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SCHOOL OF EDUCATION



**Impact of Professional Development on Teacher
Mindsets Relating to the Education of English Language Learners**

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By

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Abstract

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Master of Arts in Education

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With the population of English Language Learners (ELL) continuing to rise in the American public school system, teachers face the challenge of making material accessible for their multilingual classrooms. The plethora of ELL strategies, none proven completely perfect, varies from classroom to classroom with teachers making their best judgement on what will cultivate ELL achievement. In a modern school setting, teachers are often introduced to new ELL teaching strategies through professional development training. While researchers continue to study the student outcomes of these teaching strategies, infrequently are teachers perspectives included as a part of their findings. There is a significant void of information on teacher mindset as classroom educators are the administrators of these practices, are vital to their success, and first hand witnesses to their strengths and shortcomings. In light of this, this mixed-methods study illuminates the mindsets of teachers towards ELLs both before and after a ELL professional development. Through interviews and mindset evaluations of teachers at a diverse middle and high school in northern California, it was found that ELL professional development training motivates teachers' ELL practices, that teachers feel confident that ELL students can succeed, and teachers perceive they need more preparation time and coaching in order to best teach ELLs. Continuing research of teachers' ELL mindsets will only help schools meet the needs of teachers while allowing ELLs to receive the education they need and deserve.

Signature Page

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This research study conducted by Adolpho Dominguez IV, Andrew Pablo, Joseph Pickering, and Kevin Liu is approved and accepted by the faculty of the Department of Teaching and Learning, in partial fulfillment of requirements for the degree of Master of Arts in Urban Education.

Date

Faculty Committee

Research Chair

Program Director

Dedication

This thesis, through the countless hours of reading articles, classes, writing, and Zoom calls, is dedicated to all the lovely staff and professors of the LMU Northern California region. Most of all, we couldn't have done this research without the support and guidance of Professor Hilinski. You gave us the confidence we needed to write this thesis by being a mentor throughout the entire process. For all the teachers we interviewed that graciously allowed us to take time away from their busy days to interview them, we deeply appreciate you all. For the school administrators that took our professional development training with open arms, and gave us the autonomy in how we conduct it, that was brave. Thank you to all the SDAIE strategies that brought this thesis to fruition. For Salvador Ramirez and Mia Thermopolis Coluchis, thank you for withstanding any and all of Sally Limón. For Kimberly Soong thank you for all the haircuts and fades, Kevin Liu would be lost. For Regan Keller, thank you for keeping Joseph Pickering forever approachable. For Andres Rosales, thank you for all the FIFA 20 games. Thank you to Amanda Brewer for connecting all of us together!

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Chapter One: Introduction to Study

Introduction

Migration is a constant in a world that ebbs and flows with conflict, climate change, and economic disparity. The media is filled with opinionated pundits and politicians about the movement of populations from one place to another. According to a report by the United Nations in 2019, the US has nearly 19 percent of the world's total migration population which amounts to about 51 million people (United Nations, 2019). These populations are filled with families that bring with them their cultural beliefs, motivations, and even more specifically, their linguistic upbringing. When children from these families come to school, they are labeled. This classification is both formal and informal. In present day, students enroll for school and are labeled as English Language Learners (ELL) if they are immigrants or not. Gibbons (2009) defines ELLs as, "all students who come to school with a first language other than English and whose opportunities to fully develop English literacy to grade level have not yet been fully realized" (p. 9). This student population is huge and diverse beyond measure. Wayne Wright wrote that "ELLs are a diverse group, despite the misleading unifying label. ELLs come from a wide range of ethnic, cultural, linguistic, educational, and socioeconomic backgrounds. While many are foreign born, the majority are U.S.-born citizens" (Wright, 2010). In the state of California alone the ELL population consists of over 1.2 million students, nearly 21% of students in the state. These students represent over 67 different languages spoken at home with a predominant 82% speaking Spanish as their native language (National Governors Center of Education Statistics, 2019). As the ELL population continues to grow in California, schools and

teachers have the responsibility of continuing to adapt to make sure these students meet state academic standards and are prepared to be successful members in society.

Statement of the problem

Although the responsibility of teaching ELLs is clear among educators and policy makers, the best instruction method to do this has always varied. Ever since ELLs have been in California schools, “a debate has raged among educators and policy-makers regarding how best to educate these children” (Gandara, Maxwell-Jolly, Driscoll, & Anne, 2004). One widely practiced method has been to group ELLs together in the hope that the interventions used will help push their literacy and linguistic skills to grade level proficiency. In the modern day, these instructional periods take the form of English Language Development (ELD) classes. For 30 to 45 minutes a day ELLs are pulled from their classrooms to practice English reading, writing, and speaking with other ELLs. The problem is that this “one size fits most” approach is not effective enough. “Measured in terms of factors such as secondary school completion rates, participation in advanced classes, and postsecondary pursuits, it has been suggested that a million-plus young ELLs in the United States are less successful than their native-English speaking peers” (Gibbons, 2009. p.10). ELLs have been a part of the educational context of the United States for centuries but the first specific laws to protect their rights were not enacted until *Lau v. Nichols* in 1974. In the case, *Lau v Nichols*, the U.S. Supreme Court stated that, “there is no equality of treatment merely by providing students with the same facilities, textbooks, teachers and curriculum; for students who do not understand English are effectively foreclosed from any meaningful education” (Hakuta, 2011). But after nearly fifty years of this reform and other laws, ELLs still struggle in school more than their native speaking classmates. According to research published

by David Murphey of ChildTrends in December 2014, “Nationally, just under one-third of ELL students (31 percent) scored at the basic level or above in math at eighth grade, compared with three-quarters (75 percent) of non-ELL students.” This problem has yet to be solved because schools need to implement strategies and supports that are additive in nature and that guide students towards fluency in academic English. As an ELD teacher featured in the LA Times Film “The Life Of An Unaccompanied Minor In L.A. | Los Angeles Times” (2016) said, “These students are mute geniuses that we’re missing out on because of their linguistic challenges.” This is a prime example of inequity and the need for more support for ELLs.

Significance of the Study

The National Governor's Center for Education Statistics writes that ELL students are one of the fastest growing groups in the United States (2019). The population has been increasing by one million more students every three years (2019). These students are legally protected by educational policies to participate in a quality and equity-based education. There is a persistent debate between non-educators and educators alike about the manner in which we structure that “quality” education. One practice that aims to provide this quality is Specifically Designed Academic Instruction in English (SDAIE). This instructional practice functions under the notion that when English Learners participate in well designed and implemented instruction they can acquire English and meet academic standards (Crawford, 1994; Crawford, A.N. 2005). SDAIE finds that language acquisition happens most effectively when we understand what people say to us or what we read rather than focusing on the memorization of vocabulary lists and grammar exercises (Genzok, 2011).

A vital part of an impactful teaching strategy like SDAIE, is the buy in from the teachers. Without fidelity and belief in the practice, it is hard for any system to function in its most effective manner. The experiences and beliefs of educators are essential to their pedagogy and this is usually overlooked in research on ELL teaching practice. This study hopes to illuminate teachers' perspectives on feeling prepared and confident in their practice of best supporting ELLs. The actual impact of the strategies are highly dependent on the teachers perceived value of any teaching tools.

One way of measuring the quality of ELL instruction is through teacher mindset, or “the beliefs that individuals hold about their most basic qualities and abilities” (Dweck, 2016). Numerous research in the classroom has found that, “mindsets are responsive to learning and achievement” with thoughts of both students and teachers influencing each other's success (Zhang, Junfeng, et al, 2017). Thus, teachers enthusiasm and optimism towards teaching, will evidently impact students academic success and attitudes towards learning. With that being said, the mindset of teachers towards ELL teaching is not widely researched in academia and needs further study in order to evaluate its impact on student growth.

Purpose of the Paper

This research takes an in-depth look at the mindset teachers have towards their own skills of supporting ELLs, the perceived lack of skills of ELLs, and the effect of SDAIE strategies on their beliefs. This study looks to measure if SDAIE professional development is impactful on teachers' mindsets towards their ELL practice. To do this, this study will measure the mindsets of 6th-12th teachers on instructing ELLs, their differentiated ELL teaching practices, and how these mindsets and practices change after learning and possibly implementing SDAIE strategies.

Methods and Analysis

This research was collected qualitatively through interviewing teachers at one 6th-12th grade school in the Northern California Bay Area. Teachers were first interviewed on their current ELL practices, mindsets on teaching ELLs, and how they perceived their school's outlook and approach toward teaching ELLs. Next, these teachers were given professional development training on SDAIE practices and encouraged to implement these practices in their classrooms. The materials presented and given to participants in the SDAIE professional development are found in Appendix C. After the professional development, teachers participating in research were interviewed a second time to reflect on the potential changes in their mindset and practices. Through analysis of teacher mindset and espoused beliefs about ELL student skills, practice, and support systems in place, teachers were given a score on their perceived confidence. After collecting this data, research will be analyzed qualitatively and quantitatively according to mindset rubrics in order to gather the most significant results of the study.

SDAIE Research

The acquisition of a language is contingent on the way one interacts with it and how one's environment is conducive enough for it. When it comes to the classroom setting many believe that simply giving students books to read, vocabulary lists, and grammar exercises in a specific language they will be able to comprehend the material and advance in their language acquisition. However, linguists believe that the acquisition of a language happens when one understands... what people say to us or read to us (Genzuk, 2011). Simply put, acquiring a language starts from understanding what is being said to us and not how to say it or read it.

One program aimed at supporting students with limited English in core classes is a program called “Specially Designed Academic Instruction in English” (SDAIE). SDAIE has developed into a comprehensive teaching strategy. Further, SDAIE has a larger emphasis on what is said, and not how it is said in core classes. This emphasis therefore looks for lessons involving in depth conversation, good books and movies, and engaging activities for students (Genzuk, 2011). In its best practice, SDAIE also has students staying in their classrooms and not leaving for separate private English language instruction. This allows ELLs to stay in the classroom, and learn essential core curriculum material to meet content standards. Studies in California found that, “most limited-English-proficient students did not have access to aspects of the core curriculum that would permit them to advance to college preparatory courses or to receive a diploma” (Berman, Chambers, Gandara, McLaughlin, Minicucci, Nelson, Olsen, & Parrish, 1992; Olson, 2010). The inequity that the above research illuminates is indicative of the need for pedagogical approaches that allow ELLs to pursue higher education through the mastery of K-12 standards in core classes.

