria fostered an environment where students felt safe. This was evident in the video when one of the students felt comfortable enough to say, *"Um, I just thought of something, I'm not sure if it's correct, but what happens if..."* Furthermore, Victoria noted in the logs that she created an inclusive classroom environment that encouraged respect for cultural diversity.

One way she fostered an environment where her students felt safe was by showing interest in her kids. Here she gives an example of how she went above and beyond to form a bond and get to know one her students from Nigeria to make him feel comfortable: *"I would do a lot of listening and… you know when we would go out to*

*recess and he would play basketball, I would play basketball. I'm terrible at basketball!... So, I mean that helped him get a little bit more comfortable, and then he would talk to me,"* she explained in the interview.

Victoria was intentional about getting to know her students and creating spaces and opportunities for them to share thoughts. Through the use of surveys, writing prompts, journals, and conversations, Victoria created opportunities for her students to reveal prior knowledge and cultural background information. *"I wait for them to show their hand. I did a lot of waiting. And learning about them privately, you know lots of listening. And their journal writing. I did a survey at the beginning of the year for them to tell me about themselves and about their family... We start talking about that and so they- we tied it in to these instructional conversations, into the bigger picture of their worlds, their realities, and tie it into the curriculum…"* she explained in the interview.

This was also evident in the logs when she reported *"Discussions and experiences…"* as well as *"Listening to my children. Reading their writing. Conferences with parents. Mainly, behavior of the student"* as strategies she used to learn about her students' lives, cultural background, and what they knew. This was further evidenced in the video by the way she listened to assess how her students were understanding the concept of volume and inserting herself when they were misunderstanding.

The use of journals was also employed in Victoria's classroom. *"The beauty of journaling with kids and having conversations with them is so you get to know your children,"* she said. Furthermore, having journals, where students had a private space to communicate their thinking and feelings about learning or classroom interactions, was another way she fostered a safe environment. In the interview, she discussed how she had

two classroom journals—one for the boys and one for the girls—where each student had a section dedicated to them. This was not a required assignment, but students could journal whenever they felt the need to express their thoughts. This journal entry was only read by the teacher and she would respond in writing, through individual discussion with the student, or with a classroom meeting depending on the issue. Victoria would use the information learned to address certain situations: *"If it was something personal private, I would address it privately. If it was something about the classroom dynamic, then we would have a classroom meeting…"*

In the interview, Victoria noted that contextualization was most real and meaningful for her students when it occurred organically; as planning ahead for it felt contrived. She did not feel comfortable forcing it. *"I really strongly feel that forcing it umm is not…contextualization should be organic. Because if you're connecting it to students' experience, then it should be organic. Forcing it, doesn't, you know, it's contrived— it's just not…it's…it isn't genuine…"*

Here she describes an example where "planning ahead" did not get at the heart of contextualization—making learning meaningful for students and connecting it to prior experiences. *"For example, I had lots of children that were ESOL students in my classroom… pulling books that were bilingual… wasn't… it's not really contextualization. You know, they could say 'Oh! I've-I know that word', but that's not really connecting it to what they understand."*

For Victoria, contextualization was best implemented by being an intentional listener in the moment and capitalizing on those teachable moments that made contextualization so powerful; *"…those teachable moments, those moments when the*

*kids made those connections then that's when I would pull it in and I would be listening for that because then it was meaningful*," she said in the interview.

For example, she described an instance when one of her students made a connection in social studies to a current event that had just happened locally. They were learning about the Bill of Rights and the student brought up the point that the Bill of Rights is supposed to protect people, but sometimes it even protects criminals, as in a recent even that had just occurred. *"And so we started talking about that idea of fair and a lot of the kids, I mean he took it very deep-I mean it was a deep conversation and the other kids started to chime in and so we talked about the idea of is fair always equal. Or is equal always fair… so we started talking about that we tied it in to umm our literature studies umm we tied it into the world wars that we studied that year…"* In this example, she capitalized on a student's comment and made meaningful connections to the current topic of study and as well as topics they had studied in the past.

Capitalizing on organic connections in order to help students better understand content was further evidenced in the video. As they were discussing how to find the volume for a cube, the discussion lead to a conversation on how it was different than a rectangular prism. She used this opportunity and picked up one student's iPad and said *"Your iPad is a rectangular prism, isn't it? So think about that…"*

She not only capitalized on connections in the moment, but she listened for connections that she could use in future lessons. Here she gives an example of listening during an IC: *"…because I was just taking notes about what I heard… ooo they made a connection to this, let me— tomorrow I can bring this in and that might help them!"* In both examples, Victoria adjusted her actions based on what she learned from students.

In the logs, she described an activity where she leveraged what the students already knew into a new understanding by having them use math computation facts and strategies to convert units across the metric system. *"Using math computation facts and strategies have led my students to work in collaboration with others and build on what they already know, like the metric system and converting within the metric system across units— K, H, D, d, c, m for Liters, Grams, and Meters."* Nonetheless, for Victoria, this standard was the most challenging to plan for and enact. This was reported consistently across both the logs and the interview.

Lastly, Victoria had elements of choice in her activities. For example, in the video, she had the students create a poster to teach others how to find the volume of a cube. In this, the students were able to choose how they wanted to engage in that process and what the final outcome would look like.

**Standard IV: Challenging Activities.** Promotion of higher order thinking was evident in Victoria's classroom across all three data sources. Examples included the use of questioning that made students think deeper and expand on their answers, the promotion of metacognition, and the use of differentiation.

The first way that Victoria enacted higher order thinking in her classroom was through the use of questions. When asked in the interview how she promoted higher order thinking in her classroom, she answered: *"The way I created my questions, the prompts, the guiding, umm those HOT questions were, you had to think those through …"* Victoria preplanned her questions ahead of time, in addition to *"on the spot thinking"* as she described it. *"So it's a lot of preplanning… you had to really think it through-- the higher order questions…"*

For example, in the video as the students were explaining their answer and how they got it, one student said, *"Six times four or four times six—you can do it either way."* At this point she interjected and said, *"And what is called when you can just flip flop the numbers when you're multiplying like that?"* And the students all jumped in trying to remember, *"Ooo umm it's one of those properties…the communicative!"* And then she continued, *"…but what if I had two times two times six?"* Here she promoted higher order thinking by asking the students to change up the numbers and then refigure out what property and explain why.

Through her questioning techniques, Victoria consistently encouraged her students to go deeper in their thinking, rather than just giving a simple answer. She gave examples of questions in the interview: "*So why are you thinking this? Why do you think that? Why would they want to do that? Why would that work? Why wouldn't that work?"* Victoria also asked questions that made her students expand on an idea and allowed for multiple ways to answer. This was evident across all three data sources. For example, when she explained in the interview about how a student made a personal connection to the Bill of Rights during a whole group lesson (discussed above), she asked him, *"What do you mean?"* She then continued: *"and so the kids started having discussion about that, and we created an umbrella idea of 'is all fair- all's fair in love and war' and I said, 'do you agree with that?'"* In the logs, she reported using the following language levers regularly: *"Ask students to explain their reasoning and logic"; "Ask students to justify their statements";* and *"Ask students to evaluate and make judgments about text."* This was further evidenced in the video as well when she allowed the space for the students to struggle through the process of trying out different formulas that they thought might work

to find the volume of a cube based on what they had learned about finding the volume of a rectangular prism.

In the logs, she also reported prompting critical thinking and metacognition through her use of questions and prompts in the classroom: *"I prompt more critical thinking and encourage students to ask themselves and others if they are understanding, how well they understand, and whether or not they could explain concepts to others in order to move through learning toward metacognition."*

Evidence of emphasis on metacognition in Victoria's classroom was also present in the interview, when she described how she approached assessment in her classroom. "*We always grade our assessments together, so we took our assessments immediately,"* She described how each student graded their own assessments immediately after they took them. She would have them put their pencils away and get out a specified color crayon. As she went over the answers, each student would mark their own paper. Then she would write the grades in the board for each number missed, so the students would know their grade. In this way, she was teaching them to self-regulate their learning. *"…fostering independence, that autonomy. They needed to be able to realize 'okay, what don't I know...' and that's all about metacognition. If I don't know this, what do I need to move forward…"* By grading their own assessments, students were able to develop an awareness of what they understood and what they needed to work on next. This was further evidenced in the way she had her student create and record subject/standard specific learning goals for themselves in their journals.

Using information from these assessments, Victoria differentiated her centers into tiers to accommodate the different levels of her students. Each center had at least three

tiers: *"…tier one-- those activities, those tasks, weren't baby tasks or weren't less interesting. Umm, and it wasn't that they were not hard. Or that they were easy. it was just, not as intensive or as involved."* In this way, Victoria met her students where they were; and each tier had a task that was challenging for that specific group of students. Students knew which tier they were supposed to work on based on previous performance, but were free to move up a tier if they completed the work for their assigned task. *"You can move up. You are more than welcome, if you are finished with tier one, and you are confident, you are ready, you've turned in your work, you can move up to tier two,"* she elaborated in the interview.

Differentiation was not only present in the tasks that she planned for her centers, but in the way she structured her ICs. *"Every group rotated through an IC, but I always saw my lowest group at least three times a week… so my students who needed more support I'd see more often,"* she described in the interview. Evidence of the use of differentiation was also present in the log data in the array of strategies she reported using on a regular basis to ensure students' comprehension.

**Standard V: Instructional Conversation.** As noted previously, the fifth standard is both a focus on teaching through conversation as well as an actual way of conducting a JPA with the teacher present to lead a concrete "Instructional Conversation", or an "IC" as it is referred to in this model. The IC is a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal that incorporates all five standards. The findings below will describe how Victoria implemented ICs in her classroom, with a focus on what happened before, during, and after.

***Before an IC.*** For Victoria, developing norms together with the students was a crucial first step in preparing the class prior to having ICs *"The first thing, again it was setting up the norms in the classroom, as a whole group,"* she said in the interview. Creating an environment conducive to conversation involved getting her students *"to think about their behavior and why—what's going to come out of it."* She read a book called "Norms" during the first week of school and together the class developed a list of their own. "*We never made more than five. Kept it simple, so that way they could remember…"* she explained.

This was followed by setting up the structure of the classroom in terms of other station locations and setting expectations: *"Talking about the station work-- where it would be, how it would take place, what would happen when you're in this area…"* Victoria had a designated IC location with conversation bubbles hanging above *"so they knew that that when we came here we were gonna have conversations and that was the expectation in this area,"* she explained in the interview. She was also very clear on her expectations at each station and was explicit on what the students were supposed to do at each. She even had a "voice meter" on the board. For example, a "zero" meant no talking (e.g., during assessments), a "one" meant they could whisper (e.g., for partner work) etc., with a "four" meaning outside voices. During JPAs and ICs, the voice meter was usually set at a "two". *"Noise was allowed but your noise—you had to self-regulate,"* she said in the interview.

In terms of preparing students before coming to an IC, she revisited their norms and during ICs in reading, the students often brought their reflection journals with them. Journaling was an integral part of Victoria's classroom. She would assign reading with

accompanied journal prompts for homework and the students would come prepared with their journal reflections. *"When they had to finish their reading… they did a journal (entry). It was a reflection of what they learned, what questions they had, if there were any connections. So they had, they would have kind of like a little summary in their notebook..."* she described in the interview. In the beginning of the year she gave them a template to follow with specified areas for a summary, key vocabulary, and related questions; but as the year progressed, *"it evolved into them writing their own,"* she said. These reflections often were the prep work for conversations in the ICs.

*"But there was a lot, again a lot of planning on my part,"* she noted in the interview. *"In order for it to be successful, you have to dedicate the time to planning and preparing for it… You can't just wing it… you have to be extremely organized."* Here Victoria hints at the idea of purposeful planning for ICs, not just having conversations for conversations sake. For Victoria, this meant looking at assessment data, thinking about what her students knew and what they needed to know, preparing the task cards for each activity, thinking about the questions she was going to ask, and any materials needed together. *"To plan them, you have to, be able to sit through and sift through you know, what did they know, what don't they know, looking at your data, and what material you have in order to create the plan and to implement it…."* This was corroborated in the logs when she reported: *"I have watched videos of myself and use prompts and differentiated IC planning (to) ensure students are successful…"*

***During.*** During the IC, keeping the classroom structure was important. Negative talk was not allowed and Victoria would continually refer back to the norms they created at the beginning of the school year. *"In our-our-ICs, negative talk wasn't okay. It doesn't*

*help anybody. How is this gonna help any of us? If it doesn't, then we don't need to say it."* During the IC, Victoria managed noise level of the classroom through her "voice meter" (described above). *"When I heard them getting a little bit louder, I just said 'remember your number'… because you don't want to admonish them for getting excited and working…but at the same time you have to have some parameters, you can't just let them go crazy,"* she explained in the interview.

In the IC, Victoria did not have her students create conversational goals, but her students did create broader instructional goals. Each student had individual instructional goals that they created based on the standards and each student wrote them down in their corresponding personal journals (e.g., math goals on their math journal, reading goals in their reading journals etc.). Nonetheless, Victoria noted that she was very aware of who talked and who didn't (because she was a shy child herself), so she consistently encouraged all students to participate. *"We had- you know- instructional goals-- what's your goal, what grade do you want…what do you want to move towards, what do you want to learn...why do you want to learn it. You know, this is a standard… how are you going to prove that you know that standard?"*

In the beginning, once the structure was set up, Victoria saw her role as the one to get her students talking; however, she quickly realized that she did a lot more talking than the students. This resulted in her giving herself a personal goal in order to self-regulate: *"I had my own personal goal of okay, you've got to give a lot more wait time."* Nonetheless, she also recognized the importance of her role in modeling proper language use in the IC. In the logs, she reported: *"I allow social language, but always model proper or correct speech, and expect correct conventions and usage..."*

Once she got in the habit of giving her students the space to talk and teaching them how to have a conversation, she saw her role emerge into more of a facilitator. *"After, once I got more into the habit of it and the hang of it, it wasn't so much to lead them in their discussion, it was more in facilitating the discussion..."* For Victoria this meant asking questions, reminding students to include everyone in the group, pulling in those students that seemed disengaged. *"If I notice somebody was quiet, a particular day, umm I would say 'You know, so and so what do you think about this?' Pull them in..."* she explained in the interview. This was evident in the video when the students were all working on solving a problem, she leaned over to one of the students who seemed disengaged and said: *"Are you figuring out that base? What do you think?"*; and corroborated in the logs when she reported, *"inviting students into conversation in small groups to explain and justify JPA products"* a as a strategy she used to encourage participation.

Victoria was aware of where her students were not only academically on a given day, but emotionally as well. And she was sensitive to their situations during the IC: *"...depending on the situation, if that child was tired, or sick or whatever, I would say 'you know, so and so is not feeling well today, so you know if you have something to say, you can add it in, but please don't badger them."*

*"Because you're not just there to teach them math, read and writing, science and social studies, you're there to be their advocate and be their support when everything else is crumbling around them. You have to be there constant,"* she explained in the interview.

She also saw her role as a listener. In that role, she could assess where her students were with a particular concept and clear up any misconceptions that arose. This was evident across both the logs and the interview. *"I use these as formative assessments. IC's have given me an opportunity to talk and listen to students to better understand and assess their thinking and language skills. They use conversation to explain what they have learned in Social Studies, Math, and Reading…"* she reported in the logs. In the interview, she elaborated: *"We can learn by having those conversations and we can see how things can get distorted really easily..."* She continued: *"I use them as assessments. I was listening to understood it and who did not, who had a firm handle on what we were talking about and who was iffy."* During these times, she would stop and reteach the concept all together. *"There were times I had to say 'okay… we're all over the place' or 'we really didn't get this'."* Evidence of providing feedback was also present in the logs when she reported *"provided prompt, corrective feedback that informed and guided students' content understanding*" as a strategy she implemented.

Further evidence of clearing up misconceptions and providing feedback was present in the video. As the students were discussing way to find the volume of a cube, one student suggested using vertices: *"Doesn't a square have something called vertices?"* to which Victoria replied: *"They do. So, you would have vertices, but would vertices help us determine the capacity—the amount inside this box?"* The students all shook their head no, and Victoria proceeded to give them a hint.

Implementing IC's allowed Victoria to address her students' varied ability levels and need for assistance: *"IC's help me identify and clarify my students' struggles. They also allow for a fair amount of praise, which strengthens relationships and builds trust.*

*IC's help me identify who is not meeting expectations,"* she reported in the logs. Evidence of Victoria providing praise in the moment was present in the video. As the students were working on figuring out the volume of the cube, one student said *"5.5 times 6—that would be about 30…"* to which Victoria responded *"Ooo I like that estimation— 'it's about 30'…"*

One way that Victoria captured her thoughts about what she heard while she was listening was by taking notes. She had a notepad with each group name and she would jot down notes and put students' initials next to them to remind her of informal little things she heard that would inform her next steps. This note taking wasn't a formal assessment tool, but a way for her to gather her thoughts of interest which she used in developing future station work or independent work. In the interview, she described her thought process during this: *"Umm it was okay, I need to revise this, or they really understood this or, they need more practice at this or, ooo they made a connection to this…I can bring this in and that might help them..."* This is evidence of Victoria engaging in reflective action, where she is reflecting on the IC lesson and actively using that information to change future practice.

In the interview, she gave the example of a time when they were reading a story about a China rabbit and she realized through discussions in the IC that her students had no idea what a China rabbit was. So, she brought in actual examples for the students to see and discuss, which helped the students understand and engage with the story.

Through being engaged and intentionally listening during the IC, Victoria was able to learn about her students which was not only important in terms of assessing what they did and didn't understand, but important for learning about them as people so that

she could contextualize both in the moment and future lessons (as mentioned above): *"So students build on each other and those were the kinds of lessons I enjoyed the most because they were organic, and…I tied it into the curriculum."* Here we see evidence of how Victoria took opportunities to capitalize on students' comments to make that connection meaningful to the content in real time (e.g., Standard III). This was also evident in the logs when she reported *"incorporating culturally relevant materials and referring to them often"* as a strategy she used to ensure that students, particularly ELL students, developed knowledge through participation.

The IC also provided Victoria the opportunity to layer in different standards. For example, in the video, when the students were coming up with their answer for the volume of the cube they were working with (which was the goal of that lesson), they also discussed the concept of decimals, rounding, and several mathematical properties. Because the teacher was there, she was able to make those connections and pull in previous content to apply to the current situation to engage students in a deeper discussion about which would be the closest estimate for their answer or which property they were using.

In order to encourage conversation during an IC, Victoria discussed how journaling was one strategy she used. To facilitate this, Victoria had her students journal in every subject: *"After we read or we worked on (something) in science or social studies… then they would journal in their notebooks."* They would then use their journal entries as entry points into conversation during an IC: *"Students had to reply to prompts and then they had to get feedback from their peers-- about how they can improve their prompt…what they can add to the prompt, what was different from their response to their*

*peers response…but in an IC, they had to come up with an answer to a prompt or they had to come up with umm several responses and decide who was right, who was wrong or if they were both right…"* In doing this, each student was able to individually come up with their own answer or ideas which prepared them for a discussion. When using this strategy during the IC, she had them discuss and defend their answer with evidence from the text or the work they previously did in order to come to a consensus on the best answer as a group.

Another way she encouraged conversation was by having her students come up with one answer or product. This was evident in the video during her summarizing activity: *"If you had to go teach another class how to find the volume of a rectangular prism and a cube, how would you teach them?"* The students engaged in a discussion on the different ways to find the volume of each, but they had to come to a consensus and make one poster in order to teach other show others how to accomplish that goal.

Evidence of conducting ICs across all subjects was present in both the interview and the log data; however, Victoria noted in the logs that she had the most success in reading, math, and science: *"Science and Reading work extremely well when focusing on specific content using reading skills. Discussion is free flowing and helps students cement thinking,"* she reported. *"Students were successful in IC's in reading and math. They were flexible and enjoyed the discussion. Students opened up and discuss ideas and how they use text evidence/prior knowledge to answer questions or solve problems…"*

***After.*** After an IC, Victoria first reflected on how the lesson went and then adjusted her actions based on that information. This was evident in both the interview and the logs. In the interview, she noted the importance of reflection*: "In order for it (the IC)*

*to continue to be successful, you have to go back and revisit what you've done to see if it worked…"* She also discussed the difference between learning and teaching. She noted that focusing on what the students need to learn (i.e., the standards or goal for the lesson) is different than focusing on how you as the teacher are going to teach that standard. In this, she emphasized the need to reflect and *change your practice* to ensure learning is happening: *"Changing your practice is something that has to happen. And you have to make it part of your routine… You have to reflect— what am I doing, how is it going to work. And if it didn't work, what am I gonna do to make it work next time? And how am I gonna make this situation that didn't work, work again when I reteach it?"* Evidence of this was present in the logs when she noted how she watched videos of herself teaching in an IC and changed her planning to ensure that all students were participating successfully in the IC.

Victoria also engaged in re-teaching when it was needed: *"...there was a lot of re-teaching when necessary,"* she noted in the interview. *"After an IC, depending on how it went— if it was great, then it was like 'woo woo, we nailed that one' ... if it flopped... then I re-planned and then redid it..."* Here was see an example of her reflection, re-planning (i.e., changing her practice), and re-teaching.