The overall goal of SDAIE is to bridge the gap that many ELL students face in school. By using different strategies in a variety of ways, teachers can make information accessible for all. SDAIE is consisted of the following specific teaching strategies:

- Increase wait time: Teachers must allow time for students to process what they have learned.
- Active Learning: Evidence of learning must be shown by all students.
- Assessing/ Tapping Prior Knowledge: The teacher must know the background knowledge of all students.

- Building new knowledge: Each lesson must consist of new knowledge for the students.
- Collaborative Problem- Solving: Teachers must provide activities that allow students to work and collaborate with other ELL students in different stages.
- Cultural Affirmation: Teachers must be aware of the cultural background of their students and take them into account when lesson planning. Learning the language and culture of one's students is crucial as well.
- Demonstrating and Modeling: Teachers must show the behavior that is to be learned in each lesson. When interacting with the student rephrasing and body language helps in the development of language acquisition as well.
- Graphic Organizers: Previewing language and words that readings and lessons will be used in an accessible manner, such as visuals, dramatization, manipulatives, and etc.
- Integrated Listening, Speaking, Reading, and Writing across the curriculum: The following activities are embedded in each lesson, which can create different modalities of learning and access points.
- Higher Order Thinking Skills: Allow space and lessons that push students to develop complex ideas and thoughts.
- Questioning Techniques: Teachers post questions for their students to promote learning and experience success.
- The Teacher is a Facilitator of Learning: Teachers must actively interact and engage with every student.

SDAIE is a holistic method of language acquisition that relies heavily on supporting students by making a curriculum that is adaptive towards each student's needs, yet still providing the rigor that is required for students to develop subject content knowledge.

Context

English Language Development programs are a staple of California public education. Schools in the state typically utilize three different models of designated or integrated ELD. These are called Dual-Language or Bilingual Education, Developmental Programs, or Structured English Immersion. There are a variety of languages spoken in classrooms in California as well. It is the school's responsibility to all students to provide a rigorous and grade-level education despite the immense diversity in their hallways. This research hopes to connect quantitative and qualitative data about core-curricular teachers' mindsets in teaching ELLs. Research Questions -

Problem of Practice

The purpose of this research is to understand how teachers approach ELLs in the classroom, their espoused beliefs about ELL students, and the perceived support teachers receive for ELL instruction. As stated earlier and will be described in detail in Chapter 3, the research team conducted pre-interviews of teachers, provided teachers with a professional development on SDAIE teaching strategy tools, and facilitated a post interview to understand the effect of the professional development on teacher mindsets. As a result of the study, the research team found answers to the following questions:

1. What skills/resources do teachers think that they lack to best serve ELLs?
2. What skills/resources do teachers think that their ELL students lack in order to access the core curriculum?

3. What effect will the implementation of SDAIE strategies have on teachers perceived success with ELLs?

Definition of Terms

Assimilationist Discourse – “devalue ELL’s home languages and cultures, seeing them as problems to overcome” (Wright, 2010, p. 2).

Common Core State Standards (CCSS) – “set of high-quality academic standards in mathematics and English language arts/literacy (ELA). These learning goals outline what a student should know and be able to do at the end of each grade.” (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010)

Dual-Language Immersion Program: A classroom setting that provides language learning and academic instruction for native speakers of English and native speakers of another language, with the goals of high academic achievement, first and second language proficiency, and cross-cultural understanding (California Department of Education, 2019).

English Language Development (ELD)- Integrated or Designated education for English Language Learners to develop their English literacy and fluency (California Department of Education, 2019).

English Language Learner (ELL) – “all students who come to school with a first language other than English and whose opportunities to fully develop English literacy to grade level have not yet been fully realized” (Gibbons, 2009, p. 8).

Long Term English Learner (LTEL) – “Students who remain classified as ELLs for 5 years or longer” (Wright, 2010, p. 10).

Pluralistic Discourse – “Recognizing ELL’s home languages and cultures as rich resources for helping ELLs learn English and academic content, and they strive to help students develop high levels of proficiency and literacy in both languages” (Wright, 2010, p. 3).

Reclassification – the process of moving an ELL to a non-ELL status (California Department of Education, 2020)

SDAIE - Specifically designed academic instruction in English in all context areas that allows ALL students to be able to participate and learn (Sweetwater School, 2019)

Structured English Immersion: “A classroom setting for English learners in which nearly all classroom instruction is provided in English but with a curriculum and presentation designed for pupils who are learning English. At minimum, English learners will be provided a program of Structured English Immersion” (California Department of Education, 2019)

Transitional or Developmental Program: A classroom setting for English learners that provides instruction to pupils that utilizes a pupil’s native language for literacy and academic instruction and enables an English learner to achieve English proficiency and academic mastery of subject matter content and higher order skills, including critical thinking, in order to meet the state-adopted academic content standards (California Department of Education, 2019).

Chapter Two: Review of the Literature

Instructor Mindset of Teaching English Language Learners

One outcome of the study identified what teachers perceived to need in order to best support ELLs. To do so, interviewers spoke with teachers instructing ELLs everyday. Teachers shared what they perceived to be missing in their ELL practice. This research decision was influenced by the plethora of research that shows the absence of resources that would help them feel more confident to do their best teaching. In a study researching secondary teachers' attitudes with respect to teaching ELLs in a mainstream classroom, they found that after surveying 1,200 teachers, “57% said they needed more information to work effectively with ELLs” (Reeves, 2006). Similarly a study comparing the readiness and self competency of pre and in-service teachers teaching ELLs, “suggests that content area teachers feel unprepared and unready for mainstream classes with ELLs where they spend most of their school day” (Polat, 2010). These studies help illuminate the feeling of low preparedness and confidence that teachers of ELLs feel. In turn, this shows teachers feel they are not provided the resources to teach ELLs to their best ability.

Other studies measuring teachers' perceptions of under-preparedness and lack of confidence in teaching ELLs used testimony to identify what they perceived was lacking. In a rural city with a growing ELL population, teachers expressed having a huge challenge in “communication with students and their parents” (Hansen-Thomas, Richins, Kakkar, & Okeyo, 2016). This study implies that translators and language translation technology is a perceived need for these teachers to successfully teach ELLs.

In a study that also shares the challenges teachers are facing while teaching ELLs, a number of different barriers are reported. These barriers were divided into 8 different categories determined by the most popular responses from teachers at a California school (Gandara, Maxwell-Jolly, & Driscoll, 2004). These challenges included encouraging and motivating ELLs, lack of appropriate materials, district and school support, and similarly to the last study, communication with students and parents. For elementary teachers, it was found that communication with students and parents was seen as the greatest challenge, followed by lack of time to teach language development. The least challenging factor perceived by elementary teachers was the lack of support from the district and school. For the top challenge faced by secondary teachers, they found that communication between teachers and ELL students was the most difficult factor followed by encouraging and motivating ELLs. The least challenging factor perceived by secondary teachers was ELLs readiness to learn while the least common challenge was district and school support.

In contradiction to the above research, there were also studies that found that teachers saw ELLs to have no barriers to learning certain subject matter. In an article investigating teachers' feelings towards teaching ELLs in New York, Pennsylvania, and Texas, researchers found, “that many teachers expect math to be easy for ELLs and that motivation is seen as critical to student success”. According to the researchers, the, “investigation highlights the commonly held belief that mathematics should be easy for ELLs because it is a “universal language””(Hansen- Thomas, & Cavagnetto, 2010). It is fair to assume the perception of these teachers' confidence and preparedness in teaching ELLs would be very high given their inclination to not modify their instructional strategies.

There is also research that shows teachers modifying practices because they perceive language acquisition to be the responsibility of the ELL. Some teachers see ELLs needing to adjust to monolingual American schools on their own showing an assimilationist mindset. In a book by the *U.S. Department of Education, National Governor's Center for Education Statistics*, exploring the complexities and failures of the US Education system, they find that, “too many teachers view mainstream U.S. culture and monolingualism as the norm, thus ignoring linguistic diversity” (Osborn, 2007). The belief of this norm by teachers would not inspire them to take action in supporting the challenges ELLs face in the classroom. Further, without the realization that accommodations for ELLs are necessary, teachers would feel prepared and confident in their instruction of ELLs.

Teacher Mindset

There is not much research on how professional development of SDAIE strategies impacts teacher outlook on instructing ELLs. In order to calculate teacher mindset on the efficacy of SDAIE practices, this study utilizes the measurement of mindset both before and after a SDAIE professional development. As mentioned above, mindsets, “are beliefs that individuals hold about their most basic qualities and abilities” (Dweck, 2016). Other studies similarly define mindset as, “assumptions that we possess about ourselves and others that guide our behavior” (Brooks, Brooks, & Goldstein, 2012). With all living people possessing a mindset, researchers have been particularly interested in the impact mindset can have on human success. In Carol Dweck’s book, *Mindset: The New Psychology of Success*, one of the leading pieces of research on growth mindset, she finds that “the learning process is much more important than the achievement. When we live in a state of mind of winning or losing, we don’t learn to embrace

challenges, setbacks, and obstacles. When you face difficult situations with growth mindset you open yourself up to realize your full potential” (Dweck, 2016). In light of the inevitable struggle teachers face in their practice, schools have started initiatives that encourage growth mindset in order to keep a more positive professional development experience.

Research has also found just how impactful teachers messaging can be on the mindsets of their students. Findings show that the direct and indirect messages teachers send their students can be more impactful than they may perceive. As Dweck writes in her book, in a message to teachers, “every word and action can send a message. It tells children — or students, or athletes — how to think about themselves. It can be a fixed-mindset message that says: You have permanent traits and I’m judging them. Or it can be a growth-mindset message that says: You are a developing person and I am interested in your development”(Dweck, 2016). The intentionality of speech that Dweck pleads teachers to be cognisant of is also stressed in the findings of other research. In Junfeng Zhang's study of teacher mindset, he echoes Dweck’s findings by sharing that, “teachers’ mindset-related messages play an important role in the classroom. The result implies that mindsets are responsive to learning and achievement”(Zhang, 2017).

As a “guide of our behavior”, and thoughts, it is clear to see the importance of looking at teacher mindset in how it affects their messaging to students and pedagogical practice. (Brooks, Brooks, & Goldstein, 2012). In a study measuring how teacher mindset can foster resilience in students, research found that, “the assumptions educators possess about themselves, their role as teachers, and their students’ capabilities play a significant role in determining expectations, teaching practices, and ultimately student happiness and success”(Brooks, Brooks, & Goldstein,

2012). Similar to this research, educational scholar Stephanie Deanna Palazzolo found that a teacher's self perception can impact their practice. In her study of elementary science teachers, she writes that, “what teachers believe about their own effectiveness in the classroom influences what and how they teach” (Palazzolo, 2013).

The similar findings of the above studies affirms the large role mindset can play in teacher practices. To what extent this influence can have has yet to be researched extensively. In a study on teacher preparedness for teaching language learners they find that, “although moving toward greater ELL awareness and inclusive mindsets, there is evidence that well-intentioned teachers lack the competence necessary for effective classroom practice”(Valeo, Webster 2011). While mindset has been studied for other teaching strategies, it is hard to find any research on teacher mindset towards ELL practices.

Despite the lack of information on teacher mindset towards specific skills that ELLs lack, there is a large body of work on general educator attitudes towards ELL academic ability. Research has shown that at a macro level, systems that influence the entire education field continue to place barriers in the way of achievement for ELLs. A dissertation on educators' deficit ideologies of ELLs comments that, “federal legislation, state mandates, and educator beliefs continue to marginalize students of color, low-socioeconomic status, second language learners and students with disabilities” (Ireland, 2015). Although there hasn't been specific research on educator perception of ELL skill deficits, systemically, there is a common deficit mindset towards this diverse group of students. Marginalized students, such as ELLs are not born with a deficit or achievement gap at birth, rather the perceived deficit occurs as educators view the students in their schools through a stereotypical lens (Gorski, 2012). This is the reality for

many ELLs that enter into a system that values monolingualism and refuses to take advantage of home language skills that coincide with second language acquisition.

Effect of Professional Development on Teacher Mindset

Previous literature finds the vast majority of professional development training positively impacts teachers and their practices. One study indicated that professional development is more effective in changing teachers' classroom practice when it has "collective participation of teachers from the same school, department, or grade; and active learning opportunities, such as reviewing student work or obtaining feedback on teaching; and coherence, for example, linking to other activities or building on teachers' previous knowledge (Desimone, Porter, Gare, et al., 2002)." The implementation of all three elements in a professional development training in some form may influence its success.

Elizabeth Bifuh-Ambe examined a semester long training, with pre- and post- workshop surveys, and classroom observations throughout elementary grade levels. Her study reported that, "results indicate that a majority of participants had positive attitudes towards writing, and felt competent teaching some domains of writing" (2013). Another study done by Helen McCabe looked into the practices of effective teacher training at the Autism Institute in the Republic of China. She wrote that this, "study has provided evidence about important features of an effective teacher training model. Teacher preparation at the Autism Institute is full of collaboration, cooperation, and discussion, leading to extremely positive collegial relationships between teachers, positively impacting their views about their profession (2008)." This professional development concentrated on the use of collaboration and creating a sense of community within the school, showed particularly great results on the mindsets and the growth of the younger

teachers in the program.

Unlike previous studies mentioned, Sigrun Adalib Arnardottir and Robert L. Selman wrote about an on-going professional development to help teachers grow their students' interpersonal skills. One of the 3 ways they measured their outcomes was by looking at the difference in the motivation/aims of the teachers in the training. Post study, one teacher reported that, "I feel I have received a new vision," in response to their new motivation to continue to practice and grow this area of their teaching (Adalib Arnardottir & Selman, 1997). Such a response is a testament towards the strength of professional development.

Karen Ross looked into the effects of changing teacher self-efficacy on student achievement after undergoing a series of professional development training. Results from a quantitative study of mathematics teachers in a USA mid-Atlantic state showed that teachers experienced reduced self-efficacy when working with ELL students relative to non-ELLs. "Study results indicate that teachers' participation in professional development on ELL instruction is positively correlated to their heightened sense of self-efficacy" (2013).

Overall, a majority of studies on the professional development of teachers, given that training utilizes the three elements of collective participation, active learning opportunities, and coherence, show positive outcomes for teachers (Desimone, Porter, Gare, et al., 2002). However, without those elements teachers may not be impacted as strongly and consequently not have the buy-in necessary for progress and growth.

Chapter Three: Research Design and Methodology

Research Design

The focus of the research study was to better understand teacher mindsets of core curricular teachers around their teaching practice and service to ELLs. As the study was conducted at a combined middle and high school in the Northern California Bay Area, teachers from all subject areas were selected to participate in the study. This study used qualitative methods in order to collect its findings. After qualitative data was collected, it was evaluated according to a rubric in order to acquire quantitative results that will be presented in chapter four of this research paper. In order to collect data, researchers took field notes on ELL practices at the respective schools and interviewed participating teachers to get an initial gage on their mindset towards ELL practices.

Following this, researchers gave professional development at the school on specific SDAIE practices for teachers to use in their classrooms. It should be noted that PD for each content area (mathematics, humanities, and science) occurred in separate spaces at separate times. After receiving professional development, participating teachers were encouraged to implement these strategies in their classroom and see if they created more engaging environments for ELLs.

Finally, after teachers were given a few weeks to implement and test strategies, participants were interviewed again in order to understand their mindsets towards the newly learned SDAIE practices and their implementation (or lack of) of them in the classroom. In both the pre-interview and post-interview, teachers were asked questions that helped to reveal their mindsets and strategies about teaching ELLs. The research questions will be discussed in the

next section and can also be found in Appendix A. The reason the research group conducted an exit interview was to understand if learning about new strategies helped teachers to support ELLs in the classroom and if it shaped their teaching mindset.

After conducting interviews and providing to PD, the team worked to transcribe and summarize the interviews before scoring the teachers according to a created mindset rubric in order to find trends and draw conclusions. The rubric used will be discussed in more detail later in the Data Collections and Data Analysis section of the chapter. The study was created with the intent to improve how teachers work with ELLs and spread awareness about SDAIE strategies not only among the participating group but beyond the scope of the project. The figure below gives an overview of each of the phases of the project that the research team implemented with the opportunity for future work.

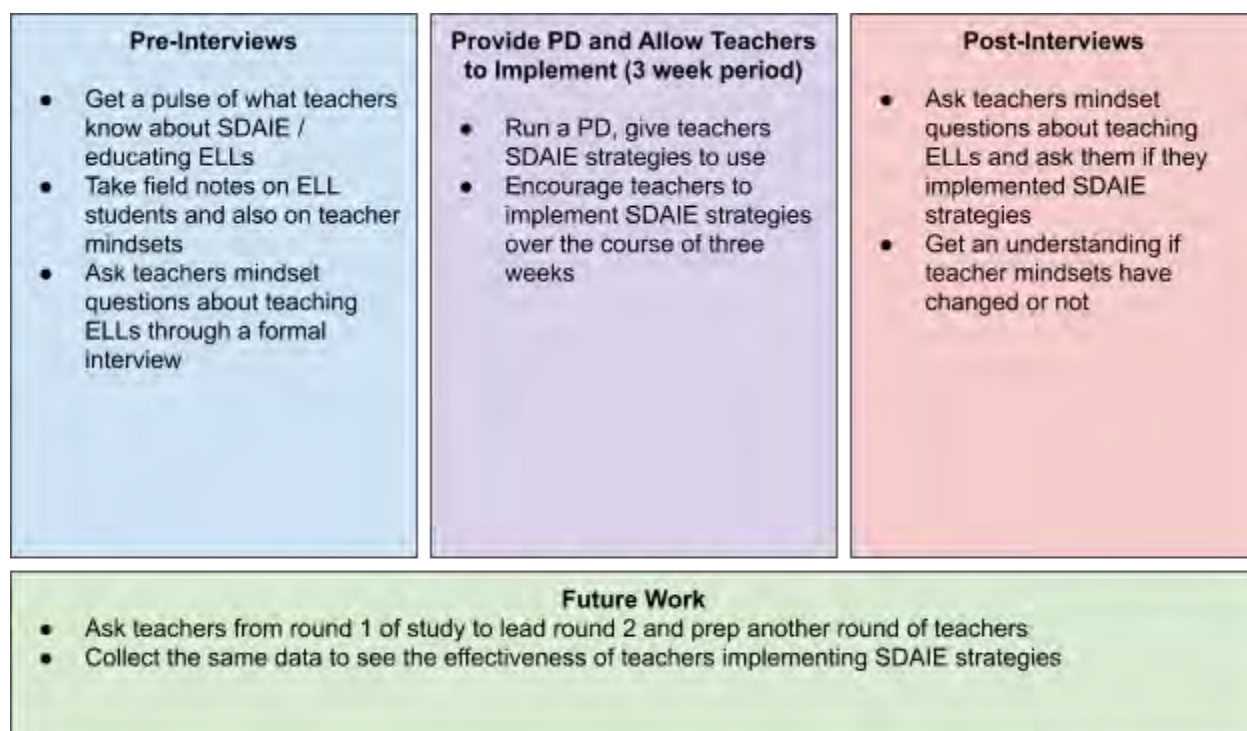


Figure 3.1 - Overview of Research Design

Research Questions - Teacher Interviews

Pre-Interview Questions:

The research questions that the team asked attempted to build on prior rapport with the teachers going through this training process on SDAIE strategies and are linked in the Appendix A. The research survey begins with five questions directly asking about the teachers present content area, their history of teaching in order for teachers to explain their own identity as a teacher. These questions are important because they gave the researchers context about where the teachers began their teaching career and how their pedagogy may have been shaped. Understanding the background of content teachers allows the researchers to gain a deeper understanding of how specific teachers may work with ELLs.

The following two questions in the survey ask for teachers to describe and to think of how a different person would describe their teaching style in order for them to reflect on themselves. These moments for teachers to analyze themselves allowed the researchers to move from basic introduction into a deeper conversation naturally. This was useful in having open dialogue before asking the teacher direct questions about their mindset concerning their ELL students.

Next, the researchers asked content teachers logistical questions about the ELL population in their classroom. The questions attempted to guide the interviewee to explain the ways that they support ELLs and the challenges that they face teaching ELLs. These questions seek to understand the mindset that teachers have when it comes to their practice in teaching ELL students. Finally, the researchers asked the participants how the school supports ELLs and

also to describe the level of coaching they receive at their school. These last few questions were important for the researchers to understand the mindset of teachers around school support.

Post Interview Questions:

After providing teachers with a professional development about how to best use SDAIE strategies in their classroom, the participating teachers were re-interviewed by the research group. Again, a list of the questions asked to teachers along with probing questions can be found in Appendix A. The questions were written in such a way that asked participants about their use of ELL teaching strategies and also whether or not they found the strategies to be useful or have any effect on their students. The purpose of the questions was to understand the teacher mindset around using ELL strategies. The research team also asked the question of whether or not participants found the training to be valuable to understand if future training would potentially serve to change teacher mindset around working with ELLs.

Both the pre-interviews and the post-interviews were recorded, transcribed and summarized by the research team. The research team used interview responses to understand teachers according to three main categories: teacher understanding of ELLs, teacher strategies for educating ELLs, and school support/approach to ELLs.