Further evidence of Victoria changing her practice based on reflection includes how she adjusted her groups after a two-week period, depending on how her students understood a concept. *"That's why my centers and my ICs were two-week period, so that I could really see who got it and who didn't. And if somebody needed more support, then they got more, that they were ready to move forward, they could,"* she said in the interview. Here she describes how she considered the students' progress when readjusting

her groups for the next rotation: *"It depended on the student and depended on their progress. So some students, and some days, everybody moved forward… Other times, we had to rework the groups. These children were ready to move forward, these kids needed remediation, these kids needed more practice. Umm, so then I would revamp them..."*

In terms of the students themselves, they moved on to other centers in their rotation or to independent work after an IC. This was evident in both the logs and the interview. *"After IC's, students go complete work in independent or small group centers,"* she reported in the logs. In addition, *"they journaled after every IC,"* she explained in the interview. They had to complete a journal entry tied to the lesson. This was often assigned for homework each night, if they did not complete it in class.

**Challenges**

The most challenging standard to implement for Victoria was Standard III: Contextualization. This was evident consistently across both the logs and the interview. *"Contextualization is the hardest thing because a lot of our standards don't lend themselves to that and I… strongly feel that forcing it is not contextualization,"* she said in the interview. This was reiterated in the logs when she reported that she felt she needed the most support with planning culturally responsive lessons and said it *"is very difficult with curriculum maps and GPS."* She also reported *"I struggle with tying this in to curriculum"* when asked how she incorporated her students' home and community funds of knowledge into her teaching.

Victoria struggled most with the idea of pre-planning for contextualization, as she felt that it should be organic for it to be most real and meaningful for her students. In addition, she was concerned with making assumptions and putting students in

uncomfortable circumstances. Getting got know your kids came with a responsibility. Victoria elaborated in the interview: *"…that idea of you gotta really know your kids-- you know, yes and no. You gotta know your kids, but sometimes…you don't want to showcase your children. Some children don't like that. And you knowing my personal business is not something I need you sharing with everybody else…I wait for them to show their hand."*

Consistent across both the interview and the logs, time was described as the biggest challenge for Victoria. *"The major challenge is time… you need to have time to plan,"* she explained in the interview. She elaborated: *"Planning—and I keep saying that—but you know, it's the biggest challenge…lots of people don't want to put in that much effort, so when we say, 'why is it instructional conversation, it's not happening'—cause it requires effort… it's not just your everyday 'well, we're just gonna have a conversation'…"* She described that she did not feel that ICs were something "extra" to do on top of her normal teaching, but that the model was a different approach*: "It's a shift in the how you're teaching it. Not the what, but in the how. Presentation."*

Time, not only in terms of planning, but also in terms of time available in the day due to other schedule requirements that come up throughout the week was a reoccurring challenge. In the logs, when asked what factors prevented her from conducting ICs, she reported the following: *"We had several in-school activities and student teacher tasks that prevented a normal school week"* and *"Time, benchmarks, and school/class functions."*

Getting students to talk was another challenge reported in the interview. *"Some children don't wanna talk,"* she said when asked about unexpected challenges she

experienced within an IC. In addition, attending to the different cultural norms of different cultures while simultaneously attending to the conversation norms of the IC was a challenge. She described a student she had from Nigeria that had different cultural norms in terms of eye contact in interaction with adults. *"Cultural expectations—respecting that. That was tricky,"* she said.

**External Factors**

Overall, Victoria reported high support from her administration. This was evidenced in the logs when she reported *"extremely"* to how supportive her principal was of her work with the ICs and corroborated in the interview when she indicated having no challenges with her administration. Regarding circumstances or factors outside the model that hindered her implementation, she said: *"Nothing. I mean, other than time…"*

In terms of resources, she reported in the interview that this was one instructional factor that was a challenge for her; for Victoria, she wanted access to more. *"Sometimes you wanna do this great thing and you know this is gonna help, but you don't have the materials."* She went on to describe how having *"a variety of things to get them to see different points of view or read from different authors on the same topic"* helps students see different perspectives on a given issue or concept. *"That helps the conversation. Think about our political system now, lots of different points of views, so it makes for interesting conversation and for dialogue to happen where we can justify our reasoning."*

Regarding factors or practices outside the IC model that enhanced her implementation, Victoria reported the use of journals and encouraging reflection were two practices that she consistently implemented: *"We have challenging activities, we*

*have instructional conversations, you have the joint productive activity, but the reflection and the journal writing I think helps you to know where to move forward…"*

### Case 3: Introduction and Context

Case 3 was a male third grade teacher ("David") who taught in a district that had a 16% ELL population and 52% of the total district school population on free /reduced lunch. David taught in a school that had a 43% ELL population and 93% of the total school population on free/ reduced lunch. David had 5 years of teaching experience with 3-5 years of experience working with ELLs; and his proficient languages included English and Spanish. His classroom context was described as one where the majority of his students were ELLs (18 reported) and most of his students were from single parent homes. Nonetheless, David's classroom was one where structure was present and imagination was nurtured within the context of the curriculum. *"Third grade is the best grade because they're young where they still believe in the magic of imagination, but at the same time, they're just starting to become independent, so you can give them just enough responsibility and just enough imagination and they're going to love it…"* This was evident by the many examples of ICs where David had his students role-play different scenarios to solve different problems. For example, he described having them all be paleontologists when completing a science IC or having the group live on another planet during a math IC where skip counting and arrays were not allowed and they had to come up with other ways to solve the problem.

**Implementation of the IC Model**

Below is a description of how David implemented the IC model in his classroom. The findings are presented according to each of the standards in which this model is grounded.

**Standard I: Joint Productive Activity (JPA).** In terms of students working together, David's classroom was set up in a way that facilitated this type of interaction. This was evidenced across all three data sources. One way that David facilitated collaboration in his classroom was by creating a classroom agreement. This helped him implement *"the concept of one voice and collaboration…",* as he noted in the logs. This agreement was jointly developed *with* the students and was displayed in the classroom in a visible way. Also evidenced in the logs, one of the most important aspects of David's classroom agreement was *"respecting each other's voice"*. David believed that a classroom community agreement impacted the learning environment in his classroom by allowing students to share with one another. *"I try to emphasize the point that we must all share our ideas and thoughts on the task, as one of us will seldom have the complete answer but working together will provide better insight"* he stated in response to what a sense of community means in his classroom in relation to collaborative activities. Furthermore, collaboration was one of the classroom expectations in David's classroom: *"One of our rules is collaboration and students will work hard to get involved…"*; and he *"strongly agreed"* to finding value in having students work together to accomplish an academic goal.

Another way he created an environment conducive to collaboration and conversation was by implementing a workshop model in his classroom. Students would typically rotate through four centers each day with one of them being with the teacher center, which is where ICs would occur. *"Typically, four, like they rotate four, so the next day, the one that didn't see me would start at me and then go around…"* he described in the interview. Centers usually lasted around 15 minutes max each, depending on the day, and expectations were set for what to do during and after each task. He elaborated: *"Yeah, fifteen. So… they always had something, if they finished whatever that center was, there was always an independent task that they had to do. So they couldn't come up and be like 'hey what do I do when I'm done'…"* In terms of content in the centers, they were often connected to the content in the IC and offered a space for practice in both collaborative and independent formats: *"The centers are designed to present students with the skill/practice/review in another platform, usually collaborative or independent,"* he stated in the logs. Having centers provided a structure and space for collaborative work to occur in his classroom, both through the IC and during group work in the centers. Evidence of students working together was also evident in the video when he had students working on teams within the IC to complete tasks and then come back to together to discuss as a group. In this IC, they were answering questions related to nonfiction text structure about a newspaper on FDR and the New Deal.

In terms of grouping for his centers, David was flexible in his grouping strategies and grouped both homogeneously and heterogeneously depending on the task or purpose of the group. This was evident in both the logs and the interview. David considered factors such as academic ability, background knowledge, and social ability when forming

his groups. In the logs, he reported grouping by *"mixed academic ability"* in order to promote interaction in the IC and *"homogeneous academic ability"* in order to encourage active academically-focused interaction among students in centers, noting that *"the students seem to be more self-motivated in terms of trying to complete a task"* that way. For his ELL students specifically, he would sometimes group by social considerations: *"I place some value in their social abilities, if a student is quick to get along with others, I use them as 'bonding' agents to group dynamics".* In the interview, he discussed using assessment data to form his groups, especially when it came to reading and mixing up his IC groups in order to promote interaction: *"It was always trying to find good balance…"* he said in relation to grouping for the IC.

**Standard II: Language and Literacy Development.** Evidence of developing language and literacy across the curriculum was present across all three data sources for David. Several strategies were identified including an intentional connection of language and the students' real world contexts, previewing upcoming vocabulary terms, and focusing on academic vocabulary in the context of the students' learning.

In order to connect the students' real world context and make language accessible for his students, David often used imagery and home language as resources in his teaching. *"I would use a lot of images, a lot of diagrams… In reading…I use to like getting books that were both in English and in Spanish…"* he explained in the interview. In reading, he often used books that had both Spanish and English versions available and would provide a copy of each for his students. He gave the example of using a lot of Gary Soto stories*: "I would always put the two, like the English and Spanish next to it… I wouldn't read the Spanish to them, maybe on rare occasions I would, but… I would read*

*it (in English), and they could just follow along…"* This was also evidenced in the logs when he reported *"presenting content in two languages simultaneously…"* as a strategy used to promote second language acquisition. *"Many books now are produced with Spanish and English on the same page,"* he noted. Furthermore, he also used peer interaction as a way to make language accessible. In the logs, he reported "*Think-Pair-Share and collaboration on reading problems*" as activities he implemented in his classroom to provide support for first-language use and other familiar forms of interaction. This was also evident in the video, when he had students work in smaller teams to answer questions before coming together to discuss as a group.

During his mini-lessons, David previewed upcoming vocabulary before his students broke up into their groups. *"I would give them a mini lesson, like to the whole class and… I would give them a quick little hook, maybe a video, definition, word wall... then they would go based on the group, they would meet,"* he explained in the interview. He also was intentional about teaching, looking for, and listening for academic vocabulary use connected to the standards. He had a chart posted in his room with relevant vocabulary and key terms related to the standards. *"It was really important for me… when we had discussions, when we were in those groups, or in another one of the tasks throughout the room… when I would collect whatever the product was for that group, I would you know, always look for the terms for a certain concept,"* he said in the interview. He further discussed how conducting ICs allowed him to listen for correct understanding of vocabulary: *"because in science you really want to hear the vocabulary the terms, and you want it, the term, to be or the definition to be correct…and if they got, I would check it, you know and then that would give me an instant informal. In an IC*

*however you didn't have to check it off because I could hear it…"* He also described how he would challenge their vocabulary knowledge within the IC if he saw that they understood the given terms: *"I was there. I could hear them saying, you know 'no repel is when the magnets go away from each other. No it's when they come together…' you could hear that, you could see it, and you're like 'okay, they know this…okay now let me give you this other term…'"*

Intentional listening for academic vocabulary was also evidenced in the video. When the students were about to begin their activity, David instructed: *"I want you to work together to answer these tasks, and what I'm listening for are what words you use to describe these…?"* This intentional listening is another example of a way David informally assessed his students, as described further below in Standard V: Instructional Conversations. In the IC video, students were using academic vocabulary words such as *description, compare and contrast, problem and solution, sequence, nonfiction, fiction, The New Deal*, and *main idea* as they completed their tasks together; and David was also able to clear up misunderstandings when he addressed a student's confusion about the definitions of several words including *achievement* and *sequence*, as students were working on their task.

**Standard III: Contextualization.** Evidence of contextualization in David's classroom was present across all three data sources. David consistently strived to make cultural connections with his students through opening up to his students and intentionally using materials relevant to his students in his teaching. *"I always do contextualization. I always like to know what my kids know and how we share. I think that's always the best way to drop their guard…"* he said in the interview. In the logs, he

reported: *"My class is majority Latino/Hispanic and the other five are African-American. Being Latino and married to an African-American woman, I share a lot of the same background with the class. We are able to share discussions about issues, traditions, and customs that we both have experienced…"*

David connected with his students on a personal level in order to make them feel comfortable, model how to bring their experiences to the classroom, and develop an inclusive space where students from all backgrounds felt safe to participate in classroom discussions. This was evident across both the logs and the interview. In the interview, he explained: *"You know they see me as a teacher, but then when I'm telling them, 'oh yeah, I'm eating the exact same things that you're eating' and 'yeah, my family…' When they see that connection they're like, 'oh you do that?'… cause that's always the first reaction, it's like, you do that…They open up… Then you can't get them to stop talking!"* In the logs, he reported: *"I allow students to discuss their backgrounds and discuss their everyday life to help them connect with other students"* in order to create an inclusive environment that encouraged respect for cultural diversity.

David modeled making personal connections in an effort to show his students how, and to encourage them, to bring their personal experiences to the classroom. *"When we had these open discussions… I would share my experiences with them— because… I'm modeling to them by my experiences— because I want them to bring their experiences to the table. Like 'What do you know about this? Do you have any background knowledge?' … When they see me open up and they have all these connections with me, then… I just have to give them a question about whatever we're talking about and they wanna share."*

David intentionally tied the students' cultural experiences to the curriculum. As discussed previously (in Standard II: Language and Literacy), across both the log and interview data, David often used imagery and material that included his students' first language in his teaching in order to make the content more accessible and to make meaningful connections to the content he was teaching. *"I did a lot of things with images… to make them connect, make connections… so they could understand…"* he said in the interview; and in the logs he reported: *"I use a lot of texts that incorporate Spanglish to keep the students engaged."*

In the interview, he discussed teaching idioms in ELA and comparing it to "dichos" in their home language, as the majority of his students were Hispanic. *"I would ask them, ask your parents to tell you a 'dicho' from where you're from… they would come home and then they would ask and then they would come back and then you know, they would give me their example… so a lot of them were able to grasp it, but it was having them go and ask and talk to other people like. It's like okay… we're going to connect them because this is not a new thing."* He also gave an example of when he was teaching the concepts of conduction and radiation in science by comparing conduction to cooking "huevos estrellados" and radiation to hanging food outside to dry it, as many of their parents did; and he gave another example of incorporating familiar everyday concepts into math word problems.

Furthermore, by incorporating materials and activities that connected with his students culturally, David was able to break down barriers which also helped fostered an environment where the students felt comfortable which also helped encourage conversations in the classroom: *"I remember… around the holiday times, we did 'Too*

*Many Tamales', which is a book… it was really neat because… they open up. Because first they identify with the food, then they identify with the whole dynamic that's happening-- all this families gathering together in one place, and all of them can relate to it-- well, for the most part almost all of them… It made it a lot easier on conversation,"* he said in the interview. He elaborated, *"It breaks down these barriers that I saw before I did ICs…"*

For David, contextualization was all about intentionality and enhancing the given curriculum by making those personal connections to make it meaningful for students. *"It's something that you add to that curriculum, it's something that you change (from) what's already existing. You add to it, you enhance it. I think enhance it is the best word for it because contextualization specifically, when you want to connect to students lives, there's no way to do that without being intentional."* This was evidenced throughout the video. One example was when David was explaining the concept of text structure. He used everyday objects familiar to the students to explain the concept of structure and he connected prior knowledge about the text structure of fiction stories to teach the text structure of non-fiction pieces: *"All of these are text structures… nonfiction and fiction have a structure. Just like this table, it can't stand if it doesn't have legs, if it doesn't have screws... it's not going to stand. That's because it has structure. Ok stories—fiction and nonfiction— have structure. In a fiction story, what are the people in fiction stories called?"* The students replied, *"Characters!"* He continued, *"And the story is about what? Starts with a 'p'…"* The students replied: *"Plot!"* David proceeded: *"That's fiction. Nonfiction is different. It has a different structure. Nonfiction can have…"*

When he couldn't find resources that supported his students' backgrounds, he encouraged the students to bring in their own background knowledge to the situation. *"I have to go… into their background knowledge and for them to go and okay go ask, go talk with you know the people in your- and you're going to find out that these things, you can bring them right back…"* In the interview, he also cautioned about making assumptions about students when contextualizing and the importance of giving the students a voice: *"You just can't be like…'think about this, what you do at your home. I'm pretty sure that's what you do...' How do you know that's what they do? If you don't ask them, you don't know!"*

David noted that concrete concepts were the hardest for him to contextualize: *"…if anything those were the hardest I think to contextualize because you can't differentiate something that is black and white. Math is very black and white, especially in third grade. If you want this answer or you want that answer… you can go and find another way that it's solved, but it doesn't help you because these standards are telling you they have to know it this way because this is the way it's presented to them,"* he explained in the interview. In addition to math, he also reported that social studies was another area that was difficult for him to contextualize: *"…social studies was like that too because it was very concrete, you were gonna learn about this person, from this perspective…"*

Nonetheless, he was still able to make those connections in the IC. This was evidenced in the video when the students were applying the concepts of nonfiction text structure to a newspaper text on FDR, the New Deal, and WW2. David made an intentional connection with the material and the students' lives when he asked them to

think of achievements that they have had, to understand the meaning of achievements when they had to list an achievement of FDR from the text.

**Standard IV: Challenging Activities.** Promotion of challenging activities and higher order thinking was evident in David's classroom across all three data sources. Examples included the use of assessment in differentiating to meet each student at an appropriate challenging level, intentional questioning that made his students go above the lower levels in Blooms Taxonomy, allowing his students to engage in productive struggle, requiring his students to give evidence and provide multiple answers when appropriate, and connecting with students to increase engagement with challenging activities.

In terms of grouping, David used assessment data to determine his groups and then monitored his students and was responsive to each student's needs, moving them according to how they were understanding the content. *"As the weeks progressed, whatever the concept was, you know, if they mastered it, I would keep track of it, and I would move them…"* he described in the interview.

During his IC groups, he often used mixed ability grouping in order to balance out the group in terms of conversation; nonetheless he would differentiate within that group: *"I would give them certain rules like… 'you could only work on one of the heat transfers, but you can give input on the others'…"* In the logs, he noted that during ICs, *"…gathering the data allows me to create lessons that are tailored for different levels".*

Questioning was another strategy David used to incorporate challenge into his teaching. David had a Bloom's taxonomy resource sheet that he referred to often to build his questions during the lesson. *"…it was built around Bloom's Taxonomy, so it started*

*from low, like simple recall... these are the types of questions you could ask for this level… so I would, when I was doing the lessons I would go in there and I was like okay, I wanna ask one of these low ones, a middle one, and a high one to get them all started and all of them have to answer the question in their own words and it couldn't be what their partner said…"* he explained in the interview. This was corroborated in the logs when he reported targeting the following thinking skills in his classroom: *"Knowledge (Remembering previously learned material: observe, define), Comprehension (Understanding Meaning: paraphrase, describe, locate),* and *Synthesis (Putting material together to form a whole: plan, construct)";* as well as "*Challenge(ing) students in activity to think more complexly at every level"* as an activity he implemented in his classroom.

Higher order questioning was further evidenced in the logs when he reported "*We utilize a lot of higher order questioning that creates a deeper discussion amongst the class".* For David, changing the types of questions he asked impacted the kinds of conversations his students had: *"Their discussions are richer in context"* he noted in the logs. Furthermore, he reported that hearing the students' answers allowed him to challenge them where they were in their thinking: "*Based on the question responses, I can give students another question to help bridge the gaps I see in their assessment."* This is additional evidence of scaffolding and differentiation in his teaching.

In addition, David also let his students struggle through figuring out a problem. He would give them guidance when needed, but he allowed them to question their own thinking to try and discover it for themselves. *"They were limited to what they could ask me, because then when I checked them, I would just tell them, right, wrong, right. But I*

*wouldn't tell them (the answer), they had to figure out what was wrong in it…(I) let them struggle…if they put it in the wrong place, I would just say this is wrong… I wouldn't tell them so then they would have to go back and ask themselves questions…"* This was evidenced in the video when one student was struggling between the meaning of problem, solution, and sequence. He asked, *"Does sequence have to do with events?"* to which David answered, *"Yes."* And the student continued in figuring out the task, this time with excitement.

Consistent throughout all three data sources, David also required his students to justify their answers by giving evidence. David gave an example in the interview of teaching heat sources in science where he allowed them to struggle, but where he didn't just let them change something around and "get the right answer" but required the students to defend their position with evidence: *"What I didn't want them to do was to keep changing it—it had to be based on something… why. 'So why did you move this?' So I would come back to them and I would be like 'Why is that not the heat source?'"* He also incorporated a lot of activities where there were multiple ways to answer the problem and his focus was on students learning and understanding the strategies, not solely on getting the right answer. He encouraged his students to expand on the answer and show him how they got it. For example, in reference to math, he noted in the interview: *"I didn't want them to tell me, oh it's twenty five, you know, five times five—show me how and show me different ways…"* This was also evidenced in the logs when he reported: *"Ask(ing) students to explain their reasoning and logic"* as a language lever he used on a regular basis.

Further evidence was present throughout the video. He continually had students elaborate and justify their answer by having them explain *"why"* by giving an example or citing evidence from the text. For example, one of the tasks students had to complete was describe three facts about an achievement of FDR. One student wrote *"He helped people…."* David interjected: *"What did he do?*" The student replied: *"He made more jobs"* to which David responded: *"How? Talk to them."* Later in the video, another student was working on a task that involved using description. He kept asking if his answer was *"right"* to which David responded: *"Find the evidence to support your answer, that's how you know..."* Another task involved the students coming up with a problem and a solution during WW2. *"Give an example,"* he prompted.