Setting

This study took place at one public school in a low socio-economic area in Northern California, Bay Area. For the purpose of this research paper, it will be referred to as Literacy Academy Middle and High School. The middle and high school are located in the Fruitvale neighborhood of Oakland and both share one campus, along with another public middle school. This sharing of a campus with another independent middle school affects the schools as it causes

them to split some of their resources including: school health services, speech pathologists, psychologists, athletic gymnasium, soccer field, auditorium, cafeteria and library.

Literacy Academy Middle and High School has the following demographics: 84% Hispanic, 33% of students are proficient in Reading/ language. Additionally, Literacy Academy Middle and High School have a class size of up to 33 kids per class, averaging about 30 students per class. As far as classroom set-up goes, all the classrooms in both the high school and middle school have access to a projector, elmo document camera, and chromebooks. Classrooms across both the high school and middle school are generally set up to accommodate students working in small groups of 3-4 students.

Participants

When it came to selecting the sample size for the study, teachers were selected from grades six through twelve at Literacy Academy Middle School and High School. It is important to note that for easy access to teachers and the providing of professional development, three out of four of the researchers work at Literacy Academy and the teachers interviewed are the colleagues of the majority of the researchers. The research team interviewed teachers of multiple subjects across different grade levels ranging from 6th-12th grade. Since the research team is made up of current employees of the school site where data was collected, entry and the acquisition of trust to do their study was quite simple as they have already established rapport at the site. The following table and information is a small amount of background on each of the educators that participated in the study.

Table 3.1 - Research Study Participant List

Teacher #	Pseudonym	Subject	Grade Level	Years Teaching
1	Karina	Humanities	6th	9
2	Gina	Humanities	9th	9
3	Angela	Humanities	10th	6
4	Dave	Math	9th and 10th	10
5	Daniel	Science	9th, 11th, and 12th	19
6	Jack	Science	10th and 11th	7
7	Joseph	SPED	11th and 12th	2
8	AJ	Science	6th	7
9	Jane	Math	6th	3
10	Peter	Science	7th and 8th	9
11	Yoshi	Humanities	11th and 12th	13
12	Ken	Math	9th and 10th	2
13	Matthew	SPED/ELD	11th and 12th	4
14	Antonio	SPED/ELD	9th and 10th	4

Teacher #1 - Karina:6th grade Humanities Teacher. 9 Years Teaching Experience

Karina has taught fourth, fifth and sixth grades, and loves the curiosity, joy, innovative spirit and emerging logical thought of 6th graders. Karina is a bilingual Afro-Latina. She believes helping students access and achieve literacy at all levels is a social justice act. Karina earned her BA in Child Development and MA in Education from Mills College.

Teacher #2 - Gina: 9th grade Humanities Teacher. 9 Years Teaching Experience

Gina loves to teach 9th grade English and transition students to high school. She is happy to be teaching at Literacy Academy after teaching 9th graders in Chicago, Spain, and at another high school in Oakland. She is passionate about reading and enjoys teaching a breadth of texts ranging from Plato “Allegory of the Cave” to Shakespeare’s Romeo and Juliet. She firmly believes in helping students read well, speak well, and write well and works hard everyday to prepare her students. Gina has a BA in English from USC and her Masters in Education with a focus on Literacy from Loyola Marymount University. She is a Teach for America corps member from 2011.

Teacher #3 - Angela: 10th grade Humanities Teacher. 6 Years Teaching Experience

Angela is a 10th grade humanities teacher at Literacy Academy Middle and High School and has been teaching there since 2015. She came to teaching after studying social conflict in South Africa and coaching middle and high school athletes in New York and Philadelphia. She is primarily English Speaking but does speak some conversational Spanish. She attended Columbia University where she earned her undergraduate degree in Anthropology before attending Stanford University where she received a Masters in Education in Secondary Social Science & English.

Teacher #4 - Dave: 9th and 10th grade Math Teacher. 10 Years Teaching Experience

Dave is a high school math teacher in Literacy Academy High School. After graduating from the University of Chicago with a degree in Sociology, and spending some time working for unions in Washington D.C. and London, he decided to join the teaching profession. He got a

Masters in Education at Mills College and after six years of teaching in San Francisco he joined Literacy Academy. He loves working with students on rigorous, meaningful mathematics.

Teacher #5 - Daniel: 9th, 11th and 12th grade Science Teacher. 19 Years Teaching

Experience

Daniel is a science high school teacher that has been working at Literacy Middle and High School since 2012 and teaching high school and middle school in Oakland since 2004. A self professed nerd, Daniel's favorite curricular projects are the Identity Project, the Atomic Ice Cream Certification, pGLO transformation. When not teaching, Daniel takes time to be a proud father playing and learning outside in beautiful Northern California. He attended Davidson University for his bachelor's degree in Biology and attended Brown University where he received his MA for teaching biology.

Teacher #6 - Jack: 10th and 11th grade Science Teacher. 7 Years Teaching Experience

Jack, is a 10th and 11th grade science teacher at Literacy Academy. He is an Asian American who is only English Speaking and has worked at the school for 8 years. Jack attended UC Berkeley and received an undergraduate degree in Biochemistry and Molecular Biology before entering the CalTeach program and working as a student teacher at Literacy Academy Middle and High School. He currently teaches high school chemistry and physics but has also taught middle school science in years past. In addition to teaching at Literacy Academy Middle and High School he works as a research assistant in a lab that does work around pharmacokinetics, metabolism, and other types of biopharmaceutical drug analysis.

Teacher #7 - Joseph: 11th and 12th grade Humanities Teacher. 2 Years Teaching**Experience**

Joseph is a 11th and 12th grade humanities teacher at Literacy Academy who is in his first year of teaching at the school. He participated in the Harvard Teachers Fellow 2 year program that focuses on classroom instruction and training over the summer. He started the program student teaching in Boston then transitioning to work at an Oakland high school. As a result of the program, Joseph recently graduated with a MA in Education from Harvard.

Teacher #8 - AJ: 6th grade Science Teacher. 7 Years Teaching Experience

AJ is currently a 6th grade science teacher at Literacy Academy. He has worked at refining his curriculum over the years through Stanford's Learning Through Performance Program. He originally got his degree from the University of Memphis, BA in Political Science. He has worked to implement design-thinking as well as hands-on, project-based learning to make science more fun and engaging for students. AJ works hard to fundraise for his kids, engage them in inspiring experiences, and take them out into the real world to do good!

Teacher #9 - Jane: 6th grade Math Teacher. 3 Years Teaching Experience

Jane is a 6th grade mathematics teacher who has worked at Literacy Academy for three years. Before working at Literacy, Jane received several years of experience teaching math at Aim High, a summer learning and enrichment program for Oakland youth. Jane is a graduate of OUSD public schools and her priority is helping students develop a positive relationship with math. She also hopes to help her students understand the math as it pertains to their lives. In her free time, Ms. Vasquez enjoys spending time with family and playing indoor/outdoor soccer. Jane received her BA in Politics, Latin American and Latino Studies and Education from UC

Santa Cruz and MA in Education from Loyola Marymount University. She is a Teach for America corps member 2017.

Teacher #10 - Peter: 8th grade Science Teacher. 9 Years Teaching Experience

Peter is in his first year of teaching 7th and 8th grade science at Literacy Academy. Prior to working at Literacy, he accumulated 9 years of teaching experience and also holds a degree in Early Childhood Studies from Duke University. He believes that exploratory and project based learning are important ways for students to learn. He is a Teach for America Corps Member 2010.

Teacher #11 - Yoshi: 11th and 12th grade Humanities Teacher. 13 Years Teaching Experience

Yoshi has been teaching for the longest amount of time among the humanities team at Literacy Academy and teaches 11th and 12th graders. He is a Japanese-American who frequently travels between Japan and his home in Oakland. He started his teaching career as an English teacher in Japan. He has his undergraduate degree from UC Davis in Economics and Anthropology. He received his MA in education from Stanford.

Teacher #12 - Ken: 9th and 10th grade Math Teacher. 2 Years Teaching Experience

Ken is a 9th and 10th grade mathematics teacher who has been working at Literacy Academy for the last two years. Ken has always been interested in working with students, but prior to working at Literacy Academy was working in the field of engineering. Ken has his BS in mechanical engineering from Northeastern University and his MA in Education focused on digital learning from Loyola Marymount University. He is a Teach for America Corps Member 2018.

Teacher #13 - Matthew: 11th and 12th grade SPED/ELD Teacher. 4 Years Teaching

Teacher 13, Matthew, graduated from the University of California San Diego with a B.A. in Human Development and began working as a Behavioral Therapist in the Bay Area, serving children with Autism and their families in the community. After a few years, they took advantage of an opportunity and began working for Literacy Academy in 2016 as a Special Education Teacher.

Teacher #14 - Antonio: 9th and 10th grade SPED Teacher. 4 Years Teaching Experience

Antonio attained his B.A. in sociology from UCLA and is currently working on his M.A. in Urban Education from Loyola Marymount University and has four years of teaching experience as a resource specialist. Public Policy and Administration with Loyola Marymount University. His work with children all throughout college influenced him to want to join literacy Academy as a Resource Specialist. He is a Teach for America Corps Member 2016.

Data Collection

The primary methods for data collection in this mixed methods study were 1) in-person interviews conducted to learn about teacher mindsets prior the research project and 2) in-person interviews of teacher mindsets after the research project to understand how SDAIE training influenced teacher mindsets. The interviews were conducted in order to elicit teacher responses specifically to answer the three research questions:

1. What skills/resources do teachers think that they lack to best serve ELLs?
2. What skills/resources do teachers think that their ELL students lack in order to access the core curriculum?

3. What effect will the implementation of SDAIE strategies have on teachers perceived success with ELLs?

The interviews that educators participated in were conducted in the form of in-person conversations and the questions were designed in a way that similar questions were used for both the pre-interview and post-interview, allowing researchers to compare responses. The first few questions of the interview were simple and used to build trust and invoke open conversation between researchers and the teachers participating in the survey.

Prior to being interviewed, teachers had agreed to participate in the study and were briefed verbally about the topic that the research team is studying. It is important to note that only teachers that have opted into the study were interviewed.