Not only did he expect students to show evidence, but he scaffolded their thinking in the process. For example, in the video, once the students completed the tasks in their teams, David brought them all together to *"talk about it"*. When the students showed their answers, he had them go back to the text and provide the evidence for their answer. The students shared and then David discussed how one of the team's responses did not prove the answer from the text because it wasn't specific enough to the time period that the questions was asking about. *"Now listen, it says 'What happened in 1920 that changed America?' The evidence that you gave me… does it really say that it happened in 1920?"* The students replied: "*No it said it happened near 1920s and 30s."* … *"That's later on, that's not in 1920… so who gave evidence that proved the answer?"*

Lastly, for David, it was contextualization that led to challenging activities and increased the engagement level and willingness to learn challenging concepts of his students. *"I think that itself (Contextualization) leads into these challenging activities*

*because now that we know some background stuff… then this is a lot like that thing that you did with your family or that your family has done for… so now, let me give you this. And you give them this concept, you give them the skill, and you give them this task… and you tell them, we're gonna learn about how to… and it becomes more like 'now I'm okay because I know you, I know that you care about me because you've asked me…"* He continued: *"I've shared these things with you… we know we're all from the same kind of team—whether our backgrounds are similar or not. I want to share my expertise with you, so when I tell you I'm gonna share you my expertise, you're gonna be more engaged to it..."* When asked how does Contextualization lead in to challenging activities, he replied: *"When you've connected them—the school to the students' lives… they are more receptive to doing it, you know, they buy in…"* This was evidenced in the logs when he reported: *"Provided meaning and contexts that link student's learning to their lives"* as a way that he addressed students' varied ability levels and need for assistance in his classroom.

**Standard V: Instructional Conversation.** As noted previously, the fifth standard is both a focus on teaching through conversation as well as an actual way of conducting a JPA with the teacher present to lead a concrete "Instructional Conversation", or an "IC" as it is referred to in this model. The IC is a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal that incorporates all five standards. The findings below will describe how David implemented ICs in his classroom, with a focus on what happened before, during, and after. The data for the Before and After sections came mainly from the interview, unless otherwise stated.

***Before an IC.*** Before conducting ICs, David did several things to prepare in terms of setting up the classroom structure, developing and modeling conversational norms, planning lessons for ICs, and preparing his students.

As mentioned in earlier (in Joint Productive Activity), David implemented a workshop model in his classroom where students would rotate through centers, with one of them being the teacher facilitated IC. The IC table was always in the same spot and the other centers were stationed throughout the room, with attention paid to the noise level and respective proximity to determine each one's location so students would not be distracted. For example, he described in the interview: *"...so here was my independent (center), this is where they were doing their independent work, so again they weren't distracted because… so here, you have, you know a loud, pretty loud group, a very quiet group…"*

David also had an "IC Agreement" posted next to his IC table that detailed out conversational norms that the students agreed to. *"So we had an agreement… and it was things like in the IC, I will have a voice, I will share my voice, I will respect others voices, I must give input… I must I must be on task…"*

In the beginning of the year, David looked at samples from the IC training, as well as others from other classroom management sources, as a starting point for his agreement. Then he had a discussion with his students and they came to an agreement together: *"so yeah… some of them they came up with it, you know, we came out with our agreement, we talked about what's the most important thing…"*

Next, he modeled what each of the items on the agreement meant. For example, during whole group he had students go up and role play in order to practice each of the

norms. *"We would go over it. I would model them. I would call students up there, I would have them talking you know to each other, they were just talking about whatever and then I would interrupt them, then I'd be like… 'was that something we do?' and they would be like 'Noo.' I was like 'Why?'... (it's) disrespectful."*

*"I would model to them. I would call up students and say 'Do we do this?' Then I would show them the right way… then we would practice."*

In terms of preparing his students before an IC, David would give his students a mini lesson before they broke up into their groups: *"I would give them, you know, a quick little hook, maybe a video, a definition, word wall, something like that…"* This mini lesson served as an introduction to the concept or and provided some type of common knowledge that the students needed. *"I don't think I ever did an IC on the first day of a unit,"* he said in the interview.

In terms of planning IC lessons, David would look at his goals and plans for the next two weeks and decide where an IC lesson might fit in well: *"I was always like two weeks ahead of planning, so I would look at it. Ok, which of these lessons is most conducive for the IC… where I can get them to talk about stuff, or this one here where it's about applying the concept. So depending on what I saw, that's the one that I would concentrate on…"* He would also look at the time and the overall school calendar. *"I would look at the school plan and calendar… do we have testing or do we have this to go to or this function because those things the school that I did it at, were notorious…"* he said in the interview.

When looking at his lesson plans, David reported looking for lessons rich in vocabulary where students could apply concepts, lessons that had a problem or task to

solve, and lessons that were simple and didn't have a lot of parts that might confuse students within the IC timeframe. *"I would look for those that had a lot of vocabulary in them, that that you needed to talk about the vocabulary, the ones where there was a lot of problem solving, if there was problem solving… then I would look for the ones that that didn't require, that didn't have a lot of parts…"* He also looked for ones that were *"just independent enough where I think I could do this myself"* (referring to the students); *"things that they're gonna have to work together, especially if there's things that I find that are task specific"*; and lessons that had a problem because *"kids wanna be heroes, so they like having a problem to solve…"* Depending on the activity, he sometimes assigned roles for his students. These were characteristics of lessons that worked well for instructional conversations he noted.

Lastly, he would also think about how current ICs could lead in to future ICs and how they flow together within a unit. *"…so, if I start talking about resources on this one, and we finish it with this task, when we get to the next part about conserving it, it's an easy plug in because you already have this rich vocabulary. And now I'm gonna give you these tasks about keeping resources and then I can move into the next one about recycling…"* he explained in the interview.

***During.*** As discussed previously, the IC was one of the centers that the students rotated through during center time each day. Each student rotated through an IC on average three times per week. *"…three would probably be the average number. There was, you know, days that or weeks that, it went exceptionally well and you would see them every day. Then there was weeks that you had to be like, let me, let's go back the beginning…"* he said in the interview. This was also corroborated in the logs when his

reported number of ICs per week averaged 2.6. In the logs, he also reported that he had the most success with ICs in reading and science.

David saw his first role in the IC as breaking down the mini lesson even further before presenting the task to his students: *"I would spend another, maybe three four minutes on it talking basically right where we let off… then I'd give them the task…"* he said in the interview. He would then explain the task and what the students had to accomplish. This was evidenced in the video, when he spent the first few minutes reviewing the difference between topic and main idea before giving the students their task, along with cards that had the tasks explained on them.

As a facilitator, David had the opportunity to address misconceptions and reteach concepts during the IC, if necessary. For example, in the interview, he described an instance during one of his math ICs: *"In those times, you realize okay, for instance I remember a student when we were doing the math one, I had to beam him back into the planet, because he was completely off. I had to redirect him. And I remember I told him… you know the stage, lights, the curtains go down and it's like, okay, let's go back to this. And then we break it down… let's spend the last four minutes going over the strategies for this day and reteach it."* In the logs, he provided an example of addressing the following misconception in one of his Science ICs: *"The idea that breaking a magnet creates other N & S poles on the broken pieces, as opposed to their initial idea that it would only be N or S."*

This was further evidenced in the video. David prompted one student: *"What's sequence?"* to which the student answered, *"The sequence is a problem and solution."* David gave the answer a disapproving look and after giving the student some time to

think about it he asked again, giving a hint: *"What's sequence in text structure?... Cause and effect is one type of text structure. What's the sequence of things?... Remember there's fiction and nonfiction. In nonfiction, the text structure is, there's compare and contrast, problem and solution, there's description, and then there's one called sequence…"* Then he opened it up to the whole group: *"What's sequence?"* One boy answered: *"Sequence is the order the events happen in— the first, then, after, last, finally, and that's the sequence of the story."* David replied: *"That's sequence. So here's it's telling you, give an example of sequence within this…"* In this example, David was able to address misconception that "sequence" and "problem and solution" were the same thing and reteach the actual meaning, with the help of other students in the group. Later in the video, he brought in the example of a cooking book to represent sequence as applied to their everyday lives.

The IC also provided a space for David to informally assess his students. This was evident across all three data sources. *"That was one of the pluses… the informal assessing that you could do because you could hear…"* he explained in the interview. He used a chart that he would keep notes on. Here he described using the chart to assess key vocabulary terms: *"I would always have a chart… and if they got, I would check it, you know, and then that would give me an instant informal…"* In the logs, he reported: *"IC's provide a wealth of opportunities for assessment…"* Informal assessment was also evidenced in the video in the way that he intentionally listened for the academic vocabulary that students were using (as described previously in Standard II: Language and Literacy) and capitalized on opportunities when students did not understand certain vocabulary terms (as described in the paragraph above).

During the IC, as reported in the logs, David would facilitate the conversation by "*Listen(ing) to students", "Question(ing) to ensure that students respond", and "Ask(ing) students to explain their reasoning and logic".* As reported in the interview, he would also pull in students who seemed disengaged or frustrated: *"When I see this guy here and he's like 'I don't know this, like, I don't know I don't know…' it's like okay, come here, let's talk."* Furthermore, David also praised and encouraged his students within the IC, especially when they were working on something challenging: *"You've taught this complex thing… I'm giving you these tasks, and you're solving them one way working with so and so… and when I hear you say something right, 'oh I hear that. I like that, I like what you're saying...',"* he described in the interview.

This was also evident throughout the video as he facilitated the lesson. Here is an example of an excerpt where he listened to students, asked students questions, waited for a response, encouraged students to think about their work while justifying their reasoning, and encouraged students after they contributed; all while he cleared up a misconception and made a connection to their personal lives: *"He had polio…"* one student said when coming up with achievements of FDR. David interjected: *"Wait a minute, is that an achievement? … Think about it, what's an achievement?*" to which one student replied: *"An achievement is something you want to complete."* David responded "*Give me an example of an achievement that you've done in school this year…"* The students began giving examples of achievements that they had in school that year such has progressing to the next reading level and earning honor roll. *"Those are achievements. Achievements are things that you work for…"* he summarized while one student piped in, *"...things that you earn!"* David acknowledged his contribution: *"Ok*

*now, listen, he says those are things that you earned. Now it says here 'describe one achievement of FDR and give three facts'."* He read a student example: *"He went to war. Did he go to war?"* The students responded: *"No."* David continued: *"Is that an achievement? Do you think he was happy we had to go to war?"* The students replied chorally: *"No…"* David responded, *"Think about what your writing…"* In this example, David facilitated and scaffolded the conversation to help students come to a common understanding of what an achievement was and what the task was asking them to do.

Other times, David would have to redirect students who just didn't want to participate or weren't working in the activity: *"If they weren't working, I would put it on them. I would give them a little bit of instruction. Depending on what it was, I would stop them and be like okay, we're gonna have our expert conversations… I'm gonna go all the way around and everyone has to give me something different. And then I would add different things like, everyone has to give me something and it can't be the same thing as your other friend, and you're starting… they would go first,"* he described in the interview. In this way, David was not singling the student out, but still getting them involved. Evidence of David redirecting students that seemed disengaged was also present in the video. One student was playing with a marker and not listening to the other students' comments to which David asked for the marker and then asked him a question to being home back to the group's conversation.

One of the strategies David used to encourage conversation and collaboration among students was a "phone the teacher" technique. David often times gave them can actual telephone that they could use to "call him" for advice or to check their work. *"They could phone me and they can ask me a question about what I knew..."* he

explained in the interview. The idea of student being able to ask questions for advice and not the answer was also present in the video.

*"The IC gives you or it gave me the canvas to be more creative…it gave them (the students) the stage to learn,"* he said in the interview. When planning his IC, David often created fun scenarios for his students to participate in during the IC. In the interview, he described several different scenarios across subjects he implemented. In one ELA lesson, he had his students be journalists and he was the editor; in one science lesson, he had his students be paleontologists and he was the museum curator; and in one math lesson, he and his students lived on different planets and the students had to figure out several different strategies to solve a word problem, only one of which was acceptable on the teacher's planet. When asked why these scenarios worked well in ICs David replied: *"there was more time and it was they were talking instead of you know paper and pencil… one of the things that I really like that it was the idea that we're talking and getting to… unraveling these concepts."*

David noted that sharing with his students was crucial in breaking barriers so that his students were willing to participate. *"I would share my experiences to them—that was really important…when we shared those experiences, one, that barrier of 'I can be me, I can tell you what I know, what I think or what I've learned… from over here, I can bring it to the table so you have that part now, you give me this platform, where we're meeting in a group and these other people who share some of my experiences, you share my experiences. And now… you're giving me something that's not only fun, it's engaging, and it's challenging and I can really think in my own terms like how I solved problems…"* This was another example of contextualization within the IC.

*"They're talking with a purpose— that's really what it is*," he said in the interview about the IC. *"They've worked together… they talked it out, they used it with what they know, they've talked about those things with me… I've given them only pieces of it like flickering lights."* These pieces, *"like flickering lights"*, show further evidence of how David scaffolded for his students in the IC, helping them come to a common understanding.

In terms of management during the IC, David used his agreement and often referred back to it to remind students of how to participate: *"so those cases we would either go back to our agreement or, I would go back to… the rule where we have to respect everyone's voice and we all have to have a voice. I would meet them, you know, I was like, 'you said more than enough, now, everyone has to talk before you can talk again'..."* This was also evidenced in the logs when he stated: *"From early on in the school year, I practice the rule of respecting 'one voice' or allowing a person to complete their thought and having someone else provide their point of view."* In terms of the students outside the IC, David always had an independent task for students in other centers who finished early in order to avoid student interruptions during the IC time; and in the logs, he reported: *"Establishing the routines early was helpful, because it allowed me to maximize my time with students in the IC."*

***After.*** After an IC, David reflected back on the IC lesson itself as well as how the students understood the content and took action steps in both areas when needed. In terms of the lesson, he would reflect on whether it worked or not and then think of how to improve it. *"Yeah, it does- this doesn't work, you know, they didn't like my character… I would change… I would think about it and look at it and see if I needed to make any*

*changes to the lesson…"* Often times for David, it was that he had planned too much or given too much information at once for his students: *"…that's something that I had to do a couple of times where like, they were looking at me like 'you're crazy… how did you get this teacher?' … so I made it known I'm like this is too much, I gave them too much information…when they had too many parts, it would just- collide and it was just a mess…when I realized that was happening, I went back…"* he explained in the interview. It was evident that he not only reflected on the IC lesson, but adjusted future lessons based on that information.

In terms of the students, David first looked at his notes that he took during the IC and identified the students who were struggling with the given concept: *"…the informal assessing that I was doing, so remember I was keeping track of a lot of those things in the IC. I would either circle the names of like students that were completely lost… put a check on their name, star on their name…"* Then he would either call the student back and talk to them to address the misunderstanding or tailor the students next task to address the specific issue that the student was struggling with. This was accomplished by either giving them a specific task with the support of resources or partnering them up with someone who understood the concept and could assist. *"If I could conference with them… I would talk to them, or I would give them a piece of assign- like in one of the other stations. I would say, I want you to do seven, eight, and ten because those were the ones that related to the issue they were having… or I would partner them up with someone who got everything…"* he explained in the interview.

**Challenges**

For David, the most challenging standard to implement was Standard II: Language and Literacy. This was evidenced in the interview when he reported getting students engaged in concepts that didn't seem to have an immediate effect on them was difficult. *"I would say this language development… because the developing the language part across the curriculum is a lot more difficult on certain subjects…"* he said. *"It's hard to engage someone who is an emerging learner of language with some concept that… isn't interesting to them because it doesn't have a specific impact or an immediate impact…"*

David noted that social studies was the area he struggled with most in terms of language development because of the standards he needed to cover. *"I'm making a commentary on social studies for third grade curriculum, but it's not something that kids (are) passionate about… these American heroes. And now I'm speaking for third grade, not fifth grade. Somebody joining the fifth grade IC might have it different because there are so many vibrant things that they are learning in history and social studies, but in third grade, and this is for me… it's hard,"* he explained in the interview. David noted that the cultural disconnect in some of the social studies standards was a challenge in incorporating language goals, specifically for his group of students. *"...is difficult and I think it's because there is such a 'why am I learning about this guy from…?' like cultural differences… If I am going to get in this language, this academic language… like diligence and cooperation and justice, using things that are not familiar to them, using things that they don't see an immediate value in, it's hard."*

Some unexpected challenges that David experienced while facilitating an IC was the lesson having too many parts and the students not having enough prior knowledge to engage in the task. *"One— either there was too many parts… when there was too many parts there was a lot of confusion… two—we did not establish how much we knew, how much we needed to bring to it… my expectations were a little higher than the reality of what they knew."*

He also noted that the group dynamic was sometimes a challenge: *"The student dynamic, sometimes you had a couple of instances of where there was like students that hijacked the conversation…"* This was also evidenced in the logs when he reported that balancing participation across all students in the IC is difficult *"because some students want to control the conversation"*; and "*encouraging the students to talk"* was an issue he felt he needed more support with.

In terms of instructional challenges, issues of time and staying in sync with the other teachers on the grade level were reported. In the interview, he explained *"the time structure was very important because I couldn't have on my lesson plans 'I'm teaching this' and you come into my room and I'm teaching that from yesterday… If I over lapped it another day… I would have to be very worried about that because I couldn't get too far from the group, the grade level…"* Issues of time were also evidenced in the logs. When asked what challenges he had while implementing centers, he replied: *"Testing has broken up the establishment of a routine".* This was further evidenced in the interview when he stated: *"Do we have testing or do we have… this function because those things… were notorious. I mean they just took up too much of the time..."* Furthermore, when asked what factors impacted how many ICs his ELL students participated in, he

said: *"Some of my students are pulled out for EIP and ESOL services throughout the day and the window I have is 2 and half hours."*

**External Factors**

In terms of external factors, David reported mixed support in terms of administration and full support in terms of resources. At the beginning of the year, David stated in the logs that his principal was *"very"* supportive of his work with ICs. This was reiterated in the interview, however he noted in that the initial support *"trailed off"* after that. In addition, he reported that support from the entre administration team was not as apparent. David discussed that the *"sheer size of the school"* was a challenge in that he had fifteen third grade teachers on his team and seven different administrators. Specifically, he noted that inconsistent expectations across administrators and miscommunication among them was difficult: *"…when you have too many people telling you different things or not always, you know, where it's not consistent… it's difficult,"* he explained. David reported in the interview that his principal was aware and supportive of the project, but the other administrators didn't really have an understanding of the IC Model.

Furthermore, he discussed how one of his school's goals was to reduce variance among classrooms and he was one of two on his grade level team trained in the model. *"If you had an administrator, that really didn't know that you were doing IC, that you were-you were an IC teacher, and they had just left so and so's group and they're coming to you. And the main thing is they want to get rid of variance within the classroom, but then they're going into your room and they're like, 'wait a minute I thought you were all doing the same thing?' Well technically we are, but I mean you can't explain to them 'oh,*

*I'm doing this as an IC'…"* he said in the interview. When asked if that impeded his ability to implement ICs in his classroom, he responded: *"No, because well… it's a difficult thing… I was an IC teacher, teaching third grade. You sign me up, you know. You told me this would be something I would be interested in. I thought it was very interesting. I signed up for it, so I'm doing what I'm told to do."*

Nonetheless, David reported in the interview that the initial support from his principal was a positive factor in helping him initiate learning on implementing this model in his classroom: *"Yeah, I mean that was positive because they wanted you to do something different, outside of the box and they were encouraging and that's important for me."* He also reported that being a Title I school and having so many resources (e.g., color printers for printing images, science kits, math kits, books for everybody) was also a positive factor: *"… that was a big plus that there was resources available to us,"* he said in the interview.

**Case 4: Introduction and Context**

Case 4 was a female third grade teacher ("Olivia") who taught in a district that had a 12% ELL population and 79% of the total district school population on free /reduced lunch. Olivia taught in a school that had a 2% ELL population and 58% of the total school population on free/ reduced lunch. Olivia had 12 years of teaching experience with 3-5 years of experience working with ELLs; and her proficient languages included English. Her classroom context was described as one base in *"student directed learning"* with the idea that the teacher and students were equal*: "It's not my classroom, it's our classroom,"* she said in the interview. Olivia described her classroom as one that had a

large range of diversity in abilities represented; and therefore, she did not do a lot of whole group instruction. Olivia leaned heavily on the Montessori philosophy in her teaching and her classroom was one where choice and independence were fostered: *"I do a lot of Montessori type free choice in my class,"* she said.

**Implementation of the IC Model**

Below is a description of how Olivia implemented the IC model in her classroom. The findings are presented according to each of the standards in which this model is grounded.

**Standard I: Joint Productive Activity (JPA).** As evidenced throughout all three data sources, Olivia's classroom was organized to support teachers and students working together. Throughout the logs, Olivia reported that she *"Produced a classroom community agreement for working together"*, *"Designed collaborative tasks that require joint product development",* and *"Organized my classroom to support teacher's and student's work together"*—all which support collaboration among students. *"The only work that students MUST complete independently is assessments,"* she reiterated in the logs.

As noted previously, Olivia's classroom structure was heavily based on the Montessori philosophy and independence, free choice, and peer interaction were promoted. *"Students are free to ask for/give help as needed. Students are constantly asked to evaluate themselves and others so that the class can determine 'experts' in different academic areas, as well as classroom procedures, so that students can easily identify which of their classmates might be the most help in a particular activity. Some activities, such as JPAs, have assigned groups so that students learn to work with a*

*variety of peers,"* she reported in the logs. When asked to describe an activity that she implemented in centers that set a classroom tone of collaboration and valuing relationships among students and the teacher, she replied: *"The students get to self-select the activities they do and when they do them. We have spent the last month establishing our norms and procedures and this week, it was amazing watching students freely choose which activities they were doing, whom they were doing the activities with and when they do them."*

One of the first things Olivia did in order to organize a classroom that fostered a classroom conducive to collaboration and conversation was create a classroom compact together with her students. *"So at the beginning of the year, I say to them 'one thing that's important to have in a classroom is a place where you feel safe, a place where you feel welcomed and a place where you feel ready to learn.' And then the students work in groups to come up if we want our classroom to be safe, what does that mean, what do students do and what do teachers do. if we want our classroom to be welcoming, what do students do, what do teachers do… and then they come back together… and then we try to group them into different big categories,"* she explained in the interview. Breaking up the roles of the students and the teacher within the agreement allowed her to keep the students accountable and for the students to hold her accountable. *"Everybody signs it and sometimes it gets altered during the year..."* she added.

Use of a classroom agreement was also evidenced throughout the logs when she reported that her classroom agreement was *"A joint product of teacher and students", "Signed by all students", "Signed by teacher",* and *"Displayed and visible in the classroom."* Furthermore, she noted that the agreement was important in helping her and

her students achieve their goals in the classroom: *"I believe the whole agreement is important! It lays out what is important to us as a community and the roles and responsibilities that we have to follow in order to achieve our goals."* Nonetheless, she did point out that the agreement is only helpful if it is referenced and used throughout the year*: "I believe that the classroom must be a place where students feel vested in what they are doing— the community agreement impacts this, but only if it is referenced and reviewed, not simply posted on the wall after it is created."*

Group work was an integral part of Olivia's classroom. She had students in groups of five on a 20-minute rotating schedule through different stations, where each had their own area in the room, with one of them being the IC. Some of these stations involved independent work and others involved partner games; therefore, within each group, she assigned each student a number and students would be paired up within their group. *"So on Mondays, numbers one and two might be partners and three four and five might work together…"* she explained. *"So you have some sort of math games that you're playing and your partner changes every day but within those five people…"* The use of centers and group work was corroborated in the logs when she reported that when she was facilitating an IC, other students were working on *"JPAs, partner games, computer, partner reading, independent reading, independent writing"* and that she did centers *"five"* days a week. Group work was also evidenced in the video when she was facilitating an IC with a group of five students who were working together to solve a math problem.

In terms of grouping, Olivia described her strategy as *"nuanced"*— not quite heterogeneous and not quite homogeneous. In the interview, she elaborated: *"It's going to*

*be some low with some low average, some low average with some high average, some high average with higher than that; and so that way they're all working on the same skill or standard…"* She attended to a variety of factors when grouping her students. Depending on the activity, Olivia grouped by *"friendship"*, *"mixed academic ability*", "*homogeneous academic ability*", "*mixed language ability*", *"homogeneous language ability*", "*project*", "*gender*", "*interests*", and "*random assignment*", as evidenced in the logs. Here is an excerpt from the interview where she explains her thought process: *"If I group all those (the lower) kids together, when they go to play a game, they are likely to be more off task because they might not completely understand what they're supposed to do… so if I'm looking at a group of ten kids… I say okay, out of these ten kids, I need two different groups, then it's easier to see like okay, 'Bobby', is kind of a real centering focus for these other two people and they're gonna mesh together…"* Olivia like to put a mix, but a mix within a range where the students were able to engage with one another on a similar task: *"I don't necessarily want my high gifted kids with my lowest kids because the ones who catch on to the work really quickly they're just going to do the work for the others ones and so then I want them to also be challenged…"* she noted.

In terms of timing, Olivia didn't begin her independent groups until usually a month into the school year, in order to increase on-task engagement while she was working with a group. *"After we've learned how to work together as a community, it's usually about a month into the school year before I'll start small group lessons because everybody needs to be able to function independently— I can't start a small group lesson until I know that everyone who's not in the lesson is going to be on task,"* she said in the interview. In terms of management, Olivia used a signal at specific points to let her

students know how much time was left, when to clean up, and when to transition to the next station. *"A signal is given for 1 more minute, a signal for cleanup, a student counts down and the other students transition silently to their next work area,"* she said in the logs.

**Standard II: Language and Literacy Development.** Several strategies were identified in relation to how Olivia implemented the standard of language and literacy in her classroom. Some specific ways included previewing upcoming vocabulary, using visuals, a consistent focus on vocabulary words in the context of student learning, praising students use of vocabulary words across all subject areas, and incorporating students' home language into the classroom.

Olivia was very explicit and intentional about previewing upcoming vocabulary words using both words and images. Before doing any shared reading with her class, Olivia would put selected vocabulary words on the board with the definition and a picture. *"As we would read, there was vocabulary words we'd be focusing on… so I had those on the board with the definition, and before they'd start reading, I'd say, okay boys and girls, our vocabulary words for the day are… and then I'd have a picture,"* she explained in the interview. She would preview these before the students started reading and then students would listen for those words as they read together. A selected student would ring a bell when they heard it during the story, and the class would examine how it was used in the context of the story. *"When they hear the word… that person rings the bell and then we would stop and look at how it was used in the sentence… and then we look at it in context,"* she said. Olivia explained that often times, their read aloud texts were related to science or social studies. This is evidence of a focus on vocabulary in

context across the curriculum. Furthermore, if future vocabulary terms came up naturally, she would point them out to students, tell them it will be one of their words coming up, and make a big deal about them.

In the IC specifically, she would introduce pertinent vocabulary at the beginning of the lesson. *"At the beginning of the group, if there's going to be a vocabulary word that I know is going to show up… I'm gonna introduce that word,"* she said. Here she gave an example of an IC in Math: *"In math, it might look like 'today we're talking about quadrilaterals' and I'm gonna write down the word quadrilateral and we're going to draw a picture as an example…"* In addition, she would also use this space as a way to assess, reinforce, and review past vocabulary terms. This was evident in the video when she introduced the words "strategy" and "operation" at the beginning of the IC.

In planning for her activities, Olivia tried to have visuals for her students to manipulate when working with heavy linguistic content. For example, in the interview, she discussed an example of a math concept heavy in vocabulary: *"So we talk a lot about sets of parallel sides, so it's a really linguistic heavy unit and it can be really hard to see a rhombus and to be able to define it and say 'it has two sets of parallel sides, all sides are the same length. Your angles can either be 90 degree angles or acute and obtuse- two obtuse and two acute angles...' There's so much vocabulary that's there."* Therefore, she created a JPA that had both visuals and words to help students work with that content. She continued: *"So, during a JPA, I would have like a station where they would have a shape and then they have those attributes already written out on cards and then they have to match them and then there'd be master, some sort of key where they could, and use the key to check what they have matched."* Use of visuals to support language and literacy

across the curriculum was also evidenced in the logs when she reported *"Use vocabulary aids such as graphic organizers and pictures"* as a strategy to promote second language acquisition. And in the video, Olivia had a T-chart poster she used to organize the different strategies and their corresponding operations that she pulled out several times during the IC to help the students in their understanding.

Olivia was also very intentional about focusing on vocabulary words in the context of the students learning. Olivia likened it to *"the natural stuff about teaching."* In the interview, she gave the following example: *"Where you're talking and it's like 'Wait—what do we call that? When things are in rows and columns, dots…' and then someone would say 'An array' and then you say, 'Okay, so can you show us what an array is? And then write that word down?'"* And in the video, she paused to explain what the word "diagram" meant: *"A diagram is just like a math picture…"* she explained.

*"I tend to follow a Montessori philosophy of having very few things around the room to allow children to focus on their work that's in hand..."* she explained in the interview. Therefore, she did not have any word walls posted for her students. Nonetheless, she was very intentional about pointing out vocabulary words in context and creating an environment where students were constantly looking for and using them in their work. When they used or noticed vocabulary words, Olivia would make a big deal and praise them: *"If someone picks up on those words, then I'm gonna make a big deal about it... so it's kind of like the praise that you would get…"* She used a strategy called *"vocabulary detectives"*. With this strategy, she would have certain words, often times past vocabulary words or ones that she's previewed for future standards, that she had her students be on the lookout for. When students would find one or notice one of the words,

she would make a big deal and praise them for it: *"Oh that human dictionary— did you hear how she used that word, you know, that's amazing!"*

And in general, she would make a point to preview vocabulary terms that she knew would be coming up soon, if they came up in an activity prior. "*So let's say that I know that we're going to hear the word 'adaptation' in science in December and we read something on it in September, and the word adaptation shows up. I'm gonna say it to the class, something like adaptation, in three months, we are going to be studying adaptation, and I'm gonna be looking for who can remember that word…"* she explained in the interview. And every time a student noticed that word, she would make a big deal about it: *"(Gasps), Adaptation! Can you believe it? She saw the word 'adaption'! Let's all say that…"* Use of praise was also evidenced in the logs, when she reported *"praise students for talking"* as a language lever she used on a regular basis.

Furthermore, Olivia modeled and made her students metacognitively aware of proper language expression in both speaking and writing. *"I constantly model using complete sentence… if someone says something when they go to answer a question…you're constantly using, whether it's in writing or in oral answers, using complete sentences,"* she explained in the interview. This was reiterated in the logs when she reported: *"Developed student's literacy and academic language expression in speaking and writing"* as a strategy she used in her classroom; and "*give students instructions both in writing and verbally; allow frequent opportunities for conversation"* as ways to promote second language acquisition. Furthermore, she reported implementing *"Activities that focus on synonyms and antonyms"*, "*Lessons about word roots/prefixes and suffixes"*, *"Lessons on how to use context clues to determine word meaning", and*

*"Lessons that encourage students to recognize similarities between home language and English"* in order to help develop her students' metalinguistic awareness.

Lastly, incorporating students' home language was another strategy she used to focus on language and literacy across the curriculum. As stated above, she used students' home language to draw similarities to the English language. Furthermore, Olivia reported in the logs: *"Using texts that are in both Spanish and English"* in her classroom. For her ELL students specifically, she would create a vocabulary journal that she would have them add words to as they learned them, as well as write translations of those words into their home language. Olivia would either have them write the word right away during the lesson or complete it after, depending on the activity. *"If the person is starting to be fluent and they're really going to miss something during group time by writing down a vocabulary word, then I'd have them do it when they're not with me,"* she explained in the interview.

**Standard III: Contextualization.** Several approaches were evident across data sources for how this teacher contextualized her instruction. These strategies included getting to know her students; providing opportunities for her students to share about themselves, their prior knowledge, and their cultural backgrounds; creating common experiences; making meaningful connections to support learning in the classroom; and asking, intentionally listening, and using that information in her teaching, both in the moment and in future lessons.

It's all about knowing your kids, she noted in the interview: *"…getting to know, like those interests or backgrounds, you know kind of the cultural diversity, inviting their families in umm, getting to know other students…"* Olivia provided many opportunities

for her students to share through conversation, allowing them to share with each other, and inviting in speakers to share in order to learn about and incorporate her students' home and community funds of knowledge into her teaching. This was further evidenced in the logs when she reported that she *"provided opportunities for my students to discuss/learn about their cultures and backgrounds"*. One opportunity she discussed was having guest speakers, and sometimes the students themselves, share about their cultures. This was evident in both the logs and the interview. In the logs, she reported: *"Every time my class reads 100 books, I am bringing in guest speakers from around the world to take us on 'virtual field trips.' My class has students from the US, Asia, Africa, Central and South America, so I would like us to all learn about each other."*

*"We openly talk about students' cultural diversity. Students have opportunities to share specifics about their culture. For example, students who are from another country or have family members from another country take the rest of the class on 'virtual field trips' where we learn about their culture,"* she noted in the logs.

She also provided opportunities for her students to share prior knowledge in order to activate students' learning processes and make learning new content more meaningful. In the logs, she reported: *"At the beginning of almost every lesson I allow students to share their prior knowledge of the topic to help them build background for what we are studying. This often helps them to better contextualize what they are learning about."*

Olivia created common experiences for her students in the classroom through her classroom gardening project, that she often used as a way to contextualize lessons and make them real for her students. *"I'm a big gardener and so we go outside and we do a lot of gardening outdoors. And then when we start working with perimeter and area…*

*they get to design their own garden. So they get to pick out the kind of plant they want, they design their plots, their figuring out…"*

*"And then we do a ton in the garden also, so that's like, our class contextualization… We have our crops that we planted and we look at, you know, just so many different things and science with that and with math, so that it's like kind of having a framework that becomes us…"* she explained in the interview.

Even when teaching processes, Olivia contextualized her instruction. For example, when teaching her students how to have a respectful conversation supported by evidence, she connected it to the concept of arguing: *"In the beginning of the year, when I start with my IC groups, I always say in our groups 'we're gonna learn how to argue with each other. Do you guys like to argue? Do you have brothers and sisters you like to argue with? And they say 'Yes.' Well we're going to learn how to respectfully argue because sometimes it can help our math thinking… it can help us to grow as mathematicians if we can prove why somebody is wrong,"* she explained in the interview. Here she connected "proving your answer" and "supporting what you say" to "arguing", a concept that her students were familiar with. Furthermore, when focusing on vocabulary in context (as described above), she had her students be *"vocabulary detectives",* which was a way to make finding vocabulary words real and meaningful to them.

When talking with her students, Olivia was intentional about listening to hear their insights of what they liked and about their lives, so she could capitalize in the moment. Here she gives an of contextualizing a lesson example in math for students who played football: *"Some play on sports team, you know, you say, oh, you had you football*

*practice so think about it, so how many points do you get if you're out there, you know you get six points and then one more, you get seven so if, two people have scored, how many points did you get for your team?…"* She used knowledge and connections that her students brought in as examples in her lessons: *"I remember one of my students, she started talking about Rickshaws. And she said Rickshaws have wheels of three, you know. And so then it becomes like an example for that. 'okay, if there's three rickshaws, how many wheels would it have?'…"* she said in the interview. And she also allowed students to contextualize for each other: *"During a reading IC, the students discussed the different points of view of a scientist and a citizen experiencing an earthquake in Mexico. Two of the Hispanic students in the group were able to translate others comments into Spanish and we recreated what citizens may have been saying (in Spanish and English) during the earthquake,"* she reported in the logs.

Sometimes she was explicit about asking them during the lesson, so that she could make meaningful connections. In the interview, she gave an example: *"You just talk about it to them. Like you're sitting in group and you say, 'Okay, so we're solving multiplication problems. Who likes to play with Pokémon cards?'… 'Oh I do' … Okay, 'Who has something else that they like to group together when you're at your house?' So when you start talking to them and listening …"* This was also evidenced in the logs. When asked how she learned about your student's cultural background, home and community, she replied: *"Asking and listening!"*

Olivia planned for contextualization on small ways such as putting the students' names in problems within the context of the lesson. *"There are future examples like on, you know a problem sheet, I might put that kids name in, you know, 'Rick' was… at his*

*basketball game and he scored four three pointers…"* she explained in the interview. This was also evidenced in the video when she used the students' names in the group in an example when trying to help them figure out a similar word problem figuring out which item was "the lightest".

**Standard IV: Challenging Activities.** Promotion of higher order thinking was evident in Olivia's classroom across all three data sources. Examples included intentional differentiation, the use of questioning and teaching her students to question, the expectation that every answer needed to be supported, allowing for multiple solutions to a problem or multiple strategies to get to an answer, and giving her students the space to work through problems on their own.

Small group instruction was one way that allowed Olivia to differentiate for her students, and intentional grouping was part of that. Olivia was attuned to the levels of each of her students and how they were progressing; and she grouped in a way that was positive for their academic growth. *"Let's say we have a kid who academically performs in the 80th percentile working with a kid who academically performs in the 90th percentile, that's gonna work well for both of them. But if there's a kid who performs in the 90th percentile working with a kid who performs in the 20th percentile…it's too large... Now a gifted student helping someone who's just below them to me is helping to kind if solidify their learning, but if a gifted student is teaching someone who's like way far lower than them, I don't think that's fair to them, because… like how are they actually progressing?"* she noted in the interview. This was also evidenced in the logs in the way she intentionally grouped her students in order to meet the varying needs in her classroom (as discussed previously in Standard I: Joint Productive Activity).

Olivia constantly questioned her students to explain their thinking: *"That's just a normal part of everything that we do in the class, like 'Why ?Well why did you…?'…"* she said in the interview; and she consistently expected her students to support their answers with evidence and prove their answers. *"You can never say something without supporting it,"* she noted. This was evidenced in the video when she said: *"I'm looking to see if I see evidence of a strategy and I'm looking to see if you used the operation that matches what's happening in the problem..."*

Olivia would not allow her students to simply agree or disagree with each other, they had to give a reason why. This was evidenced across all three data sources. "*You can't just say 'I agree with her'… 'I agree with her because I know that…' and then you have to explain what it is…"* she explained in the interview. Evidence of this was also present in the logs, when she reported: *"During the IC, they are constantly building their knowledge and arguing (discussing:)) with each other to prove their point."* And in the video, one student said, *"I agree"* and then continued on in his answer. Olivia interjected and said, *"Hold on just a second. What is it that you are agreeing with?"* to which the student responded, *"What she just said*." Olivia continued to push the student: *"Which was…?"*

Asking students open ended questions allowed Olivia to see how her students were understanding a concept and allowed her to differentiate her teaching: *"When students respond to open ended questions it allows me to better gauge their level of understanding. This allows me to move the conversation in different directions,"* she said in the logs.

Olivia also taught her students how to question each other. This was evidenced across all three data sources as well. She used question cards that modeled and prompted them to elaborate on their thinking. *"Also, my questions cards… 'tell me a little bit more about…'... They start asking each other, you know, 'Will you tell me a little bit more about how you found that out…' And so they're forced to explain their thinking,"* she explained in the interview. *"And not just me questioning, they learn how to question each other... I teach the kids to do it to each other,"* she noted. Evidence of this was also present in the logs when she reported: *"I give more students an opportunity to respond to each question, as well as many opportunities to question each other."* And lastly, this was evidenced in the video when one student said *"I agree"* and another student looked at him and promoted, *"Why do you agree?"*

Furthermore, Olivia was intentional about modeling for her students how to defend one's position and give a detailed answer. *"It is embedded I who I am as a person… I explain why constantly… and any question that my students have, they're going to get a detailed answer from me,"* she explained in the interview. Olivia taught her children to question in order to illuminate facts. In the interview, she gave an example of a social studies lesson: *"Thurgood Marshall was the first African American supreme— that is a fact. Why? Why was he the first? Why wasn't someone there before him?";* and another in science: *"If you're learning about something in science and you have an experiment— like learning that there's no right answer for something— you have an expected outcome and then the outcome didn't come out as it was expected to. What does that mean? Does that mean you did it wrong? Maybe. Does it mean that the experiment was flawed? Maybe…"*

Olivia often gave her students problems where multiple answers of solutions were possible. One example she discussed in the interview involved using the classroom garden as a grounding point in a math activity, where students were given a specific area of the garden (i.e., 24 square feet) and they had to work with a partner to create their own garden bed. Each bed could be different in terms of how it was created and how much of each plant was planted, but all groups had to create a 24-square foot garden area. *"They're challenge might be, okay, 'for your garden bed, you're going to need to have an area of twenty-four square feet for every one of your garden beds…' … they can all be different but they have to kind of create that."* And when there were single correct answers, Olivia focused on multiple strategies for arriving at said answer. *"Although math problems do have a 'correct' answer, my ICs focus on the many ways that students can arrive at a correct answer…"* she reported in the logs.

When students were engaged in arguing back and forth trying to make their point, Olivia did not jump in to give the answer right away. *"If I'm trying to jump in all the time and explain why they're wrong, or what where they're mistake came from, then I don't think they'll really understand it as well,"* she explained in the interview. Nonetheless, if she saw that the students were all not understanding a concept, she would interject and clear up the misconception: *"Now there's sometimes where I'll see gross conceptual errors in a whole group and then I'll say, 'okay boys and girls, I need you to stop talking right now. I need you to stop arguing with each other. I can see you're confused about something, I want you to listen to me for a few minute. I'm going to explain this'."*

In sum, Olivia said the following in relation to how she incorporates higher order thinking in her classroom: *"Always, always question and get kids to question. Never let*

*anybody give you an answer that they can't prove it with a point… and if they can prove it, they have to find the resources to do that. You have to have things to back up your thinking. You have to be able to explain critically why it is and you need to teach kids to be able to argue with themselves to prove themselves right or wrong… you should be able to have the flip sides of everything, whatever lens you're looking through…"*

**Standard V: Instructional Conversation.** As noted previously, the fifth standard is both a focus on teaching through conversation as well as an actual way of conducting a JPA with the teacher present to lead a concrete "Instructional Conversation", or an "IC" as it is referred to in this model. The IC is a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal that incorporates all five standards. The findings below will describe how Olivia implemented ICs in her classroom, with a focus on what happened before, during, and after. The data for the Before and After sections came mainly from the interview, unless otherwise stated.