After participating in the professional development covering SDAIE practices and potentially implementing SDAIE practices into their classroom over a period of three weeks, teachers were reinterviewed. Interviews were then transcribed and summarized, the team used a mindset rubric in order to quantify their data and assign scores to the teachers. The mindset rubric involved a four point scoring system to understand how confident teachers were working with ELLs. Teacher scores ranged between a 1 meaning not confident and a 4 meaning that they had a great amount of confidence in the strategies that they were implementing. The questions that participants were asked to answer were sorted into three categories: 1.) individual teacher understanding of ELLs, 2.) individual teacher strategies for teaching ELLs, and 3.) school support/school approach to ELLs. Teachers received a rubric score between 1 and 4 to represent their confidence level in each of these categories. The results and analysis of findings will be discussed in greater detail in Chapter Four.

Data Analysis

To analyze their data, the research group used discovery of patterns to align similar mindset answers amongst the teachers interviewed and looked for trends. Trends were noted and discussed by the research group.

Also, as stated above, the pre-interview and post-interview questions were sorted into three categories to determine teacher understanding of ELLs, teacher strategies for teaching ELLs, and school support that teachers felt they were receiving in the department of working with ELLs. The first group of questions asked had teachers describe their teaching background and teaching strategies in the classroom. The second group of questions asked teachers about their ELL classroom teaching strategies. The third group of questions addressed teachers' perceptions of ELL supports at the school they are teaching at. Within each group of questions that teachers are asked, like minded answers across the variety of teachers interviewed were grouped to look for patterns among teachers' opinions, perceptions, and mindsets. Looking at these grouped answers and their similarities and differences, the research team analyzed the information in order to determine the results of presenting a variety of SDAIE practices to teachers. The analysis of these trends that occurred along with quantitative results are discussed and shown in detail in chapter four.

Role of the Researchers and Limitations

The limitations to the research study were primarily related to the level of influence and capacity of the researchers to dedicate time to the study on top of their other teaching responsibilities. The study only took place at one school, a middle and high school. The study did not have any focus on early childhood education.

Additionally, the middle and high school serves primarily Latinx and Spanish speaking populations in an English-only school environment. The study and prior research conducted was primarily focused on Northern California, Bay Area and on schools of similar student demographics.

Finally, there is a risk for researcher bias in that the researchers are also employed by the schools that they are studying. Researchers have close relationships with teachers being interviewed due to the fact that they are teachers who work at the same place of employment.

Risk to Participants

Participant risks in completing the study were associated with feelings and perceived mindset instead of physical risks or side effects. There was a risk of triggering participant teachers through asking them to be vulnerable and open about their practice. To combat this possibility, teachers in their pre-interview and post-interview were asked about challenges and successes in teaching ELLs in order to maintain a balance of positivity and criticality.

Another risk that the participant teachers faced is that they may try out SDAIE practices and yield disappointing results. Examples of disappointing results could be lower student engagement, fewer students showing proficiency, lack of change in ELLs' learning, or even lower levels of student learning as a whole. Another risk is that participating teachers may simply feel that participation in the study was a waste of precious time. Overall, the study provided a low risk for participating educators.

Process Data Collection

The following is a list of tools that were used in order to collect data and ensure process reliability throughout the study.

Table 3.2 - Process Data Collection Summary

<p style="text-align: center;"><u>Capstone Advisor</u></p> <p>Person who the research team met with on a consistent basis over the course of the project who provided check-ins and a third party voice to the study. This person allowed the researches someone to reflect with and make sure that their study was incorporating best practices</p>
<p style="text-align: center;"><u>Audio Recording</u></p> <p>All interviews and the professional development were audio recorded to ensure accurate data collection. Some of the audio recordings were transcribed and used throughout the study as evidence</p>
<p style="text-align: center;"><u>Field Noting and Summarizing</u></p> <p>Throughout the data collection process notes were taken on a research team document to ensure that each stage was accurately recorded. Interviews were summarized for research team members who were not able to attend.</p>
<p style="text-align: center;"><u>Rubric Alignment</u></p> <p>The research team met and assigned rubric scores as a group to ensure that all participants were graded according to the same scale.</p>

Chapter Four: Findings

Introduction

After the analysis of the research findings, three major trends were evident in teachers' mindsets about the instruction and support of ELLs.

- 1.) Teachers reported that they felt strained with the lack of time dedicated to coaching and preparation of curriculum for ELLs.
- 2.) Teachers left the professional development feeling motivated and positive to provide more support for their ELLs.
- 3.) Finally, many of the educators displayed a positive view of ELLs and their linguistic skills, while blaming the racist monolingual education systems on the ELL student achievement gap.

Finding 1: Teachers Desire Support/Coaching Around Instruction of ELLs

After analyzing the findings, there were certain trends that can be seen across teacher interviews and mindset scores. One of these trends is the expressed need of more support in order to better teach ELLs. One of the most common supports stated was the desire of ELL instructional coaches. The following table below shows the pre-interview and post-interview rubric scores of teachers related to support that they feel at their school and their mindset about their school's approach to teaching ELLs.

Table 4.1 - Rubric Topic C: School Support/School Approach Towards ELLs

Rubric Scale: 1 = Not Confident; 2 = Limited Confidence; 3 = Some Confidence; 4 = Great Amount of Confidence					
	#	Participant Name (pseudonym)	Baseline Rubric Score (Pre Interview)	Outcome (Post Interview)	Impact Difference
Topic C: School Support/School Approach Toward ELLs	1	Karina	2	3	1
	2	Gina	1	2	1
	3	Angela	1	2	1
	4	Dave	1	2	1
	5	Daniel	1	2	1
	6	Jack	1	2	1
	7	Joseph	1	2	1
	8	AJ	1	2	1
	9	Jane	1	2	1
	10	Peter	3	4	1
	11	Yoshi	1	1	0
	12	Ken	1	2	1
	13	Matthew	1	2	1
	14	Antonio	1	2	1

During their interview, teacher 7 shared that when it came to ELL teaching support it was nearly non-existent. They went on to further say that they, “would love more support about equity and supporting ELLs,” and to do this they, “would love coaches full time.”

Similar to teacher 7, teacher 8 also felt that there needs to be more coaching support. When asked about support at the school, teacher 8 describes ELL teaching training as, “teachers

helping other teachers while administrators haven't given much coaching". To add to their point, they further share that the school could benefit from, "highly trained coaches to support the teaching staff and students". Teacher 11 also mentioned the need for coaching in their interview. When asked what the ELL support was like at the school, they explained that it only exists in teachers supporting other teachers. Further they shared that there is, "zero coaching for staff which leaves teachers to grow on their own". Teacher 13 also shared the need for more coaching support. They expressed that it was non-existent at the school which is very problematic. Further, they shared that, "the most dangerous thing is when teachers work in isolation without the critique of their colleagues or others". This danger illuminates how isolated this teacher feels without feedback, from not just professional ELL coaches but also, fellow colleagues.

Varying slightly from the teachers referenced above, teacher 12 perceived coaching to be existent but it being very inconsistent. They shared that this inconsistency reflects with ELL teacher practices as well as expressing that it looks very different in each classroom. Regardless, teacher 12 clearly expresses the need for better coaching support for the staff.

The only outlier of these coaching support findings came from teacher 10. When asked about the support at their school, they stated their primary ELL teaching challenge was a lack of resources. The teacher assigned this fault to the underfunding district and not the school itself. As stated by teacher 10, "this system is designed to fail our students". With respect to the support the school could afford, the teacher perceived administration to be doing a great job. In their interview, they saw "the school to be providing a number of different support resources including "1-on-1 coaching". This directly contradicts teachers 7, 8, 11, 12, and 13 as coaching support was either slightly or entirely non-existent for all these teachers.

Another trend in teachers perceived needs was having more time to prepare and include ELL support in lessons. In their interview, teacher 4 shared that, “the school does not allow teachers enough time to plan lessons that can aid ELLs”. If more time was given, this teacher would feel more confident in structuring lessons to support language learners. Teacher 6 had a similar feeling to teacher 4. Despite meeting with teachers and administration to help grow their ELL teaching practices, they feel that there is not enough “time to plan, build, and design lessons that utilize discussed best practices as aligned with units”. Teacher 8 had similar feelings expressing that time is taken to learn ELL teaching practices but not enough time to actually implement them. In addition, teacher 8 enjoyed the SDAIE PD and was excited to use these practices in the classroom. Lastly, teacher 12 also felt more prep time was needed to provide supports for ELLs in the classroom. They felt that teachers are already overworked and do not have enough time for preparations in general. Further, they stated because of feeling overworked, “that more prep time is needed to create lesson plans that include support for ELLs.”

These trends of teachers feeling discouraged in their ELL teaching is reflected in the mindset score graphs below where the majority of teachers started at a 1 (Not Confident) and ended at a 2 (Limited Confidence). As mentioned above, the majority of these low confidence scores were supported by teachers' perceptions of ELL coaching and time to prepare ELL lesson accommodations. It is also important to note that the slight increase in score is a byproduct of positive feelings towards the SDAIE PD in this study and not the improvement of other resources. In addition, you can see teacher 10 as an outlier in school support as they move from a 3 (Some Confidence) to a 4 (Great Amount of Confidence) which is reflected in their feelings of the great job administration is doing to coach instructor ELL practice. The following figure

visually displays the rubric scores of all teachers and their mindsets around school support and school approach towards ELLs.