***Before an IC*.** Olivia attended to several things in order to prepare for an IC, including preparing her classroom structure, preparing the students, and preparing the lessons. To prepare her classroom, Olivia had her station rotations set up that allowed for small group instruction to occur which made it possible for her to run an IC. She also set up the physical space of the room: *"…having the physical space, so of having, you know, a table for… sometimes we would meet on the floor…"* she explained in the interview.

To prepare her students, creating a classroom agreement was key in the beginning: *"…when we first start, like during august, through the class compact…"* she reiterated. This classroom agreement gave the students the guidelines and structure to

work independently; *"…and then in September when we actually start doing small groups, you know we talk about you're gonna have be having conversations,"* she continued. Next, she taught her students how to have a conversation, or *"respectfully argue",* as she called it. Olivia went over conversational norms (that were separate from the classroom agreement), introduced cards with sentence starters on them, and modeled for her students how to participate in the IC. *"We go over the norms what that's going to look like and we start with the cards, learn the different statements of course by the end of the year they have no cards in front of them, they're using those things on their own…"* she said. *"It's just the modeling the using the cards teaching them umm how to participate"*

To prepare the lessons, Olivia thought about the standards she needed to cover, how she was going to teach it, what her students already knew about that concept, what she might need to adjust for her students, and other things such as what materials she might need. *"… the content, figuring out how to teach the content and what they already understand about the content, and what needs to change… what actual materials I would use in this…"* she said in the interview. For Olivia, planning lessons that had items for her students to manipulate worked best. Here she gives an example for an ELA lesson: *"I think some of my most successful non-math ICs came from having things they can manipulate like that was something I learned over time like let's say that we're learning about cause and effect umm having like slips of paper, prepared that have causes and effects and then they actually have those things and then I say, you know talk with each other about which one of these are gonna be causes and which ones are affect you know and they're actually moving the papers and things around…"*

She discussed in the interview that for math, she always had manipulatives or white boards for the students to use; but in reading, she started out just having conversations. *"But then I realized that while we were having some good book discussions… we weren't actually hitting the standards that I wanted to teach specifically,"* she explained in the interview. She noted that often times having her students write the words took too long and just talking didn't allow her lower linguistic students to fully participate, so having things pre-prepared for her students to manipulate during the IC worked best for her. *"And it helps your kids with more energy like to have something to focus on instead of just a conversation,"* she noted.

Lastly, she reiterated the importance of having a classroom structure that supported this type of teaching. *"You have to build— I mean that first two months of school— like building the entire structure of what it's going to look like… I think it all falls apart if you don't have that,"* she said.

***During.*** As reported in the interview and reiterated in the logs, Olivia had ICs in her classroom every day: *"I mean I did it with them every day,"* she said in the interview. Although she conducted ICs in all subject areas, math was the most consistent in terms of consistency of use and structure, where she met with every child. *"The area that I was most faithful to IC was probably math… I think that's because my math groups were more steady than some of my other groups… I do IC in them, but… I didn't fully set up the structure…"* In terms of timing, Olivia reported that it took about two months to get her classroom set up to where ICs were running smoothly. *"It takes two months I think to get ICs fully functional,"* she noted.

When Olivia first started implementing ICs, she explained to the group about how the IC was different from other small group teaching: *"When we first start working the small group, I say 'Well, when we come to work together in math, it's not going to be me teaching you something and you doing the worksheet… We're always only going to have one piece of paper on the table at a time or we're going to have one white board or one set of materials…'"* Then she developed a set or norms for the IC that were separate from the Classroom Agreement. *"And then we make a list of kind of rules, you know…"* she explained in the interview.

When she started her group work in the beginning of the year, Olivia would tell her students that they were going to *"learn how to argue"*. *"When I start with my IC groups, I always say in our groups we're gonna learn how to argue with each other. Do you guys like to argue?..."* As described previously (in Standard III: Contextualization), she connected the idea of having a conversation supported by evidence to having an argument with siblings. *"Remember we're learning how to argue with each other respectfully we wanna support what we're saying,"* she would remind them. *"I think it is my job at the beginning to teach them. I always say, 'quiet people need to talk more, talkers need to listen more',"* she elaborated in the interview.

In order to teach her students how to have a conversation and encourage them to talk with one another in a respectful way, Olivia used sentence starter cards with her students. *"I had these cards… this is something that really helped a lot with the conversation and so there are conversation starters…"* she said in the interview. Olivia had several copies laid out on the table that she would reference, model, and encourage her students to use throughout the IC. *" I agree or disagree with you because… and so a*

*lot of times I'll say, 'Okay, boys and girls, I'm going to set this card out and I want you to remember that when we're having a conversation, these are some words that might help you get started with your thoughts…'"* she explained. In the beginning of the year, she would introduce one sentence starter a week, in order to let her students get comfortable practicing one, before introducing another. *"…let them get familiar with that for like a week, and then I might put out a card that says something like this… and I would have both cards out. And say 'Remember last week we worked with the card and we talked about how we can have respectful conversations…"* she elaborated in the interview. And in the logs, she reported by mid-year that *"My students are constantly arguing with each other - in productive ways :) They have realized that disagreements bring learning and our ICs are very vibrant because of this."*

At the beginning of an IC, Olivia would explain the goal of the lesson, preview pertinent vocabulary, and review or teach any pertinent material. *"Most ICs would start with three to four minutes of teacher directed something— either reminding or introducing or being kind of explicit…"* This was evidenced in the video as well when she made a point to discuss the difference between "strategies" and "operations" at the beginning of the IC and review the two strategies they had already covered before introducing a new one.

Olivia saw her role in the IC as the facilitator, keeping her students focused on the goal or standard(s) for the task. *"I think my role is to be a facilitator. I think my role is to keep them on track and to help them learn how to keep each other on track…"* If her students started to take the conversation in a different direction, she would redirect them towards the goal, but she would also a note their interest and try to find another time to

work that interest in to her teaching. *"If I have a group with a couple of people who attempt to take things off and start exploring in a different direction, sometimes I have to say, 'Well, we'll see if we can find a time to talk about that later.'... I might find something separate for somebody to work on at a different time if I can see that they have an area of interest,"* she said in the interview.

One strategy that Olivia used to manage students who consistently tried to take over the conversation was a type of spending system to help her students self-regulate their own participation. Olivia would give the student three cards and he or she would have to slip them to her under the table, as not to distract the others, whenever they wanted to contribute to the conversation. *"Some kids I'll give little cards to and I'll say, 'You have three chances to spend these.' It's not in a public way. I'll say, 'Slip me one under the table when you want to take a turn in a conversation…'"* Another strategy she used was teaching her students to count to ten in their heads before sharing their thought. By teaching them to increase their wait time, the more talkative students created a space where the quieter students could contribute without shutting her talkative students down. *"Sometimes you might feel like you're the only one who has an idea, but I want you to count to… I'll tell them count to ten in your mind, my talkers… Because if you just tell your talkers, 'you can't talk,' then they'll just sit there. And sometimes the group needs those talkers. So I'll say count to ten in your brain and if no one else has said something, then you can share your thought. In that way they're learning to give someone wait time…"*

For her quieter students, Olivia would model bringing these students into the conversation and try to get other students to do the same. *"I try to get them to*

*acknowledge… like the quieter ones. I'll start off by saying you know, 'I see Bobby hasn't said anything, you know, Bobby, what do you think?...'* This was also evidenced in the logs and the video. When asked how she balances participation in IC activities, she reported *"I occasionally remind a student that they are speaking a lot or ask another student to share... the students also do this with each other because I modeled it a lot at the beginning of the year."* And in the video, she intentionally asked one student who had been quiet, *"What are you thinking?"*.

She made a point to clarify that she often asked the students why they were not participating, so that if it was a misunderstanding, she could address it. *"I usually ask the kids, 'Are you being quiet because you're confused or are you being quiet because… everybody else is jumping in so fast you haven't had a chance to say something?'"* she noted in the interview. This was further evidenced in the video when she checked in with a student who had been quiet during most the IC: *"Laura, you were really quiet today, are you confused about what you're understanding?"*

Other roles that Olivia took on during the IC was that of listener and evaluator. *"My favorite thing about an IC… is that it helps me to understand what they don't know…"* she explained in the interview; and times when she realized that her students did not understand something, she would address those misconceptions, either in the moment or in future lessons. *"It's my job to pay attention to where their misunderstandings are and to address that. And that might mean addressing that right then in the moment, it might mean changing my lesson for the next day to go back and find something to fill in the hole…"* she said in the interview. This was also evidenced in the video. The students were struggling with how to answer a certain question. Olivia

interjected to help the students understand: *"If it's asking for 'blank kilograms', is it asking for the name of the basket or the weight?"*

Olivia's role as listener and evaluator was also evidenced in the logs when she reported: *"ICs allow me to really 'see' inside my students' minds. As I listen to them converse, I am constantly assessing where they need support with language and thinking"; "It (implementing ICs) gives me a chance to listen to students. This enables me to better evaluate their abilities and guides my instruction"; and "provided prompt, corrective feedback that informed and guided students' content understanding"* as strategies she used in her classroom. Nonetheless, as noted previously (in Standard IV: Challenging Activities), when students are engaged with a problem within the IC, Olivia allowed them to struggle through the problem with minimal input when appropriate so they could figure it out together, rather than just telling them the answer. *"I love watching ICs because they get in the middle of it and they start figuring out, they're confused or you start seeing the light bulb go on… sometimes through the help of a classmate, and sometimes not… but I think that that helps them… to see outside themselves,"* she described in the interview. Furthermore, Olivia also saw her role as a model in the IC: *"So each day they are working with me… something in group, I am modeling how to do it…"* This was evidenced in the video as well when she held up a white board and worked through a similar problem to help them in the process of completing the given task.

At the end of an IC, Olivia would summarize and then prepare her students for their next center activity. *"I'm just usually reminding them of what they've learned. Or if they were doing a partner activity that was related to the task (afterwards), I'd show*

*them what they were doing and ask them how what they did together in group would help them be able to do it with their partner,"* she explained in the interview. This was further evidenced in the video when Olivia summarized the lesson they had been working on: *"Math problems are called story problems for a reason. They tell a story and you have to imagine what's going on…";* and then instructed them that they would be working on similar problems in their independent JPAs and that they needed to come to group tomorrow having used some of the strategies they discussed during the IC: *"Tomorrow when you show up at group, you need to make sure that you have pictures or tables that go with each problem…"*

Olivia would also take mental notes during the IC. If she noticed that the lesson she had planned was not accessible to a particular group of students, she would stop the lesson and change it for next time. *"If we're sitting there in the IC and I can see that they're not getting something… sometimes I'll stop them and I'll say, 'I need some time to prepare something else for you guys, I can see you don't understand this and I want to be able to help you better…'"*

Additionally, Olivia noted that the norms and conversation skills she taught in the IC overflowed in to other classroom interactions outside of the IC. *"When I originally start off talking about IC, it's only within the group and then that context spreads to like their partner work where they are dealing with people…"* she said in the interview. This was also evidenced in the logs. When asked to describe an instance when ICs had an impact on cooperative learning in the classroom, she reported *"By using some of the conversation starters that they have become accustomed to using during ICs, I have seen several instances where students are respectfully disagreeing with each other about*

*academic content."* Furthermore, during the IC, when other students are working in their independent stations, Olivia often had to manage the noise level of the other groups because they were "respectfully arguing" with one another. *"Sometimes I'll hear them arguing often because it'll start getting loud and I'll tell the class, 'This is so wonderful, I hear two people respectfully arguing with each other. Can you please turn your argument down a little bit?'"* she noted in the interview.

Olivia also discussed in the interview that the way one groups their students when having ICs is important, especially for those students working in independent stations without the teacher. Not only did intentional grouping allow her to work with her IC group, but it also helped facilitate maximum engagement with the task for the students who were on their own. *"I don't necessarily want my high gifted kids with my lowest kids because the ones who catch on to the work really quickly, they're just going to do the work for the other ones. And so then I want them to also be challenged, so that's why I kind of have to divide it… the part where they're working with me, it really, it is not as important as their independent work time, they're groupings."* Olivia noted that by facilitating an IC, she was able to adjust her teaching to the students emerging needs as they came up; however, this was not the case for her independent groups. Nonetheless, by grouping intentionally, she was able to increase the value of that time for those students. *"Because with me, I'm able to manipulate move things, you know I can move the conversation. I can pull the ones that are gifted and remediate (those who are behind) you know I can do all that at the same time. but when they're on their own, I don't want their time just to be valuable for the twenty minutes there with me… I want them to be valuable in the other parts too."*

***After.*** After an IC, Olivia engaged in reflection, thinking about her lesson and what she needed to do for next time. *"Right after is, where do we need to go next from this? Do I need to meet with them again?"* For Olivia, writing down her ideas did not work: *"They're mental,"* she said. Then after school or during her planning time, she would think about what she needed to change or prepare in terms of lessons or activities for her students for the next time so that they could better understand the concept: *"…after school or when I have my planning time I'm gonna think like okay, man they, you know, we're totally not understanding the relationship between area and perimeter, umm, what do I need to prepare to help them be able to do this…."*

In terms of the students, it depended on the subject as to what they did afterwards. In math, her students completed an independent JPA. *"After math ICs, they do a math JPA together,"* she reported in the logs. Then the following day, Olivia would start the IC out by reviewing their independent JPA work and moving from there, depending on how the students handled the task. *"And then the next day at math group, when they come back, they bring me what they did together and then we look at it. And sometimes it might be as quick as I take the two groups work, scan through it, look at it 'you guys did great, we're moving on',"* she explained in the interview. This was also evidenced in the video when she began her IC by reviewing the previous day's work: *"Ok, so this is your work from yesterday… What did you think about it?"* In instances when students did not fully understand the task, she would readdress the concept: *"Some days it might be look through it like wait a minute, let's all analyze this group's work, you know. If something where they went off, can you guys talk together about (that)…"* In terms of structure, Olivia said that she would meet with her highest group last so that they would have their

follow up JPA the next day prior to meeting with her, rather than having a similar JPA after meeting in an IC like she did for the other groups in her class.

In regards to the formats of these activities, Olivia often had the students complete independent JPAs similar to problems they worked on during the IC that day. *"So pretty much… the format would be the same. Because through the years, I found that if you switch the format and give them something new, then that totally throws them off."* Olivia noted that keeping the format similar when introducing new content is important unless she is there to scaffold them through that. *"Then the next day in group with me, we're gonna work on the same content, a little bit different format so that they are exposed to lots of different formats for what we're doing, but not on their own."*

However, this format of having an IC followed by a similar JPA activity was only consistent in math, not in other subjects. For example, in reading and writing, her students had a choice of which center activity to complete next. "*During reading/writing… they have free choice of different activities such as partner reading, writing, independent reading, word work... The reading/writing ICs are always connected to the standard we're working on, but they do not do JPAs during our ELA block,"* she reported in the logs. For Olivia, this structure provided areas in the day where her students had choice in their learning. In the interview, she elaborated: *"I do a lot of Montessori type free choice in my class… I like to have a combination of what I'm telling them to do and them getting to pick their own things."*

**Challenges**

For Olivia, the most challenging standard to implement was Standard I: Joint Productive Activity. This was consistent across both the logs and the interview. In the

logs, Olivia reported *"Creating good JPAs"* as an issue she felt she needed most support with. And in the interview, Olivia reported JPA as the most challenging standard to implement and elaborated on the tension she felt with giving her students choice and assigning predetermined JPAs as a challenge for her in her teaching. *"I think the JPAs … I think it's because I do like them to have a lot of choice. and I felt like when I was trying to do the JPAs like something was having to give…"* she said.

One unexpected challenge that Olivia experienced while facilitating an IC was learning to let go of the traditional teacher role and sit back to give the students the space to participate, struggle, and lead without constantly jumping in right away and giving the answer or taking control. *"…just all of the sudden like, trying to figure out how not to be a teacher within the context of letting them be able to take more control over it… So I guess finding a way to be, okay with not being what I feel like is being expected of being a teacher if that makes sense… like I don't want to jump in, but that's what I'm supposed to do…"*

In terms of instructional challenges, Olivia noted that attending to such a broad range of levels in terms of her students as well as the social dynamics of conversations taking over the goal of the lesson was a challenge. For example, she described in the interview how she had some students who only wanted to be agreeable, just to play that role, and others who always wanted to disagree, just to disagree. *"I had one little girl… she just wanted to be agreeable. And I had another little boy who just wanted to be disagreeable… She'd say, 'I agree with you'. Her thoughts were all on being agreeable. They weren't on the math. His thoughts were all on being disagreeable. They weren't with the math…"* She also noted that teaching students to talk was a challenge in and of itself,

especially when coupled with group dynamics. *"I mean teaching them how to talk to each other is so hard, because they're lacking like manners, they all just want to start talking at the same time… and every group has different characteristics too. You get your one group that sits together and they're all quiet…"* In terms of behavioral challenges, Olivia reported encountering nothing out of the ordinary: *"…just the normal ones—of working with kids, hyperactivity, keeping focus—but those same kids would have had those problems anywhere,"* she said in the interview.

**External Factors**

In terms of external factors, Olivia reported mixed support in terms of administration. In the logs, Olivia reported that her principal was *"very"* supportive of her work with ICs. This was reiterated in the interview, however she noted that her administration had a very hands off approach when it came to the model. *"They pretty much let me do what I want to do in my classroom… The principal did not show any interest of finding out more about it or you know she (the coach) would go up and talk to the principal directly and say things, but they never asked me about it… The principal was (a) very hands on person, but in terms of that (the IC), I think it was like, that was a little drop in the bucket… maybe if there had been ten teachers in the school doing it, it would have been different."*

External factors that Olivia reported may have hindered her implementation of the model include time, schedule constraints, and conflicting initiatives at the school level. In the interview, she elaborated: *"…the fact that along with IC we're constantly being given other initiatives that we are supposed to be implementing in our classroom… my attention is divided from so many directions at the things that I have to be implementing*

*in my classroom."* And in terms of factors that enhanced her implementation of the model, Olivia reported that the roll out of the common core standards and the way they were written influenced her use of the model in a positive way. *"I think that the way the common course standards are written actually helped to be able to implement IC… the framework that we're working within, it kind of meshes with the being able to talk about your thinking and prove your thinking. I think really helps."*

Lastly, Olivia discussed how being the only one in her school trained in this model of teaching and the lack of community inherent in that was a challenge. *"It's really hard because… if you had a whole school who was buying in, like we did IC (but) I was the only one in my school who participated. And so I don't have a community here…"* She described how often times, being the only teacher in the building teaching this way wasn't only difficult for her as the teacher, but for her students as well: *"This is not something that happens in my classroom, but I struggle with…I actually had the gifted teacher who works with the third and fourth graders at our school say this to me, she said: 'I think your students have a really difficult time when they move onto fourth grade. Because if you teach children how to do this and you teach them how to be independent and then they have to go into a classroom that is typical, they get really frustrated. Because then, they're not allowed to do that'."*

She elaborated on how she believed in the model and wanted her classroom to be a place where her students were learning these skills, but how sometimes that went against the typical school behavior in other classrooms: *"You don't want to teach kids to go up against the system because you don't want to make their lives difficult for them. But sometimes I think when you sit in an IC, and you don't raise your hand, and you talk out*

*of turn and you learn, you know—they are good life skills, but they're not always good school survival skills."*

## Summary

This chapter presented individual case descriptions of four elementary school teachers—two third grade and two fifth grade—who were trained in the IC model of teaching as part of a larger RCT study on the effectiveness of the IC Model on ELL students' academic achievement; and whose ELL students showed significantly higher academic outcomes in reading, as compared to control classrooms. Each case description detailed, with data excerpts embedded to support each assertion, the context of each teacher, how each teacher implemented the IC model in her or his classroom, what the challenges were, and any external factors that may have affected the implementation of this model. Each teacher (i.e., case) demonstrated unique characteristics. For example, Kasey was the only teacher who had an "e-class" set up for her students to interact on using their individual "Nooks" provided for each student in her class as one way to differentiate instruction for students not engaged in the IC; Victoria was the only teacher who consistently used journaling as an integral part of her ICs; David was the only teacher who explicitly planned out engaging role-playing scenarios for his students during ICs; and Olivia was the only teacher who had her students be "vocabulary detectives" to consistently be on the lookout for past and present vocabulary words used in lessons. Although each teacher was unique in the particular practices she or he used to implement each standard and in the challenges they encountered in doing so, the following chapter will provide a cross-case analysis to identify broader themes across the

four classrooms that may aid teachers, teacher educators, and administrators in understanding and implementing the intricacies of this model.

# CHAPTER 5

# CROSS-CASE ANALYSIS

Chapter four provided a description of the implementation practices of four elementary school teachers who took part in a larger RCT on the effectiveness of the IC Model on ELL students' academic achievement. These four teachers were selected as cases based on the criteria that they showed both high fidelity of implementation of the IC model in their classrooms and their students outperformed controls in state standardized tests, particularly in reading, during the efficacy year of the study (see Portes et al., 2016).

Having examined each of the teachers individually in terms of context (i.e., teacher and school characteristics); how she/he implemented the IC model in their classroom; the challenges present in implementing this model; and external factors that may have contributed or hindered the implementation process, this chapter looks across all four cases to learn more about the complexities of implementing the IC model in an upper elementary school classroom.

Beginning with a cross-case lens, this chapter first summarizes both the *deductive* (focused around the pre-determined standards of this model) and *inductive* (focused on topics generated by participants) findings across all four cases and any outliers that may be pertinent for each of the three research questions. Lastly, the chapter ends with a presentation of themes that represent a broader synthesis of the findings for each research question. It's important to note that the application of both the deductive and inductive

analysis was both an iterative process, where each informed the other, and a critical step in coming to a more complete understanding of the complexities of the implementation of this model.

## Cross-Case Summary of Findings

Following is a concise summary of the most robust findings across all four cases and any outliers that may be pertinent for each of the following three research questions:

RQ1: How do teachers implement the Instructional Conversation (IC) model in their classrooms? (What do they attend to before, during, and after an IC?)

RQ2: What are the major challenges in implementing the IC model?

RQ3: What conditions or external circumstances affect the implementation of the IC model?

The structure of this section is parallel to that of chapter four, for ease of reference to each individual case for a more in-depth description and closer look at the data supporting each finding.

### RQ1: Implementation of the IC Model

The summary of findings for this research question are presented according to each of the standards that this model is grounded in.

**Standard I: Joint Productive Activity (JPA).** All the teachers in this study fostered an environment where collaboration and conversation were present. Through the creation and use of some type of classroom agreement, all four teachers created a safe space to encourage students to work together and collaborate on tasks. Furthermore, all four teachers used some type of group work in their classroom. Whether it was a

workshop model, literacy stations, math groups, or center work, each classroom had a group rotation system with predetermined expectations for transition that they used in more than one subject, and in two of the cases, in every subject. All four teachers reported designing tasks that required students to work together to complete and all employed flexible grouping strategies, depending on the goal of the task. Three of the teachers reported providing opportunities for peer interaction and assistance; and three of the teachers assigned roles for students working in groups.

**Standard II: Language and Literacy Development.** All four teachers had a consistent focus on vocabulary instruction across the curriculum. Whether it was through previewing upcoming vocabulary, engaging in daily conversations, focusing on reading, writing, and speaking across subjects, using "word work boards" in every subject, actively bringing students attention to words in context, or intentionally praising students for their contributions, all four teachers paid particular attention to language in the context of their students' learning.

Three out of four teachers purposefully used imagery to enhance vocabulary instruction, as well as reported a focus on writing in the development of language and literacy, where two teachers specifically reported the use of journals in their classroom. Two teachers reported intentionally incorporating students' home language into the classroom as well as an intense focus on word work and developing students' metacognitive awareness in regards to language use. Lastly, two teachers employed the use of peer interaction by assigning peer partners or buddies to help provide language support for struggling students.

**Standard III: Contextualization.** All four teachers intentionally connected lessons and academic content to their students' lives to make the curriculum real for their students. Examples of this included using relevant examples, using the students home language, bringing in imagery, bringing in the students' prior knowledge and experiences into activities, and creating common experiences to link learning to in the classroom. Three teachers created a school to home connection by purposively involving student families in one way or another through engaging them in homework tasks or inviting them in for *"virtual fieldtrips"*.

All four teachers created a classroom environment that encouraged respect for cultural diversity and opened up spaces where students felt comfortable or safe to share about their lives (which allowed the teachers to make meaningful connections). For one teacher, this meant modeling bringing in his own personal experiences to the classroom and others this meant being intentional about showing interest in the students' lives or building rapport with the students.

Three out of the four teachers discussed the importance of getting to know their students in order to be able to contextualize their instruction. Involved in that process was explicitly providing opportunities for students to share about themselves and actively listening on the teacher's part. This manifested in different ways in different classrooms but included examples such as engaging in conversations and intentionally listening to students, explicitly asking students, reading their writing, having parent conferences, paying attention to their behavior, looking at assessment data, giving time at the beginning of lessons for students to share their prior knowledge, assigning reflective journal prompts, and assigning "get-to-know-you" worksheets, surveys, and activities.

All four teachers capitalized on teachable moments and prior knowledge to make meaningful connections in the moment and three of those teachers noted listening for connections to use in future lessons or adjusting their actions based on information learned in terms of their students' personal lives. Nonetheless, two of the teachers cautioned making assumptions about your students when planning ahead for contextualization.

Lastly, three out of the four teachers incorporated choice in their classroom, which offered way for students to make their learning meaningful. This was manifested in several ways including students being able to choose how they applied a concept, presented information, or engaged in the process of completing an activity, as well as choice of which center or station to complete during their center rotation time.

**Standard IV: Challenging Activities.** All four teachers used assessment in order to differentiate for the varying needs of their students and to meet each student at an appropriate challenging level. This was manifested in several different ways across classrooms, but examples included differentiating small group lessons while simultaneously holding high standards for all, using assessment information to inform next steps for each student, giving choice in how students represented their answers, understanding that all students were not on the same level, differentiating centers into tiers, differentiating the rotation of groups through teacher led ICs, intentionally grouping students (responsive to their needs), differentiating activities within an IC group, assigning peer partners, and tracking students' progress through quizzes, profile sheets, hand written notes, mental notes, and technology.

All four teachers engaged in questioning that required students to go deeper in their thinking. Examples of this included using open ended questions that encouraged students to expand on their answers and support them with evidence, intentionally asking higher order questions (e.g., using a Blooms taxonomy resource sheet), preplanning higher order questions ahead of time in addition to "on the spot thinking", prompting critical thinking and metacognition, teaching students to question each other (e.g., giving them cards with question stems), and listening to students' answers when engaged in conversations in order to understand and challenge their thinking in the moment.

Furthermore, all four teachers engaged in activities where there wasn't necessarily one right answer or one right way to arrive at an answer. Examples included designing tasks or lesson formats that allowed students to come up with different answers and required them to defend them (e.g., "Stick It", "Eliminate It"), allowing for multiple ways to answer a single problem, and having students show the answer in different and /or multiple ways.

Lastly, one teacher noted being intentional about modeling how to defend one's position and give a detailed answer; and another noted the connection between contextualization and engaging in higher order tasks, discussing that connecting with his students helped to increase student engagement with challenging activities.

**Standard V: Instructional Conversation.** As noted previously, the fifth standard is both a focus on teaching through conversation as well as an actual way of conducting a JPA with the teacher present to lead a concrete "Instructional Conversation", or an "IC" as it is referred to in this model. The IC is a regularly scheduled teacher-led event with three to seven students, lasting about 20 minutes, with a clear instructional goal. The

findings below will describe how teachers implemented ICs in their classroom, with a focus on what happened before, during, and after.

***Before an IC.*** All four teachers created a classroom structure that would support small group instruction. Examples of this included organizing instruction around a workshop model with different learning stations or a center rotation model and setting up the physical locations for each of those, along with expectations at each. In each case, this structure allowed the teacher the opportunity to meet with a small group of students and facilitate an IC. In this way, students could rotate through centers (or "stations"), with one of them being the teacher facilitated IC.

All four teachers set up management strategies that gave students the guidelines and structure to work independently from the teacher, as well as collaboratively as a group. Examples of this included developing norms and expectations in the form of a classroom agreement *with* the students both for the classroom as a whole and for participating in conversations (e.g., some teachers had both a classroom agreement and conversation norms explicitly for the IC), taking time to explicitly teach procedures and routines, taking time to model each expectation and have students practice, having cards at each center that had directions written out for each activity, being very clear and explicit about what was expected from students at each station and what to do once they finished the task, assigning roles for students in groups, establishing a "voice meter", and having a "station board".

All four teachers engaged in purposeful planning around the standards and goal of the IC. Examples of this included looking at assessment data and intentionally planning the IC and other centers around having a variety of activities in terms of content and

level, looking at the overall school calendar and topics coming up and where ICs might fit in well, thinking about the students (in terms of prior knowledge, grouping, and contextualization), thinking about what might need to be adjusted to meet the needs of specific students (or groups of students), thinking about what materials would be needed to complete each activity, and thinking about how current ICs could lead into future ICs and how they could flow together within a unit.

In terms of activities, all four teachers had activities where students had to come to a consensus, either with a partner or with the whole group, to create an answer or product together. Examples included creating one series circuit, creating one poster that detailed how to find the volume of a cube, and having students discuss the meaning of a word with a partner to come to a conclusion. Three teachers provided limited supplies during activities so students had to work together (e.g., not enough circuits for students to work individually, only one sheet of paper at the table); and three of the four teachers often intentionally connected their other centers to their ICs, with some offering a space for practice on current and past standards in both collaborative and independent formats.

In terms of lesson types, one teacher commented on tweaking former lesson plans into IC lessons. He noted that lessons rich in vocabulary where students could apply concepts, lessons that had a problem or task to solve, and lessons that were simple and didn't have a lot of parts that might confuse students worked well in ICs. Another teacher noted that she used similar formats in most of her group stations, keeping the process consistent, while changing out the content according to the subject and standards being taught that week. Lastly, another noted that planning lessons that had items for her students to manipulate worked best. These lesson types were also supported by the other

teachers in the study the way they talked about their lessons and the lessons that were present in each video.

All four teachers prepared their students before engaging in an IC by revisiting the norms and/or expectations and prepping students with some type of content for the lesson. This manifested itself differently across classrooms in the forms of previewing lesson material or standards, assigning journal reflection prompts the day before that the students would bring to the IC, giving students a mini lesson before they broke up into their groups, and reviewing content material from the previous day's IC that would feed into that day's lesson.

***During.*** All four teachers had strategies for keeping the structure of the classroom for the students outside of the IC and setting and keeping the structure for students inside the IC. Examples of strategies for students outside of the IC included having independent tasks for students to work on when their center work was complete to avoid student interruptions during the IC time, having a way to manage the noise level of the classroom, and developing a system for students in the groups to record or report behavior issues without interrupting the teacher. Examples of strategies for students in the IC included explaining to students how an IC was different from typical small group work, developing conversational norms, continually referring and reevaluating norms and roles within the IC, using the classroom agreement to remind students of how to participate, having task cards with instructions written for students to read, and explicitly explaining the goal or task and what was expected of students.

Three out of the four teachers explicitly taught their students *how* to have a conversation. Examples of this included using the Accountable Talk framework, teaching

students how to participate (and how to encourage each other to participate), using sentence starter stem cards, modeling for students how to participate in the IC, and teaching students "how to respectfully argue". In some cases, this was done prior to breaking up in small groups and was reinforced within the IC; and in others, it was taught within the IC. Also, two teachers had students set goals (e.g., IC participation goals and broader learning goals).

All four teachers allowed their students to engage in productive struggle during the IC by giving the students space to work through problems on their own, without immediately jumping in to save them or leaving them stranded or confused. All four teachers engaged in praise for their students. Examples included praising students for contributing to the conversation, using a new vocabulary word, or engaging in a challenging task.

All four teachers actively listened to students during the IC and provided feedback when necessary to clear up misconceptions or reteach concepts, either in the moment or in future lessons. Listening also provided opportunities for teachers to engage in formative assessment and understand what their students struggles and strengths were. In addition, they were able to learn about their students in order to contextualize instruction and understand group dynamics.

All four teachers facilitated the instructional conversation through keeping students focused on the goal, listening, asking questions, and encouraging all students to participate (i.e., pulling in in students that seemed disengaged). Other examples included watching and modifying lessons in the moment, reminding students to include everyone in the group, redirecting when the group started to go off task, and addressing students'

varied ability levels and need for assistance as they came up. One teacher noted that she was aware of where her students were not only academically on a given day, but emotionally as well and was sensitive to their situations during the IC.

All four teachers encouraged conversation among their students. Examples included using goal cards for students to self-regulate their participation, using students' journal entries as entry points into conversation, having students individually come up with an answer before engaging in a group discussion to come to a consensus, having students create one product or come up with one answer as a group, allowing students to "phone the teacher" for advice or for questions, creating fun scenarios for students to encourage participation, modeling bringing the quieter students into the conversation and trying to get other students to do the same. Specifically, for those students who tried to constantly take over the conversation, one teacher enacted a type spending system to help her students self-regulate their own participation, as well as taught them to count to ten in their head before contributing to create a space where the quieter students could contribute, without shutting the talkative students down.

Lastly, all four teachers engaged in some form of note-taking during the IC. Two teachers took mental notes by actively thinking about student struggles, how the lesson was going, what needed to be changed (and modifying it if need be), and future lesson ideas; and two teachers took actual notes on paper. One jotted down things of interest she heard, connections that students made, what students understood well, what students had trouble with, as well as gathered thoughts for future planning. The other took notes on which vocabulary words students used or understood and how students were understanding concepts.

***After.*** All four teachers engaged in reflective action—reflecting on their IC lesson and adjusting teaching practice based on those reflections. Reflection examples included thinking about what the teacher saw or heard, what students struggled with, whether the students liked the activity, how students understood the content, whether it was motivating, how the group interacted with each other, and what needed to be changed or prepared in terms of lessons or activities for students in future lessons so that students could better understand the concept(s). Another example included looking at notes taken during the IC and identifying the students who were struggling with a given concept.

Examples of adjusting or changing practice included addressing concepts that students struggled with in the IC with the whole class, addressing misunderstandings with students individually, tailoring students' next task to address the specific issue that they were struggling with (by giving them a specific task with the support of resources or partnering them up with someone who understood the concept), starting the IC out the following day by reviewing students' independent JPA work and moving from there depending on how the students handled the task, adjusting groups for the next rotation depending on how students understood a concept, and re-planning and re-teaching the concept all together if the lesson flopped.

Three out of four teachers had students engage in reflection themselves on either the content, the process or both. Examples of this included having students journal about what they learned, having students reflect on how they engaged in the IC connected to the goals they set at the beginning of the IC (on which the teacher gave them feedback), asking students questions related to how to apply what they learned going forward,

asking summary questions that helped students reflect on their learning in particular, and having students think about how what they did together in the IC would relate to helping them work with their partner in an independent JPA. One teacher took time to debrief as a whole group and let her students, from both the IC and other stations, share any "ah-ha" moments or anything they learned that they might do differently if they did the activity again. Furthermore, she would let her IC group "reteach" what they learned to the whole group to cement their learning.

**RQ2: Challenges**

In terms of the most challenging standard to implement, two teachers reported Standard I: Joint Productive Activity, with one also reporting Standard IV: Challenging Activities; one teacher reported Standard III: Contextualization; and another reported Standard II: Language and Literacy—each teacher with their own reasons for why their reported standard was challenging.

Time was a challenge reported by three out of four teachers. Manifestations of this included time as a limiting factor for planning (especially for higher order or differentiated activities), engaging in complex thinking, and staying in sync with the other teachers on the grade level as well as an overall decrease in instructional time due to testing, students being pulled out for additional services, and school functions.

Getting students to talk was a challenge reported across all four teachers; and learning to let go of the "traditional teacher role" and allowing students to engage in conversation was a challenge reported by three out of four teachers. One teacher noted it was challenging to give them the space to participate, struggle, and lead without constantly jumping in right away and giving the answer or taking control. Another

teacher even created a goal for herself to allow the students to talk more, as it was hard for her to not take control of the conversation in the beginning.

Cultural differences among students (and between the students and teacher) was reported as a challenge by three out of four teachers. Examples of this include challenges regarding language differences and participation, students not having enough prior knowledge to engage in a task, and challenges associated with attending to different cultural norms while simultaneously attending to the conversation norms of the IC.

Three out of four teachers reported challenges related to group dynamics. Examples included navigating ICs when kids would get frustrated working together, balancing participation across all students, dealing with students hijacking the conversation, attending to the social dynamics of conversations taking over the goal of the lesson (e.g., issues with some students who only wanted to be agreeable, just to play that role, and others who always wanted to disagree, just to disagree), and attending to such a broad range of levels in one group.

**RQ3: External Factors**

Regarding circumstances or factors outside the model that hindered implementation, two teachers reported time (e.g., schedule constraints). Conflicting initiatives at the school level was also noted as a hindering factor in that it divided the teacher's attention and focus. One teacher noted that the large size of the school was a challenge in that there were fifteen third grade teachers on the team and seven different administrators. Specifically, inconsistent expectations and miscommunication across administrators was difficult. Lastly, two teachers discussed the challenge of being on grade level teams where other teachers were not trained in the model. For one teacher, it

was a struggle when administrators would go from classroom to classroom expecting to see similar things happening across the grade level (because there was a push to reduce variance among classrooms) and find his class using a different approach. In addition, there was the challenge of staying in sync with the other teachers in the same grade level as well. The other teacher discussed how being the only one in her school trained in or using the model of teaching and the lack of community inherent in that was difficult. She noted that being the only teacher in the building teaching this way wasn't only difficult for her as the teacher, but for her students as well.

All four teachers reported having support from their administration in terms of the implementation of this model in their classrooms. Two teachers reported high support and no challenges concerning their principal and administration; and two reported mixed support. For one teacher, there was initial high support from the principal, however that support trailed off as the year progressed and support from the entire administrative team was not apparent. Nonetheless, that teacher noted that the initial support of the principal was a positive factor in helping to initiate learning about this pedagogical model. The other teacher reported that the principal was very supportive of the work but had a very hands off approach when it came to supporting the implementation of the model in the classroom and showed little interest in understanding it.

Two teachers reported high support in terms of resources from their school. Examples of resources provided included overall supplies, technology, language support (e.g., a *"family language line"* to communicate with parents who spoke a different language, other students in the class), color printers for printing images, science kits, math kits, and enough books for everybody. One teacher reported that as an instructional

factor, resources were a challenge for her. She would have liked to have access to more materials (e.g., more variety of books and authors on the same topic) in order to help her students see different perspectives on a given concept or issue, which helped initiate conversations.

Regarding other factors or practices outside the IC model that enhanced implementation, one teacher reported that journaling and encouraging reflection were two practices that helped enhance her implementation; and another noted that roll out of the common core standards and the way they were written positively influenced her use of the model.

## Thematic Analysis

Through the cross-case analysis and synthesis of the principal findings included in each of the individual case reports, as well as the summary across cases, fourteen themes of interest were identified in consideration of the implementation of the IC model. These themes represent a broader synthesis of the findings reported above for each research question and are categorized into the following categories: implementation practices, challenges, and external factors. The fourteen themes are summarized in Table 2.

### Implementation Practices

Regarding practices that cut across the individual standards themselves in relation to implementing the IC model in a systematic way, the following themes were identified:

1) **Setting Up the Classroom.** This theme represents setting up structures that allow for collaboration and conversation to occur in the classroom. Examples include the use of classroom compacts, behavior management techniques, the

setup of some type of small group rotation system in the classroom, the use of task cards, and the creation of a safe space that encouraged collaboration among students.

2) **Purposefully Planning.** Purposeful planning indicates planning with specific goals in mind. Examples include the way teachers planned for IC and small group lessons connected to certain standards, thought about the activities and which would work best to promote collaboration and conversation, intentionally connected the flow of lessons from the IC to small groups and back again, planned for higher order questions, planned for contextualization, used flexible grouping strategies to plan their groups depending on the goal of the lesson, and used assessment data to plan activities at an appropriate challenging level for students.
3) **Integrating the Standards.** This theme represents using all five standards in an integrated, systematic way during an IC, as well as throughout the classroom as a whole. Examples of integration within an IC include excerpts from interviews, as well as activities in each of the videos that showcased the incorporation of students working together in a collaborative way and engaging in conversation, with the teacher attending language development, making meaningful connections in the moment, and encouraging higher order thinking into one small group lesson. Examples of integration throughout the classroom include the setup of a classroom that allows for collaboration and conversation throughout (in the IC, as well as in other group work independent from the teacher and in whole group settings); the use of journals,

word work boards, and purposeful attention to vocabulary words across the curriculum and throughout the day to encourage language development; teachers planning lessons for contextualization (e.g., creating activities that have students' names in them, creating shared experiences in the classroom and connecting other classroom activities to that experience, taking prior knowledge into consideration when planning both whole group and small group activities, creating opportunities for students to share about themselves through get-to- know you activities and sharing cultural experiences with the class and using that information in their teaching); and planning activities for whole group and small group settings (independent from the teacher) that require students to explain and justify their answers.

4) **Intentionally Listening.** This theme entails actively listening to students as they engage in conversation and tasks with the teacher (and with other students). Examples include listening for academic vocabulary use connected to the standards, listening for formative assessment, listening to get to know students, listening to understand group dynamics, listening for understandings and misunderstandings, listening for students to make connections to the content to capitalize on those teachable moments, and listening for connections for future planning.
5) **Engaging in Reflective Action.** The practice of reflective action by the teacher entails both actively reflecting and changing practice based on those reflections. This practice was present both during and after the IC. Examples include *actively reflecting* on things such as the lesson itself, what students

understood, the group dynamic and *adjusting future actions and/or lessons* based on that information.

6) **Debriefing Activities.** This theme entails discussing the completed activities in terms of content and/or process *with the students*. Examples include reviewing a-ha moments and struggles with the whole class after station time, having students journal their "take-aways" from the lesson and discussing those at the beginning of the next IC, and having students complete similar tasks in an independent JPA and starting the IC out the following day by reviewing their independent JPA work.
7) **Creating Student Agency.** This theme represents fostering student independence and voice within the classroom. Examples of this include having elements of student choice in the classroom, focusing on metacognition with students, having students set personal goals, allowing students to engage in productive struggle, and having students engage in reflection.