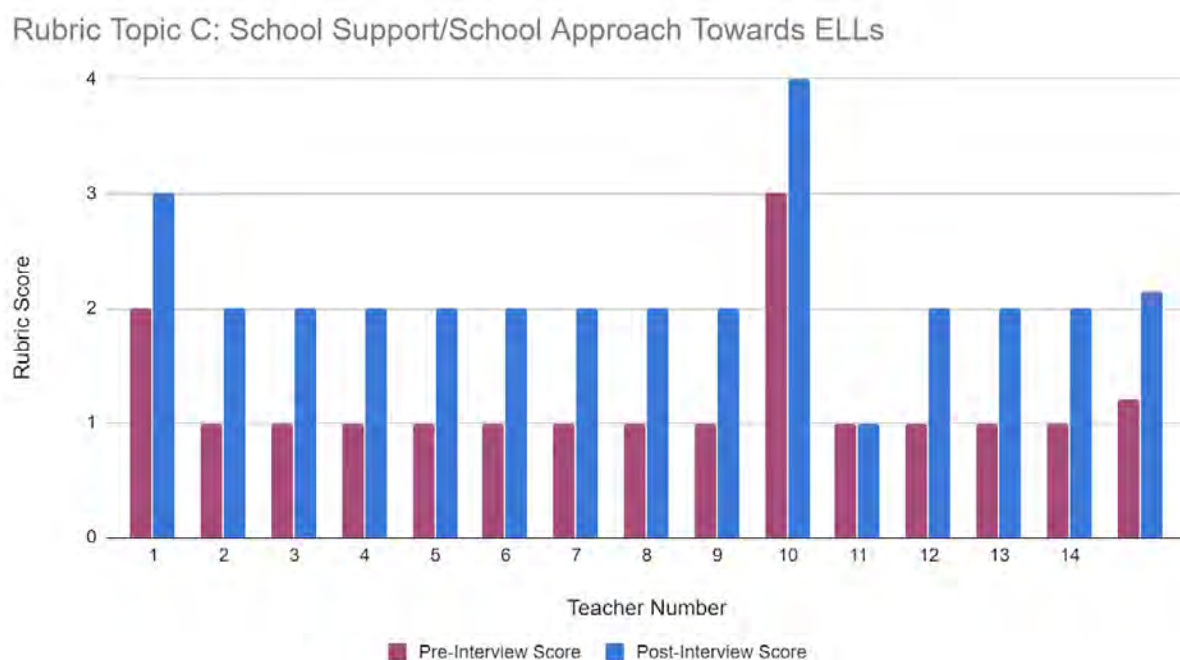


Figure 4.1 - Rubric Topic C: School Support/School Approach Towards ELLs

The teacher support needs of ELL prep time and ELL coaching demonstrates teachers belief that there is an absence in resources that disallow them to teach ELLs to their best ability. This feeling of being underprepared and not fully confident aligns with the findings of Reeves (2016) and Polat (2010) who also reported teachers holding these same sentiments. Without these needs addressed, teachers will inevitably continue to hold a mindset that they are not fully equipped to teach their ELL students well. With regards to ELL support prep time and ELL coaching being the top priority of those needs, this seems less conclusive. While these were found as trends in this study, literature from Gandara, Maxwell-Jolly, & Driscoll(2004), and

Hansen-Thomas, Richins, Kakkar, & Okeyo (2016) both reported teachers seeing communication between parents and students as the top ELL teaching challenge. Further, of the 8 needs identified in Gandara, Maxwell-Jolly, & Driscoll study, administrative support/coaching was reported as one of the smallest challenges for both elementary and secondary school teachers (2004). Coaching did not rank as a pertinent issue in the cited study, however, time to teach supplemental classes to support ELLs did. These similar studies reveal that although the priority of specific support needs are not the same, similar challenges are being voiced by teachers at each school. This further gives reason to believe that these challenges may be similar to other primary and secondary teachers at schools in California that teach ELLs.

One sub-finding that stood out was the lack of knowledge on who is responsible for the implementation of supports for ELLs in the school site. In their interview, teacher 4 reported that their school puts, “the effort to support ELL teaching primarily on the humanities teaching staff.” When interviewing this teacher the idea of ELLs support for students in math was not clear. The teacher then added that “the school does not allow teachers enough time to plan” these supports, which hinders their ability to give their all to ELL students. To further explain the lack of clarity, teacher 9 believes that, “all science and math teachers should be trained in supporting ELLs.” As previously mentioned, professional development is more effective in changing teachers’ classroom practice when it has “collective participation of teachers from the same school, department, or grade” (Desimone, Porter, Gare, et al., 2002). Therefore, in order for this study to create a change in mindsets for all teachers, there has to be a collective buy-in from all educational stakeholders in the site. This way the fall of responsibility for supporting ELLs is felt throughout the school setting.

Finding 2: Teachers Believe that ELL PDs have a Positive and Motivational Effect

The next finding explains why teachers felt motivated and positive, after having gone through the SDAIE professional development training. The table below details teacher mindset surrounding their perceived confidence to teach ELL strategies and practices that they use.

Table 4.2 - Rubric Topic B: Individual Teacher Strategies for Teaching ELLs

Rubric Scale: 1 = Not Confident; 2 = Limited Confidence; 3 = Some Confidence; 4 = Great Amount of Confidence					
	#	Participant Name (pseudonym)	Baseline Rubric Score (Pre Interview)	Outcome (Post Interview)	Impact Difference
Topic B: Individual Teacher Strategies for Teaching ELLs	1	Karina	3	4	1
	2	Gina	4	4	0
	3	Angela	2	3	1
	4	Dave	1	3	2
	5	Daniel	2	3	1
	6	Jack	1	3	2
	7	Joseph	3	4	1
	8	AJ	3	4	1
	9	Jane	2	3	1
	10	Peter	3	4	1
	11	Yoshi	2	2	0
	12	Ken	2	3	1
	13	Matthew	3	4	1
	14	Antonio	2	3	1

This finding answers the question of ‘What effect will the implementation of SDAIE strategies have on teachers' perceived success with ELLs? Based on the mindset rubric, there was an average impact change of 1 as a result of Professional Development in Topic B, ‘Individual Teacher Strategies for Teaching ELLs’. That means that every teacher, with the exception of teacher 2 and 11, showed growth in their confidence to support ELLs in their practice. Although teacher 2 showed no significant growth to warrant an increase in their rubric score post training, they mentioned in their post-interview that they felt, “more motivated to work on giving more support for ELL students and saw that other teachers felt so as well.” This teacher’s statement validates one of the findings on Karen Ross’ study, which stated that there is a strong correlation between the growth of a teacher's sense of ‘self-efficacy’ when they are given professional development on ELL instruction (2013).

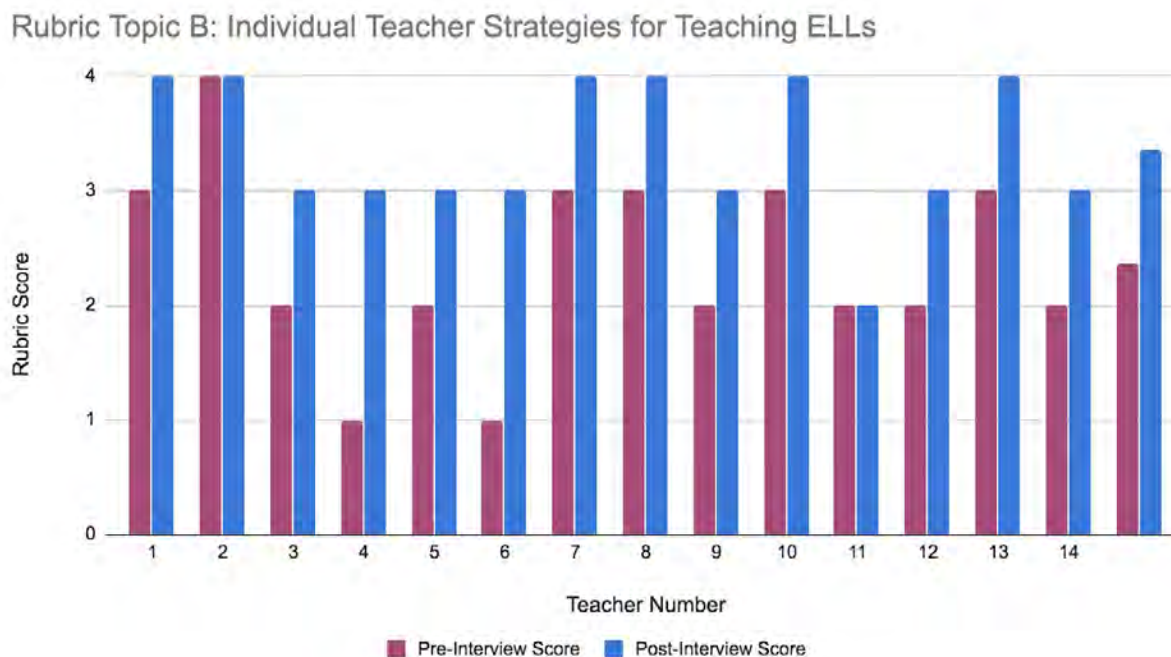


Figure 4.2 - Rubric Topic B: Individual Teacher Strategies for teaching ELLs

On the other hand, teacher 8, in their post-interview reported that they, “saw a big improvement when implementing SDAIE strategies in their classroom,” while teacher 13 stated that after “hearing about what other teachers are doing puts [them] in a mindset of thinking about [their] ELLs and how [they] can create lessons that fit their needs”. Finally, teacher 10 explains that, “it was important to know what strategies work. It was like a reality check that my students may need this”. All three teachers demonstrated the benefit of having a collaborative culture in the school site, and how that positively impacts teaching practices, especially one geared towards a specific task. Helen McCabe’s study found that collaboration, cooperation, and discussion, often lead towards positive growth in teaching mindset and practices (2003). Therefore, as demonstrated by the positive commentaries on the training it can be said that the implementation of SDAIE strategies in this school site improved their confidence in supporting students, whether that is through learning new skills or new found motivation as a result of professional development.

Finding 3: Teachers Understand Systemic Failures for ELLs

When discussing educator mindsets of their practice of supporting ELLs, research has shown that, systemically, teachers use their students' diversity as a deficit, this is called assimilationist discourse. Many of the teachers in this sample did the opposite of the norm and actively named that schools fail the students and not the other way around which is defined as pluralistic discourse. This trend in the findings answers the third research question, “What skills/resources do teachers think their ELL students lack in order to access the core curriculum?” The table below outlines the scores of the 14 participating teachers concerning their mindset and confidence of ELL success in core curricular classes.

Table 4.3 - Rubric Topic A: Individual Teacher Understanding of ELLs (Teacher Mindset)

Rubric Scale: 1 = Not Confident; 2 = Limited Confidence; 3 = Some Confidence; 4 = Great Amount of Confidence					
	#	Participant Name (pseudonym)	Baseline Rubric Score (Pre Interview)	Outcome (Post Interview)	Impact Difference
Topic A: Individual Teacher Understanding of ELLs (Teacher Mindset)	1	Karina	3	4	1
	2	Gina	4	4	0
	3	Angela	2	3	1
	4	Dave	1	2	1
	5	Daniel	2	3	1
	6	Jack	2	3	1
	7	Joseph	3	4	1
	8	AJ	4	4	0
	9	Jane	2	3	1
	10	Peter	4	4	0
	11	Yoshi	2	3	1
	12	Ken	2	3	1
	13	Matthew	3	3	0
	14	Antonio	2	3	1

The following graph accompanied by statements below showcase the beliefs of individual teachers about their ELL students capacities and their assimilationist or pluralistic mindsets. In the section, the rubric was designed to analyze teacher mindsets towards ELL student skills. The results showed that teachers were scored at about 2.6 out of 4. The rating

shows that teachers were less than confident in the skills that ELLs need in order to access the content in their core classroom. The average growth between the pre and post interviews was 0.71, which shows that, after the professional development, teachers' mindset had shifted, finding students more capable of accessing the materials they presented. The graph shows that this trend was noticed among nearly all teachers interviewed.

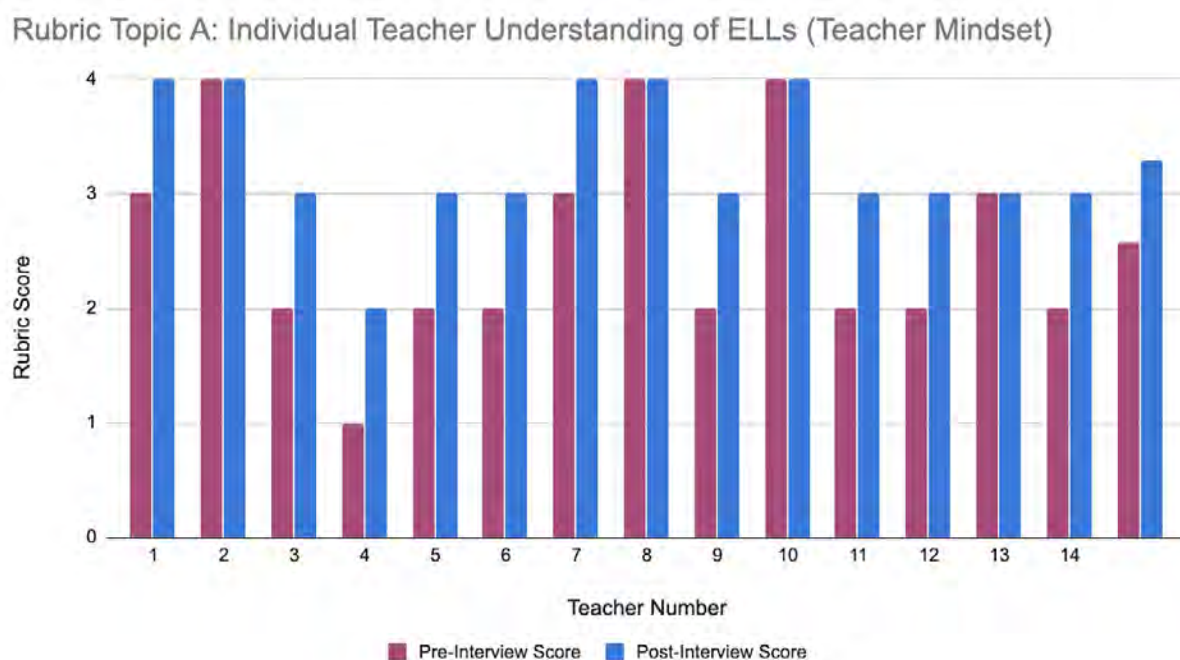


Figure 4.3 - Rubric Topic A: Individual Teacher Understanding of ELLs (Teacher Mindset)

Teacher 11, a humanities teacher for 11th and 12th graders and influential member of the school community, challenged the negative thinking about ELLs abilities and motivations. This teacher expressed their disappointment that very few teachers spoke a second language. This would allow more teachers to empathize with students and create a curriculum that specializes in “giving students an opportunity to utilize... linguistic strengths in their home language”. This

teacher is challenging the system of education for refusing to truly take advantage of students' skill sets instead of the common negative perception that teachers hold against ELLs. Gorski reports in their book that educators sometimes unknowingly hold deficit ideologies of their students, but teacher 11 shows that they are very aware that the typical view is a racist and exclusionary one (2012).

Teacher 10 shared a similar point of view with teacher 11 that the lack of support for ELLs is evidence of systemic failure and not the fault of the students themselves. As the main barrier to ELL success, teacher 10 stated that, "when there is so much need and the least [amount of] resources, the system is designed to fail our [ELL] students." This teacher was providing many scaffolds to their ELLs and tried to take responsibility for the education of all their students. The statement made about the systemic failure of marginalized students shows this teacher's mindset being positive about their students and skeptical of the way that education is delivered.

Contrary to the previous teachers' viewpoints, teacher 2 displayed more of a deficit mindset of ELLs. They stated that not only do LTELs get frustrated easily in class but even if the teacher embeds tools that work for ELLs, students aren't motivated to do the work. This is an example of the common negative mentality. The teacher blames the students' own motivation and refusal to do assigned work instead of looking deeper at the teachers own practices and how they can be inaccessible.

Summary of Findings

Findings in the study draw three main conclusions about teacher mindset about their instruction of ELLs, their espoused beliefs about the students themselves, and the system set up

to support teachers in their growth. Teachers felt strained with the lack of coaching and allotted preparation time to create lesson plans with ELL supports in mind. Teachers felt more positive toward their ELL instruction skills after leaving a collaborative professional development.

Finally, many of the educators recognized that the education system fails to provide the support necessary for all ELL students to succeed, displaying a pluralistic mindset. Brooks, Brooks, and Goldstein found that, “the mindset that educators hold about the factors that contribute to student engagement, motivation, and resilience determines their expectations, teaching practices, and relationships with students” (2012). The findings of this study analyzed the beliefs held by teachers prior to and after a professional development because of the critical importance that teacher mindset has on all aspects of teaching.

Chapter Five: Conclusions and Recommendations

Introduction

Given that the purpose of this research paper was to better understand the mindset of core-curricular subject teachers in their work with ELLs, it is important to re-emphasize that, “ELLs are a diverse group, despite the misleading unifying label. ELLs come from a wide range of ethnic, cultural, linguistic, educational, and socioeconomic backgrounds.” (Wright, 2010). ELLs make up a large population of students in California, especially at the middle and high school that participated in this study. Since the ruling of *Lau v Nichols* in 1974, it was established that providing ELLs with the same curriculum as non-ELLs was inequitable and that ELLs deserve an education catered towards their needs. The creation of this type of education and the enactment of such an education falls in the hands of the teachers who work with these students every single day.

It is important to understand that teachers have hundreds of different tasks on their plates and things to consider, but given that teachers work with a growing number of ELLs, it is important that teachers take the education of ELLs seriously. Teachers, regardless of if they are brand new to the profession or have been teaching for years, are all unique and have different foci, mindsets, and pedagogies. In order to best understand the potential for ELL success in the classroom, this study aimed to understand the approach and mindset of the teachers that serve these students. The research introduced at the beginning of this study in chapter one states that “mindsets are responsive to learning and achievement” with thoughts of both students and teachers influencing each other's quality of their practice (Zhang, Junfeng, et al, 2017). Thus, the

mindset of teachers and the enthusiasm and optimism they show towards ELLs ultimately plays an impact on the success of ELLs in a mainstream classroom.

Nearly fifty years after the ruling in *Lau v Nichols*, although reform and other laws have been enacted, ELLs still struggle in school more than their native-speaking classmates. The difference between ELLs and non-ELLs in math and English proficiency is significant across all fifty states (Murphey, 2014). This study aimed to determine if teacher mindset plays a role in the success of ELLs.

This mixed-methods study consisted of interviewing a variety of middle and high school teachers within one school to understand their approach to teaching ELLs, providing teachers with professional development and presenting them with SDAIE language strategies, allowing teachers to practice those strategies, and interviewing teachers after they have had a chance to use SDAIE in their classroom. SDAIE strategies are discussed in depth in chapter one of this study and details about the professional development provided to educators can be found in Appendix C.

Discussion and Limitations

The results of this study aimed to answer the following research questions.

1. What skills/resources do teachers think that they lack to best serve ELLs?
2. What skills/resources do teachers think that their ELL students lack in order to access the core curriculum?
3. What effect will the implementation of SDAIE strategies have on teachers' perceived success with ELLs?

In order to answer these questions, the researchers created the study as a series of two interviews with teachers they have rapport with. This was done so that interviewees would feel comfortable expressing their true mindset and opinions about teaching ELLs and also whether or not they believe learning about ELL teaching strategies is useful. The interview questions that the group asked teachers were all directed at answering the three main research questions and interview responses were quantified on a rubric that was discussed in chapters three and four.

Ultimately, this study was conducted to measure teachers' mindsets before and after professional development around teaching ELLs through the lens of SDAIE strategies. The professional development and three weeks provided for teachers to try out SDAIE strategies were a time period for teachers to reflect on their approach to teaching ELLs and determine if educator perceptions changed towards their ELL practice.

Given that this study was conducted over the course of a few weeks and only occurred at one school site, there were a number of limitations. One limitation of the study was that the designers of the study were also the ones who conducted research, provided and designed the professional development to educators, interviewed participants, and wrote the research paper. The fact that all of this was executed by the same group of individuals introduces an amount of bias that needs to be acknowledged as the researchers could have had a preconceived mindset as to how the study would turn out. This bias was combated through a check and balance system of the team consistently meeting with an advisor through Loyola Marymount University who provided insight and guidance throughout the duration of the study. Additionally, the research team constantly acknowledged that they were working with their peers and in interviews, they

used their rapport and relationships to let participants know that they should speak their true beliefs rather than espoused beliefs to help researchers get data they wanted.

Additional areas of limitation occur whenever a study is conducted on human subjects, especially when attempting to understand mindset. The research group acknowledges that participants may have pre-existing biases due to their prior relationships with the interviewers and also that interview responses and quantitative scores evaluated on the mindset rubrics and discussed in chapter four are subjective. As stated earlier, it is important to note that although researchers asked participants to speak their truths and actual beliefs, they have no way of truly knowing whether participants expressed their actual or espoused beliefs.

Although all of the base interview questions were held constant, when conducting interviews, the research team allowed their participants to guide the conversations and explain as much or as little as they were comfortable with leading to a wide variety in the type of responses received. Additionally, as there were four researchers who were conducting the study, participant interviews were divided up among the group, each group member conducted roughly three to five interviews each. In order to hold a level of consistency, all interviews were kept to around 30 minutes and the research team debriefed and consistently calibrated on the questions they were asking participants to answer. The interviewers also ensured that the person conducting the post-interview was the same as the person who conducted the pre-interview. Finally, after conducting and transcribing all interviews, the research group met to summarize and discuss results collectively. The group scored all participants according to the same rubric and input from group members for each score were all weighed the same to ensure equity of voice.

Given the limitations of the study, the research group was able to observe trends and establish findings. Teachers reported that they did have ELL support needs illuminating a mindset lacking confidence and preparedness in their ELL teaching practice. More specifically, teachers expressed two areas in which they felt under-resourced. These areas included a lack of ELL coaching and a lack of time to prepare for teaching ELLs. These findings add reasons for schools with ELL students to evaluate their teachers' preparedness and confidence in teaching ELLs and further make sure teachers' concerns are being addressed. Addressing teachers' needs will allow them to feel heard and perhaps allocate funds to help support these needs. This would in turn help produce more positive ELL teaching mindsets and enhance ELL instruction at the respective school.