**Challenges**

In terms of challenges teachers encountered while implementing the IC model in their classrooms, the following themes were identified:

1) **Learning to Let Go.** This theme represents the struggle of the teachers letting go of the traditional teacher role and allowing students to engage in conversation without the urge to correct or take control right away. Examples include the teacher setting a personal goal to not talk as much, the challenge of letting go and allowing the students to talk, and the challenge of letting

students take control of the conversation and not continually jump in.

2) **Attending to Group Dynamics.** This theme represents the challenge of attending to the nuances of group dynamics during the IC. Examples include attending to cultural differences in language, norms, and participation styles; attending to the social dynamics and varying levels of the students; getting students to talk; and balancing participation across all students.

**External Factors**

External factors are variables outside of the model that might have affected the implementation of the IC model in these teachers' classrooms. They are categorized into factors that *enhanced* and factors that *hindered* implementation. In terms of external factors that enhanced implementation, the following themes were identified:

1) **Administrative Support.** This theme exemplifies having support from the administration in terms of the teacher using this model in her/his classroom. Examples of this theme include reports of "high" support from the principal throughout the school year, having no challenges with the administration in terms of using this model of teaching, and having initial support from the principal (which was a positive factor in helping to initiate the process of learning about this model).
2) **Access to Resources.** This theme represents accessibility to resources that teachers could use to enhance the teaching and learning of students. Examples include having language resources (in terms of people who could translate and books in students' home language); book resources (to help show different perspectives); color printers for images (to help in language development);

and technology.

In consideration of external factors that hindered implementation, the following themes were identified:

3) **Time Constraints.** This theme exemplifies the challenge of not having enough time. This was discussed by teachers as both a challenge in implementing the model and as an external factor that hindered implementation. Because time is external to the model, this theme is included in this section. Nonetheless, this theme was present in relation to time needed for planning and time needed to engage in in-depth conversations where students were able to engage in challenging activities, as well as time taken away from instruction due to testing, students being pulled out of class, and other school functions and schedule constraints.
4) **Inconsistent Expectations at the Administrative Level.** This theme represents the challenge of having conflicting demands placed on teachers Examples of this included miscommunication among administration, lack of consistency in terms of what was expected across the leadership, as well as conflicting initiatives at the school level.
5) **Being the Only One.** This theme represents the challenge of being on grade level teams where other teachers were not trained in the model. Examples of this include the difficulty of staying in sync with other teachers on the grade level who were not using the model, the inherent lack of collaboration and difficulty for both teachers and students had when they were the only ones using the model.

## Summary

In sum, after conducing both a deductive and inductive analysis across all four cases and identifying broader themes that speak to the implementation practices (and challenges) of this model in classrooms where ELL students outperformed controls on school outcome data (particularly in reading), the following chapter will provide an explanation of the essence of each identified theme—noting what was of interest and why— and how it connects to broader learning theory and previous literature on other teaching models that have led to increased achievement in reading for ELLs. Implications for practice, research, and theory will also be discussed.

# CHAPTER 6

# DISCUSSION AND IMPLICATIONS

Chapter five used a cross-case lens to present and summarize findings across all four cases and provided overarching themes that represent a broader synthesis of those findings for each research question. Having examined the essence of each identified theme—noting what was of interest and why—this chapter discusses the broader meaning of these themes and an interpretation of the significance of the patterns, their relation to previous literature, and their implications for practice, research, and theory in implementing the IC model in upper elementary classrooms.

## Discussion

Teachers' ability to implement the IC model is very much dependent on the actions they take before and after an IC, as well as the strategies they employ during. These practices set the ground work for successful application of the individual five standards and act in an iterative process where the whole is greater than the sum of its parts. As enumerated in chapter five, a variety of themes were identified representing strategies employed that went beyond the five standards and helped to make the enactment of this model operate in an integrated, systematic way. These themes are discussed below in terms of their significance and relation to previous literature.

**Setting Up the Classroom**

By putting structures in place such as classroom compacts developed with students, teachers created a safe space where collaboration and conversation with others could occur. Collaboration and conversation are practices consistent with social cognitive learning theory that posits that learning occurs through social interaction with others and it is the internalization of these external social interactions that transforms the child's internal construction of knowledge (Vygotsky, 1978). Furthermore, emphasis on these two practices are also found in several other models that have been found to increase reading achievement of ELLs such as PALS (Saenz, Fuchs, and Fuchs, 2005) and the BCIRC program (Calderon, Hertz-Lazarowitz, & Slavin, 1998).

By employing specific behavior management techniques that facilitate small group instruction in the classroom, teachers create a classroom structure that allows themselves to engage in ICs with students, with minimal distractions from other students in the classroom. This is a necessary first step in preparing to enact this model, as the teacher being present during an IC is crucial for the full implementation of this model to occur.

Additionally, these procedures prepare students to work together without the teacher present in other center groups, thereby freeing the teacher to engage with a smaller group of students. This is consistent with practices put forth by Tharp and Gallimore (1991), who made us of small-group, student-directed activities to free the teacher to participate. Overall, these components regarding setting up the classroom need to be recognized in their role that they play to support the implementation of the standards.

**Purposeful Planning**

As several teachers in this study noted, ICs are organized. They are not just conversations to get students talking, but their purpose is to get students talking about academic content and working together to accomplish some sort of goal (i.e., engage in a Joint Productive Activity). Inherent in this is the need to purposefully plan for these lessons— in content, structure, and process. Teachers need to think about what the standards are (and what other content standards they can layer on), what activity structures will allow students to collaborate, and what processes will encourage students to talk to each other.

Furthermore, purposeful planning goes beyond the lesson itself and encompasses both a broader and more micro-level application (see Figure 4 in Appendix F for an illustration of this diagram). The broader level includes planning for the connection of lessons between ICs and other center activities, planning for the placement of ICs and JPAs within an overarching unit, and using flexible grouping strategies to assign students to groups depending on the goal of the lesson(s). While the micro-level application involves a more nuanced approach (with the inherent idea that the teacher knows her or his students) and entails planning for differentiation within the lesson, planning for contextualization to bring in meaningful connections to the content, and planning higher order questions in advance at appropriate levels for the students.

By attending to the more micro level planning of lessons, the teacher sets his/herself up to engage the child at an appropriate level for optimal learning to occur. This is consistent with Vygotsky's (1978) idea of the importance of the proper organization of knowledge to aid in the development of the student. By planning for

contextualization to bring in meaningful connections to the content, teachers are using students' "everyday concepts" to mediate the learning of more "scientific concepts" as posited by Vygotsky (1978) and supported by scholars such as Moll, Amanti, Neff, & Gonzalez (1992) in their ideas of building on students' "funds of knowledge".

**Integrating the Standards, Intentional Listening, and Engaging in Reflective Action**

While each individual standard is supported in the literature and widely acknowledged as effective teaching (Tharp, Estrada, Dalton, & Yamauchi, 2000), it is the *integration of these standards in systematic way* (see Dalton, 2007) in the classroom that results in the quintessential responsive, reciprocal nature of this pedagogical model. Although the focus of the larger RCT study was on the integration of the 5 standards within the IC, applying these standards outside of the IC itself is also important in fully enacting the model. As discussed previously, setting up the classroom to allow for small group activities where students work in collaborative groups (Standard I), independent from the teacher, is critical. Furthermore, engaging in practices that focus on academic language (Standard II), are contextualized for students (Standard III) in addition to appropriately challenging (Standard IV) are effective teaching practices and should be applied across content areas and throughout the classroom.

Nonetheless, engaging in ICs provides a unique opportunity for the teacher to elevate the application of each individual standard with students in a responsive way that enhances the teaching and learning experience of the student, with the goal of advancing their learning by modeling and focusing on academic language in the context of the lesson, intentionally making connections to make the content meaningful for the student, taking advantage of comments made and asking questions to encourage higher order

thinking, and facilitating conversations on academic content.

However, for the teacher to be responsive to students, she or he must be present and *intentionally listen* to students. Listening is a fundamental practice that was found to inform all the standards and played an understated but critical role in the implementation of this model. Within the IC, listening allows the teacher formatively assess students to understand what they comprehend, what misconceptions they have, if they're using a vocabulary term correctly etc. Furthermore, it allows the teacher to learn about their students personally—what experiences they come to the classroom with and who gets along with whom. This information can then be used to enhance instruction in the IC (and across the classroom).

Nonetheless, a crucial step between gathering information and enhancing instruction is *engaging in reflective action*. The practice of reflective action entails both actively reflecting and changing practice based on those reflections. This occurs both during and after the IC (see Figure 5 in Appendix G for an illustration of this cycle). During the IC, the teacher is making in-flight decisions in response to students' contributions—asking a question to deepen understanding, making a connection to make the content meaningful, clearing up a misconception, focusing on a particular vocabulary term, or changing up a lesson in the middle to respond to students' needs. After the IC, the teacher reflects on the structure of the lesson itself, what the students understood, and the group dynamics and uses that information to *purposively plan and adapt future practice*. Examples of this may include switching the group up, re-teaching a concept, adapting the lesson structure, or incorporating a connection mentioned by a student into a future lesson.

These practices are consistent with those found in the literature related to practices that promote reading achievement in English for ELLs such as developing academic English, conducting formative assessments and using the data to drive instruction by providing accommodations that support English reading, and using small groups and peer-assisted methods to deliver literacy instruction within a welcoming and sensitive learning climate (see Martinez et al., 2014; Gersten et al., 2007; August & Shanahan, 2006; Genesee et al., 2006). A crucial role in using ICs as a place for formative assessment involves *listening* to students, which is also consistent with practices in the literature involving the use of conversations as an assessment tool (Ruiz-Primo, 2011). Although inherent in the "reciprocal nature" of this model, it is important to note that this emphasis on teacher reflection was not explicitly discussed as part of the five standards model or in the literature surrounding other models that have shown learning gains for ELLs in reading. These implications are discussed below in future directions for research.

**Debriefing Activities and Creating Student Agency**

Debriefing completed activities in terms of content and/or process allows the teacher to engage students in reflection and encourages them to be active in their own learning processes. By debriefing content, the teacher is checking for understanding, having students reflect and summarize their learning, and re-teaching concepts when needed. By debriefing processes the teacher is fostering independent learners as she or he makes students metacognitively aware of the processes involved in an activity and why certain ones did or did not work. These actions help to create student agency in the classroom, as does incorporating elements of choice, having students set their own goals,

and allowing student to engage in productive struggle. This requires the teacher to "learn to let go" and give students the space to figure out the problem on their own with the help from peers instead of jumping in to give them the answer. The benefit of this happening within an IC is that it fosters independent thinking and problem solving skills, while the teacher can insert when necessary to avoid letting the student slip into "destructive struggle". This is in line with Vygotsky's (1978) theory on the Zone of Proximal Development (ZPD). It's allowing the student to struggle within her/his zone of proximal development, with the help of peers in the group or the teacher when necessary to assist the student through.

Also consistent with the literature, debriefing was discussed as an indicator for teachers and students producing together (Standard I) (Dalton, 2007); and summarization and cumulative review were both instructional components of the following teaching models that also showed learning gains for elementary school ELL students in the area of reading: Reading Mastery and Corrective Reading (Gunn, Biglan, Smolkowski, & Ary, 2000) and Bilingual Cooperative Integrated Reading and Composition (BCIRC) (Calderon, Hertz-Lazarowitz, & Slavin, 1998).

In relation to creating student agency, discussions around this type of dialogic teaching indicate self-regulation and becoming independent learners as possible outcomes through this process (Vygotsky, 1978; Tharp & Gallimore, 1989; Tharp & Gallimore, 1991); however the practice of intentionally fostering independence in the classroom as a separate strategy was not as explicit. These implications are discussed below in future directions for research.

**Summary**

In sum, many of these practices are inherent in the theoretical framework that this model is based on, however not explicitly stated as specific actions for teachers to take. As this study is based on teacher practices, these considerations for applicable actions are an important contribution to the field in moving the larger agenda forward in terms of helping to address the challenge of translating abstract theoretical ideas to concrete practice in the classroom.

## Limitations and Future Directions

While many steps were taken to ensure the quality of this study, several limitations need to be addressed. First, this study employed the use of qualitative data collection and analysis techniques with the researcher as the instrument, which could potentially bring researcher bias into the study. To guard against this, several actions were taken to establish the quality of the research as outlined in chapter three (e.g., data triangulation, establishing a chain of evidence, use of a research protocol etc.). Secondly, the collection of interviews occurred retrospectively (i.e., two years after the teachers had participated in the program). In an attempt to address this concern, stimulus interviewing was employed, in which the researcher used data from logs and videos when applicable to stimulate teachers' thinking during the interview; nonetheless, future studies could address this by conducting interviews with participants in a concurrent timeframe with their implementation. In addition, the current study only looked at high implementers instead of comparing across implementation levels. That was the original goal of this study; however, the only participants who responded to recruitment emails were in the

top 20th percentile. Future research could gain to look at the nuances between the two implementation level groups, as well as across grade levels (as discussed below in implications for research). Lastly, the sample size of this study only included four elementary school teachers—two third and two fifth—from Northeast Georgia, which calls to question whether these findings can be generalizable to all teachers.

Nonetheless, the goal of this study was not to generalize but to better understand and document the complexities of teacher practice in an in-depth way to offer educators insights and practical considerations that may aid teachers, teacher educators, and administrators in the future when enacting this model. The following sections consider these insights and suggest implications moving forward in practice, research, and theory.

**Implications for Practice**

In terms of implications for practice in the classroom, the following are concrete procedures and practical considerations for educators to keep in mind when enacting this model. First, it is crucial that teachers and teacher educators understand that the strength of this pedagogical model is not in its use a separate set of strategies to be employed when needed, but a way of reorganizing a classroom to encompass each strategy in an integrated, systematic way. Teachers must set up a classroom that allows for small group interaction to occur; purposely plan activities that allow for and encourage collaboration and conversation as well as meet the individual needs of students and fit into a broader organized level or organized learning with a unit and between rotating lessons and planning student groups; and actively listen when engaged in ICs to respond to student needs and engage with students in a reciprocal way. Furthermore, teachers need to debrief activities with students; reflect on their own practice, during and after ICs, and

use that information to inform their next steps; as well as consider enacting strategies that foster independence and elevate students' agency and voice in the classroom.

Implications for practices at the administrative level include understanding the importance of administrator by-in and support when teachers in their building are implementing this model, as well as understanding the positive influence having a variety of resources to engage students with brings. Additionally, consideration should be given when deciding which teachers should be trained, as those that are isolated on grade level teams or in schools where no one else in implementing this model may experience additional challenges.

**Implications for Research**

To date, the literature is scant on solid good enactors of this pedagogy, in terms of teacher practice that has led to increased achievement. By design, this study aimed to look at exactly that. As one part of a larger research agenda, this study looked at one particular group of teachers in terms of teacher practice related to the model—those who were trained in the IC model and who had high fidelity of implementation. The purpose of this study was not to compare, but to seek replications across these four cases who represented solid enactors of the pedagogical model. Nonetheless, the question of comparison is of interest. Future studies could move this research agenda forward by looking at how high and low implementers differed in terms of teacher practice and how teacher practice changed over time. Additionally, future research could look at how implementation practices and/or student interaction differed between third and fifth grade.

Furthermore, several topics of interest emerged in this study that could be of interest for future studies including the development of student empathy, the impact of creating student agency, the role of reflective action, and the role of teacher collaboration. Specifically, one teacher discussed how this model helped her students develop empathy in the classroom. Future studies could look at the impact of this model on developing student empathy and its effect on student engagement within ICs. Secondly, as discussed earlier, three out of four teachers engaged in practices that intentionally created student agency in the classroom. Future studies could look at this variable in terms of its impact on student engagement and subsequent effects on achievement. Also, the role that reflection plays in this model has yet to be investigated, but was found to be a critical practice for three out of the four teachers. Lastly, two teachers discussed challenges related to being isolated on grade level teams where others were not using this model. Future studies could look at the impact that collaboration has on the roll-out of this model across classrooms, grade levels, and even across schools where every teacher in the grade level (and subsequently across several grade-levels/the entire school) is engaging in this type of teaching and its subsequent impacts on other factors.

**Implications for Theory**

In terms of theory, the cyclical nature of practice, research, and theory— with each challenging and continually informing the other—is a critical aspect of our jobs as researchers and must stay central to our work if our goal is to provide relevant knowledge to our respective fields. With that in mind, this section examines practical insights that emerged from this study that may inform a deeper understanding and better application of the IC model.

The theoretical framework guiding the model that this study is based on is informed mainly by social cognitive learning theory and cultural historical theory, which posit that learning occurs through social interactions with others within a given cultural and historical place in time. It is acknowledged that this study only represents four teachers from northeast Georgia and is not representative of all; nonetheless, there are insights that can be drawn that may inform and provide a deeper understanding of this model and its complexities in relation to translating the abstract theoretical framework of this model to more concrete teacher practices in the classroom—and all that happens in between in terms of professional development and practice necessary to become proficient in this way of teaching.

One of these insights is the confusion with translating the first and fifth standard in this model. Standard I is discussed in the literature as a process: *facilitating learning through joint productive activity*. Nonetheless, the teachers in this study also referred to it as a "thing", an actual Joint Productive Activity (JPA) that students engaged in. Likewise, Standard V is discussed in the literature as both a process: *teaching through conversation* and an actual teacher-facilitated small group event. When teachers were discussing this standard, they spoke both about encouraging conversation in their classroom and facilitating ICs in small group settings. As an outsider looking in, one can see the nuances inherent in these two standards and a reconsideration and reorganization of the way these standards are presented in terms of translating the model to teacher practice in classrooms may be an advantage to the field.

## Conclusion

The value of the study lies in capturing the essential concrete practices that high implementing teachers demonstrated in enacting this model, as well as what they said about their experiences as teachers in this process. These "voices from the field"—although heavily focused on what teachers said—encompass students' voices as well, as the evidence analyzed represents the inherent reciprocal relationship between the two actors, where teachers' actions are being informed by students' voices and vice versa. By offering concrete practices and practical considerations for teachers, teacher educators, and administrators, the hope is that these findings will aid in future implication endeavors of this model to help raise the achievement of culturally and linguistically diverse students in upper elementary classrooms and beyond.

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## APPENDIX A

### Sample Subset of Log Questions for Analysis

Log 1

| |
|---|
| On average, how many English Language Learner (ELL) students have you had in your classroom each year? (0, 1-5, 6-10, 11-15, 16-20, 21-25, 25-30) |
| For how many years have you had ELL students in your classroom? (0-2, 3-5, 6-8, 9-11, 12+) |

Log 2

| |
|---|
| What strategies or modifications do you utilize to help ELL students? Please check all that apply. (word journals, think-pair-share, KWLs, learning logs/journals, modeling, graphic organizers, introduce concepts through visuals and realia, explicit instruction, I do not utilize specific strategies or modifications to help ELL students, other [please specify]) |
| Please give an example of a lesson or strategy that was particularly helpful for ELL students. |
| Please explain why you think the lesson you described in Question 6 was helpful for ELL students. |
| What do you know about the home language(s) and cultural background(s) of the ELL students in your classroom? |
| How did you come to learn the information you provided in Question 8? |

Log 3

| |
|---|
| What factors impact how many ICs the ELL students in your classroom can participate in? |
| What are your classroom rules regarding talking and discussion? |

Log 4

| |
|---|
| In your opinion, what advantages do ICs have over regular small group discussions? |
| In your opinion, what are the drawbacks to implementing ICs? Click all that apply. (time constraints, classroom management issues, lack of administrative support, children don't learn as much, I don't have time to "teach", there is too much other content to cover, other [please specify]) |
| Please describe a lesson that you taught LAST YEAR in which you contextualized the academic content of the lesson to reflect the students' prior knowledge and/or cultural backgrounds. |
| Please describe a lesson that you taught THIS YEAR in which you contextualized the academic content of the lesson to reflect the students' prior knowledge and/or cultural backgrounds. |
| Please explain how your ability to contextualize your lessons has changed. |

Log 5

| |
|---|
| Based on what you have seen among your students, what is the hardest part for students about participating in ICs? |

Log 6

| |
|---|
| With which subjects have you tried to implement the IC? (reading, math, social studies, science, ELA, writing, other [please specify]) |

| |
|---|
| With which subjects have you had the most success in implementing the IC? (reading, math, social studies, science, ELA, writing, other [please specify]) |
| Please explain what makes this/these subject(s) easier for implementing the IC. |
| What strategies or techniques have you used to enhance student conversation (especially student--student) during an IC? Be as specific as possible. |

Log 7

| |
|---|
| Please describe ELL students' use of their home language at school. |

Log 8

| |
|---|
| Please briefly explain your classroom rules regarding talking and discussion. |
| Have your classroom rules regarding talking and discussion changed over the course of this year? If so, please explain how. |
| If there are any students who routinely disrupt class, please describe their typical behaviors as well as how their behavior impacts your teaching. |

Log 9

| |
|---|
| Do you see your students having authentic content-based conversations with each other outside the IC? |
| If you answered yes to #8, in what settings do your students have these conversations? |
| Have you begun connecting the content you are teaching outside the IC to what you know about your students' lives? |
| If you answered yes to question #10, how and in what lessons? Please give an example. |
| Have you introduced more JPAs into your other content area teaching outside the IC? |
| If you answered yes to question #14, please give an example. |
| Have you noticed your students making connections between content material and their home language and home experiences? |
| If you answered yes to question #16, please explain and give an example. |
| Has a student ever made a comment or action that caught you culturally off-guard? |
| If you answered yes to question #18, how did you handle that? |
| Have you integrated more language connections and language goals in your content teaching outside the IC? |
| If you answered yes to question #20, please explain how. |
| What kinds of issues would you like to have more support with (that your coach may provide) to help you better implement your ICs? Choose all that apply. (lesson planning, behavior management, center management, language goals, culturally responsive lessons, contextualization, encouraging students to talk, creating challenging lessons, creating good JPAs, time management, integrating the Common Core standards into my ICs, other [please specify]) |

Log 10

| |
|---|
| How have you learned about the home language(s) and cultural background(s) of the ELL students in your classroom over the course of this school year? |
| In what ways do you incorporate this new knowledge into your lessons? |
| Please give an example of a lesson you taught this year incorporating your new knowledge of your ELL students. |
| Please give an example of a lesson in which you learned new information about your ELL students. |

| |
|---|
| What strategies do you use to learn about your ELL students' language and culture that you would recommend to other teachers? |
| Are there opportunities for ELL students to use their home language or share their background knowledge in class? |
| If yes to #16, please explain these opportunities. |

Log 11

| |
|---|
| What challenges have you encountered implementing ICs over the course of this year? (pressure from administrators, school policies, difficulty with planning, lack of time, disruptive students, testing pressure, not experiencing ICs as valuable uses of class time, lack of other teachers to plan with, other [please specify]) |
| Please give specific examples of strategies you have used over the course of this year to overcome some of the challenges of implementing ICs. |
| What do you think could help you to further overcome the challenges of implementing ICs? |
| What challenges do your students still have during ICs? |

Log 12

| |
|---|
| What factors impact how many ICs your ELLs participate in? |
| After a year of implementing ICs, in your opinion, what advantages do ICs have over regular small group discussions? |
| In your opinion, what are the drawbacks to implementing ICs? Click all that apply. (time constraints, classroom management issues, lack of administrative support, children don't learn as much, I don't have time to "teach", there is too much other content to cover, other [please specify]) |
| Please give an example of a lesson you taught this year in which you contextualized the academic content of the lesson to students' prior knowledge and/or cultural backgrounds. |

## APPENDIX B

### Interview Protocol: Semi-Structured Interview Guide

**Title of Study:** Implementation of the Instructional Conversation (IC) Model

**Statement of the Problem:** The purpose of this study is to examine how teachers who participated in the larger RCT study on the effects of the IC model on student achievement actually implemented the instructional conversation (IC) model of teaching in their classrooms.

1) **Research Question:** How did teachers implement the Instructional Conversation (IC) pedagogy in their classrooms?
   - **a. Interview Question:** How do you create an environment conducive to conversation?
   - **b. Interview Question:** What types of lessons or activities work well to encourage conversation?
     a. Think of an example in a specific content area you used ICs in, What types of lessons or activities work well to encourage conversation?
   - **c. Interview Question:** How do you emphasize language and literacy across the curriculum?
   - **d. Interview Question:** How do you contextualize your instruction during an IC?
     a. How do you connect your IC lessons with your students?
     b. How do you bring your students into the lesson?
   - **e. Interview Question:** How do you promote higher order thinking during an IC?
   - **f. Interview Question:** How do you encourage conversation during an IC?
   - **g. Interview Question:** What types of questions do you ask?
   - **h. Interview Question:** What types of questions promote discussion?
   - **i. Interview Question:** What do you do before an IC?
     a. How do you organize your classroom to prepare for an IC?
     b. How do you prepare your students for an IC?
     c. How do you plan for an IC? What kind of things do you think about or attend to when planning for an IC?
     d. How do you get your students to understand what to do in an IC?
     e. How do you begin your ICs?

**j. Interview Question:** What do you do after an IC in order to cement their learning with your students?
    a. As a teacher what are you thinking about after an IC?
    b. What do you reflect on after the IC is over?
    c. What are the students doing after the IC
    d. What are you thinking about?

2) **Research Question:** What were the major challenges in implementing the IC pedagogy?
    a. **Interview Question:** Which standard was the most challenging to implement? Why? (Show list of standards)
        i. Which part of the model was the most difficult to implement?
    b. **Interview Question:** What were some unexpected challenges that you experienced during the IC?
        i. What were some unexpected challenges that you experienced overall in implementing the IC model in your classroom?
    c. **Interview Question:** What instructional challenges (if any) did you encounter?
    d. **Interview Question:** What administrative challenges (if any) did you encounter?
    e. **Interview Question:** What behavioral challenges (if any) did you encounter?

3) **Research Question:** What conditions or external circumstances affected the implementation of the IC pedagogy?
    a. **Interview Question:** What external factors hindered your implementation?
    b. **Interview Question:** What kind of support from your school did you (or did you not) receive?
    c. **Interview Question:** Are there practices outside the IC Model that enhance its implementation?

*Excerpts from the original study (i.e., videos and log responses) may be used to trigger memories about the implementation when appropriate.*

## APPENDIX C

### Research Protocol: Implementation of the IC Model

*Purpose: to provide a standardized agenda for the researcher's line of inquiry*

A. Overview of the Case Study
   a. Research Questions/Propositions
      i. RQ1: How do teachers implement the Instructional Conversation (IC) model in their classrooms? (What do they attend to before, during, and after an IC?)
      ii. RQ2: What are the major challenges in implementing the IC model?
      iii. RQ3: What conditions or external circumstances affect the implementation of the IC model?

   b. Theoretical Framework
      i. Joint Productive Activity
      ii. Language and Literacy
      iii. Contextualization
      iv. Challenging Activities
      v. Instructional Conversation

B. Data Collection Procedures
   a. Documents:
      i. Download teacher logs from Survey Monkey and upload to Atlas Ti
   b. Observations:
      i. Upload teacher videos to Atlas Ti
   c. Interviews/Additional Documents:
      i. Contact teachers to schedule interviews
      ii. Conduct Interviews
      iii. Transcribe interviews
      iv. Upload transcripts to Atlas Ti

   d. Data Collection Plan:

| | Documents (Teacher Logs) | Observations (Video) | Interview (Transcripts) | | Notes |
|---|---|---|---|---|---|
| | | | Collected | Transcribed | |
| Teacher 1 | X | X | 5/16 | X | Consented |
| Teacher 2 | X | X | 5/16 | X | Consented |
| Teacher 3 | X | X | 6/16 | X | Consented |
| Teacher 4 | X | X | 6/16 | X | Consented |

e. Expected preparation prior to interview
    i. Review logs and videos of each teacher

C. Data Collection Questions
    a. RQ 1:
        i. How are the teachers creating an environment conducive to conversation?
        ii. How do teachers plan for an IC?
        iii. What kinds of things do they think about when arranging their groups?
        iv. What do they attend to when planning for an IC?
        v. What types of lessons or activities work well to encourage conversation?
        vi. How do teachers prepare their students to come to an IC?
        vii. How do the teachers interact with their students?
        viii. How are the teachers emphasizing language and literacy across the curriculum?
        ix. How are the teachers contextualizing instruction during their ICs?
        x. How are teaches encouraging higher order thinking?
        xi. How do teachers promote discussion?
        xii. What do teachers attend to after an IC?
        xiii. What kinds of activities do they use to cement student learning after leaving?
    b. RQ2:
        i. What instructional challenges (if any) do teachers encounter?
        ii. What administrative challenges (if any) do teachers encounter?
        iii. What behavioral challenges (if any) do teachers encounter?

    c. RQ3:
        i. Are there any external factors outside the 5 standards that aid in the implementation of this model?
        ii. Are there any external factors outside of the 5 standards that impede the implementation of this model?

## APPENDIX D

## 20 Point Indicator Sheet

| Observed | Indicators |
|---|---|
| | 1. The students participating in the lesson are in a small group consisting of 3 to 7 individuals. |
| | 2. The arrangement of students and teacher is conducive to conversation. |
| | 3. The lesson or activity allows students to articulate for themselves. |
| | 4. The lesson has a clear academic goal that guides the conversation. |
| | 5. The students are working as a cohesive group. |
| | 6. The teacher allows students to speak in the conversation. |
| | 7. The teacher encourages students to speak to each other. |
| | 8. The students are engaged in dialogue. |
| | 9. The teacher encourages students to build on the questions and comments of each other. |
| | 10. The teacher assists students in staying focused on the lesson topic and moving the conversation forward if it becomes stalled. |
| | 11. The teacher listens to assess the level of understanding on the part of each student. |
| | 12. The teacher sorts through student misconceptions as they arise. |
| | 13. The teacher helps students connect the content of the lesson to their personal backgrounds and experiences. |
| | 14. The teacher probes into students' prior knowledge and experiences. |
| | 15. The teacher models academic language that relates to the lesson. |
| | 16. The teacher introduces new vocabulary and language skills. |
| | 17. The teacher encourages students to use their newly acquired vocabulary and language skills. |
| | 18. The teacher asks students to clarify and explain their thinking. |
| | 19. The teacher asks students to reflect on their own misunderstandings and to build on their new knowledge. |
| | 20. The teacher asks the students to make hypotheses, inferences, and evaluations. |

## APPENDIX E

Table 2. Summary of Themes Related to Implementation of the IC Model

| Theme | Description | Examples (Case #) |
|---|---|---|
| **Implementation Practices** | | |
| Setting up the Classroom | Setting up structures that allow for collaboration and conversation to occur in the classroom | Created classroom compacts with students (1, 2, 3, 4); developed behavior management techniques (1, 2, 3, 4); setup of some type of small group rotation system in the classroom (1, 2, 3, 4); set up procedures for student to communicate with the teacher without interrupting (1), and the creation of a safe space that encouraged collaboration among students (1, 2, 3, 4) |
| Purposefully Planning | Planning with specific goals in mind | Planned IC and small group lessons around the standards (1, 2, 3, 4), thought about the activities and which would work best to promote collaboration and conversation (1, 3, 4) intentionally connected the flow of lessons within a unit and/or from the IC to small groups and back again (1, 2, 3, 4), planned for higher order questions (2), planned for contextualization (1, 4), used flexible grouping strategies to plan their groups depending on the goal of the lesson (1, 2, 3, 4); and used assessment data to plan activities at an appropriate challenging level for students (1, 2, 3, 4) |
| Integrating the Standards | Using all five standards in an integrated, systematic way during an IC and throughout the classroom as a whole | Incorporated students working together in a collaborative way and engaging in conversation, with the teacher attending language development, making meaningful connections in the moment, encouraging higher order thinking into one small group lesson (1, 2, 3, 4); set up a classroom that allows for collaboration and conversation throughout (1, 2, 3, 4);; used journals (2, 4), word work boards (1, 3), and attended to vocabulary words throughout the day to encourage language development (1, 2, 3, 4); planned lessons for contextualization (1, 2, 3, 4); intentionally planned other center activities to connect with the IC lessons (1, 3, 4); and planned activities for whole group and small group settings (independent from the teacher) |

| | | |
|---|---|---|
| | | that required students to explain and justify their answers (1, 2, 4 ) |
| Intentionally Listening | Actively listening to students as they engage in conversation and tasks with the teacher (and with other students) | Listened for academic vocabulary use connected to the standards (2, 3); listened for formative assessment (1, 2, 3, 4); listened to get to know students (1, 2, 4); listened to understand group dynamics (1); listened for understandings and misunderstandings (1, 2, 3, 4); listened for students to make connections to the content to capitalize on those teachable moments (1, 2, 3, 4); and listened for connections or future planning (1, 2, 4); and listened to students' answers to challenge their thinking (3) |
| Engaging in Reflective Action | Engaging in reflection and adjusting future actions based on those reflections | Actively reflected on things such as the lesson itself, what students understood, the group dynamic and adjusting future lessons based on that information (1, 2, 3, 4) |
| Debriefing Activities | Discussing the completed activities in terms of content and/or process with the students. | Reviewed a-ha moments and struggles with the whole class after station time (1); had students journal their "take-aways" from the lesson and discussing those at the beginning of the next IC (2); and had students complete similar tasks in an independent JPA and starting the IC out the following day by reviewing their work (4) |
| Creating Student Agency | Fostering student independence and voice within the classroom | Had elements of student choice in the classroom (1, 2, 4); focused on metacognition with students (2, 4); had students set personal goals (1, 2); allowed students to engage in productive struggle (1, 2, 3, 4); and had students engage in reflection (1, 2, 4) |

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| **Challenges** | | |
| Learning to Let Go | The struggle of teachers letting go of the traditional teacher role and allowing students to engage in conversation without the urge to correct or take control right away | Set a personal goal (as the teacher) to not talk as much (2); the challenge of letting go and allowing the students to talk (1, 4); and the challenge of letting students take control of the conversation and not continually jump in (1, 4) |
| Attending to Group Dynamics | The challenge of attending to the nuances of group dynamics during the IC | Challenges included: attending to cultural differences in language, norms, and participation styles (1, 2, 3); varying levels of the students (4); social dynamics (1, 4); getting students to talk (1, 2, 3, 4); and balancing participation across all students (1, 3) |
| **External Factors** | | |
| Administrative Support **enhanced implementation* | Support from the administration in terms of the teacher using this model in her/his classroom | Reported high support from the principal (1, 2, 3, 4); had no challenges with the administration in terms of using this model of teaching (1, 2, 4); and reported initial support from the principal was a positive factor in helping to initiate the process of learning about this model (3) |
| Access to Resources **enhanced implementation* | Accessibility to resources that teachers could use to enhance the teaching and learning of students | Had language resources (in terms of people who could translate and books in students' home language), book resources (to help show different perspectives), color printers for images (to help in language development), and technology (1, 3); discussed how having a variety resources helped students see different perspectives and encouraged conversation (2) |

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| Time Constraints<br>* *hindered implementation* | The challenge of not having enough time (discussed by teachers as both a challenge in implementing the model and as an external factor that hindered implementation) | Time needed for planning (1, 2); time needed to engage in in-depth conversations for students to engage in challenging activities (1); time taken away from instruction due to testing (1, 2, 3); and students being pulled out of class, and other school functions and schedule constraints (1, 2, 3, 4) |
| Inconsistent Expectations at the Administrative Level<br>* *hindered implementation* | The challenge of having conflicting demands placed on teachers | Miscommunication among administration (3); lack of consistency in terms of what was expected across the leadership (3); and conflicting initiatives at the school level (4) |
| Being the Only One<br>* *hindered implementation* | The challenge of being on a grade level team or in a school where other teachers were not trained in the model | The difficulty of staying in sync with other teachers on the grade level who were not using the model (3); and the inherent lack of collaboration and difficulty for both teachers and students had when they were the only ones using the model (4) |

**APPENDIX F**

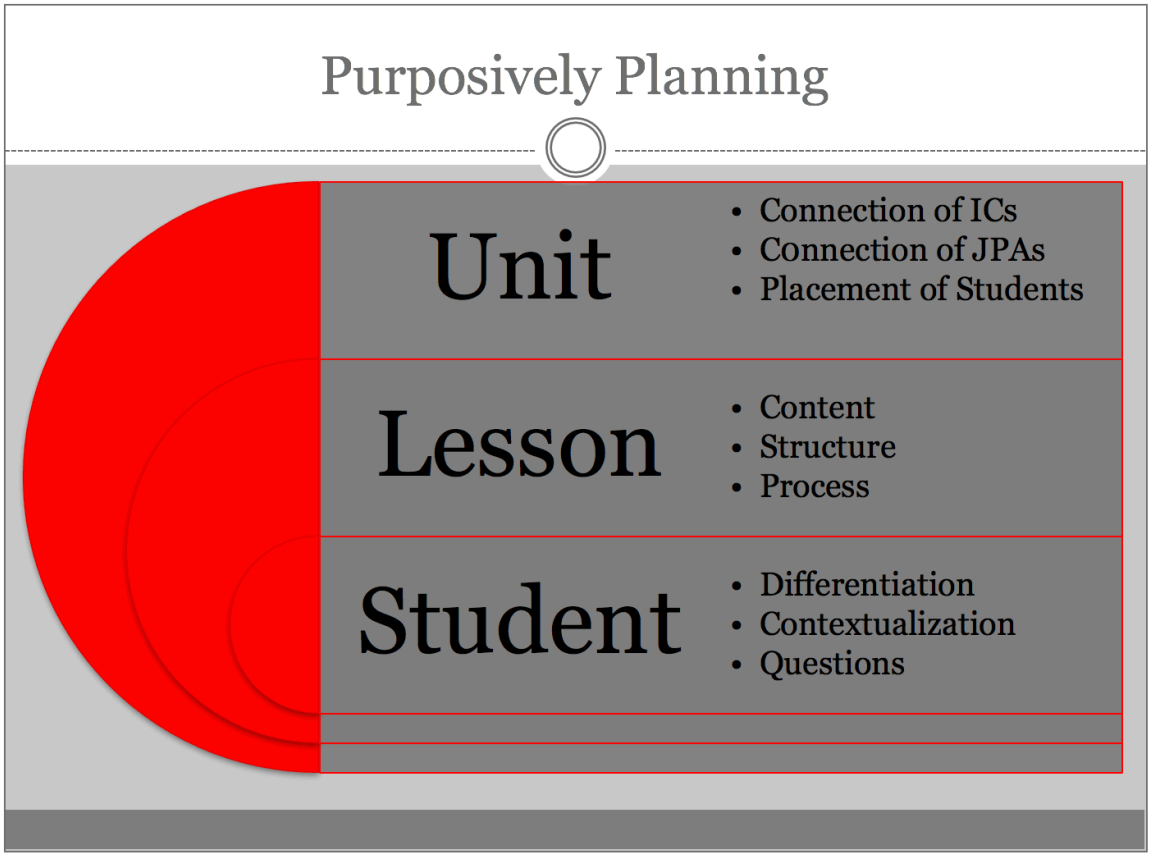


*Figure 4*. Purposively Planning Diagram

**APPENDIX G**

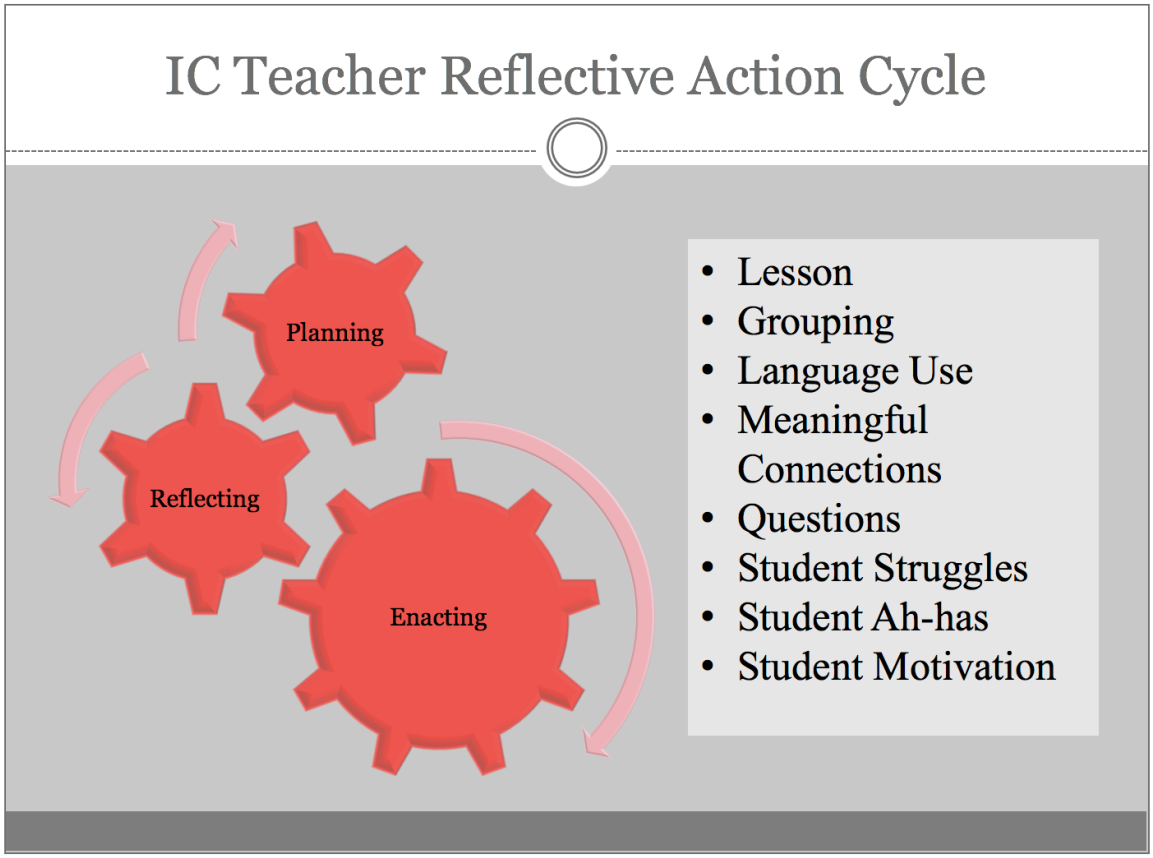


*Figure 5*: IC Teacher Reflective Action Cycle