Additionally, several teachers in different content areas reported that they were unsure to whom the responsibility of supporting ELLs falls under at the school site and which instructors did not need to focus on language development. It was clear that every school site needs to ensure that every educational stakeholder holds the responsibility of supporting ELLs. Only with a united front of teachers will there be a true change in educating ELLs. Therefore, proceeding professional development must be given to all teachers regardless of grade and subject levels, wherein it is explicitly explained the support and education of ELLs fall on all teachers.

One other finding in the study was the general positivity and feeling of motivation that the majority of teachers had left the professional development with. Many of whom felt like they were more prepared and equipped to provide more support for their ELLs in their classrooms.

In accordance with the research of educators' mindsets about the skills that ELLs bring to the core classroom, many of the educators displayed a positive view of their ELL students and

their skills. Some teachers even recognized the assimilationist nature of the current education system that actively discriminates against ELLs and diverse groups in the country. Teachers desired more bilingual educators and curriculum that takes advantage of home languages instead of viewing them as a deficit to overcome. This finding shows a clear recommendation that there needs to be a shift in the general deficit view mindset of ELLs. One way to tackle this is to utilize students' home languages in the curriculum to truly utilize their ELLs' strengths. As the population of ELLs continues to grow in schools, the entire education system needs to transition from a monolingual model and mindset to a pluralistic view that values and takes advantage of students' linguistic backgrounds. This will remove much of the deficit mindset that negatively affects ELLs.

Action Research

After conducting the study, observing trends, and organizing findings the research group feels that there are additional steps that they'd suggest adding if this study were to be continued or recreated. The first step would be to study a different school or grouping of schools to understand the mindset of teachers in other areas. Additionally, having researchers who have no relationship to the school they are studying may yield different results given less implicit bias but also less rapport with school site participants. Another position of action research would include increasing the number of teachers interviewed in order to better categorize data and analyze trends. While this study aimed to do that, time was cut short due to the global pandemic of COVID-19, which did not allow the research team to provide professional development or post-interviews to all intended teachers.

Additionally, the group would be interested in looking at understanding the mindset of kindergarten through twelfth-grade teachers and their approach to teaching ELLs. In conducting a study serving such a large age range of the student population, it would be important for researchers to craft professional development experiences that were catered towards the age of students that educators were teaching.

The research team also believes that it would be important to conduct observations of teachers practicing SDAIE in their classroom space to better understand the impact of the professional development on teaching ELLs. In this study, teachers were presented with SDAIE strategies, however, there was no accountability when it came to executing them in their classroom space. The amount of SDAIE practiced was self-reported by teachers because researchers were not able to enter classrooms due to time constraints and mandating teachers to use these practices was outside of the researchers' locus of control. In addition to observing the practice of teachers and scoring them according to a rubric, it would also be extremely meaningful to collect student work samples of non-ELL and ELL students to directly understand the impact of using SDAIE strategies. Although this would bring into the picture an entire new world of variables, it would allow future researchers to thoroughly understand the effectiveness of SDAIE practices, as well as the mindset of teachers, impacts the learning of ELLs.

Additionally, the research team feels that it would be meaningful for teachers to provide direct feedback in the form of an exit ticket with quantitative scores on the professional development. These scores and feedback could be used to understand its effectiveness and usefulness. Also, the research team believes that having multiple professional developments over the course of a semester would serve the team to truly understand the impact that SDAIE

strategies have on the mindsets of teachers. Providing one PD, while useful, only gave researchers a taste and small insight into potential implications on teacher mindset.

Reflection

Overall, this study was useful and allowed the research team to get a greater understanding of the following things within the context of a middle and high school:

1. Teacher understanding of ELLs in their classroom and teacher mindset surrounding the learning of ELLs
2. Current teacher strategies on how they teach ELLs and new strategies they are implementing as a result of professional development
3. Needs of teachers to further their ELL teaching practice
4. Teacher thoughts on how the school they teach at approaches ELLs and whether it is doing enough or not. Also, understanding of whether teachers found the professional development to be a good use of their precious time.

The analysis of this study brings to light that educating ELLs is an extremely important task to research and affects all subject areas. It is impactful and useful to understand teacher mindset around serving ELLs in various schools, districts, and environments, especially as the student population includes more and more multilingual pupils. As discussed earlier in this chapter, there were some shortcomings and limitations to this study given that it was conducted at only one school over a short period of time; however, the results are valid and explain that providing professional development to teachers is impactful at shaping their mindsets and approach to working with ELLs.

Overall, the results from this study can be used to add on to the existing knowledge base of teachers' mindsets towards their ELL teaching practice, effects of ELL professional development on teacher mindsets, and perceived teachers' support and resources to effectively teach their ELL students. It is clear from this study that even within the context of one school, there are a wide variety of mindsets, approaches, and knowledge about working with ELLs. However, one common thread was that providing educators with strategies and professional development is useful at shaping their mindset. The research team believes that through consistent education of teachers on the importance of best practices to change assimilationist mindsets to pluralistic ones. The outcomes of ELLs will improve over time with this shift in ideology. Although this study primarily focuses on an urban school with a large number of ELLs and replications of the study have not been attempted, the design of the study could be easily reproduced with modifications that were discussed above. This study hopes to add to future research and training that may contribute to the overall growth of educational quality towards ELL students. In a constant battle for educational equity, this study highlights the necessary shift in teacher mindset at a school level that will ultimately lead to the systemic uplifting of English language learners and all other diverse learners.

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Appendix

Appendix A - Research Questions - Teacher Survey

Interview Template Questions

1. What is your name?
2. How long have you been teaching?
3. What subject do you teach?
4. How were you educated as a teacher? Did you do a teacher prep program?
5. If someone were to describe you as a teacher in one sentence, what would they say?
6. How many ELLs do you teach? Do you know who your ELLs are?
7. What supports do you offer ELLs in your classroom?

Probing Questions

- a. Are the supports that you use successfully in supporting ELLs?
- b. Do you do enough to support ELLs in your classroom?
8. What are the challenges in teaching ELLs in your class?
9. What skills do ELLs still need to develop to access the content in your classroom?
10. How does your school approach ELLs?
11. What does coaching/support of teachers look like at this school?

Probing Questions

- a. Do you feel like you have enough support at your school?
 - b. If you were the admin, what areas would you prioritize in coaching for ELL success?
-

POST INTERVIEW: After teachers have had an opportunity to implement SDAIE strategies

1. Has this had an impact on your mindset/attitude of teaching ELLs?
2. How did you use SDAIE strategies?
3. Can you tell me something that you did differently?
4. Did you find it valuable?
5. Do you think that this has a positive impact on EL student learning/participation?
6. What strategy do you think would be an effective change for your class?

Probing Question

- a. Of the tools presented, which ones were useful to you in your classroom?

Appendix B - Observation Rubric

Teacher Mindset around ELLs in Core Classes Rubric

Rubric Scale: 1 = Not Confident; 2 = Limited Confidence; 3 = Some Confidence; 4 = Great Amount of Confidence	
Topic A: Individual Teacher Understanding of ELLs (Teacher Mindset)	
Pre Interview Questions	Post Interview Questions
<p>Question 6: How many ELLs do you teach? Do you know who your ELLs are?</p> <p>Question 8: What are the challenges in teaching ELLs in your class?</p> <p>Question 9: What skills do ELLs still need to develop to access the content in your classroom?</p>	<p>Question 1: Has this had an impact on your mindset/attitude of teaching ELLs?</p> <p>Question 4: Did you find it valuable?</p> <p>Question 5: Do you think that this has a positive impact on EL student learning/participation?</p>
Topic B: Individual Teacher Strategies for Teaching ELLs	
Pre Interview Questions	Post Interview Questions
<p>Question 7: What supports do you offer ELLs in your classroom?</p> <p><i>Probing Question: are the supports that you use successfully in supporting ELLs?</i></p> <p><i>Do you do enough to support ELLs in your classroom?</i></p>	<p>Question 2: How did you use SDAIE strategies?</p> <p>Question 3: Can you tell me something that you did differently?</p> <p>Question 6: What strategy do you think would be an effective change for your class?</p> <p><i>Probing question: Of the tools presented, which ones were useful to you in your classroom?</i></p>
Topic C: School Support/School Approach Toward ELLs	
Pre Interview Questions	Post Interview Questions
Question 10: How does your school approach	Question 4: Did you find it valuable?

<p>ELLs?</p> <p>Question 11: What does coaching/support of teachers look like at this school?</p> <p><i>Probing Questions: Do you feel like you have enough support at your school?</i></p> <p><i>If you were the admin, what areas would you prioritize in coaching for ELL success?</i></p>	<p><i>Probing Question: Do you think we should continue doing activities like this?</i></p> <p><i>Do activities like the PD only benefit humanities teachers?</i></p>
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Appendix C - Materials Provided to Participants



Example activities for each lesson moment		
Preparing the learner tasks (explained on page 155)	Working with text tasks (explained on page 169)	Extending understanding tasks (explained on page 178)
<ul style="list-style-type: none"> Think/pair/share Novel ideas only Anticipatory guides Semantic map Silent graffiti Gallery walk 3 step interview Questions & vocab Prediction & question matrix Values ranking & line up Background reading Round robin Secret envelope Quick write *Dictogloss *Wallpapering *Progressive Brainstorm 	<ul style="list-style-type: none"> Clarifying bookmarks Image comparisons/analysis Round robin Description cards (matching/analyzing) Reading with a focus Double/triple entry journal Jigsaw Ordering parts of text/pictures Silent reading Reading in (4) voices Reaching a consensus Analyzing text coherence Viewing with a focus Semantic Star *Last Word 	<ul style="list-style-type: none"> Collaborative chart Presentations Writing tasks Vocab trivia review Extended anticipatory guide Secret envelope Monologue Create, exchange, assess Famous phrases Collaborative dialogue writing Literary/structure elements

Today's Agenda:

1. Silent graffiti activity
2. Anticipation Guide
3. Vocab Jigsaw
4. Read Article (Double Entry Journal & Clarifying Bookmark)
5. Complete Anticipation Guide



**Preparing to learn activity:
Silent Graffiti**

- 1) Make sure you are in a group of 3 students.
- 2) Make sure each student has a different color marker
- 3) Read the quote to yourself silently
- 4) Write 1-2 sentences to respond to the quote
 - a) I think this quote means...
 - b) This quote makes me think...
- 5) When teacher says, turn the paper and respond to someone else's sentence.
 - a) I agree, and I can add that...
 - b) I disagree because...

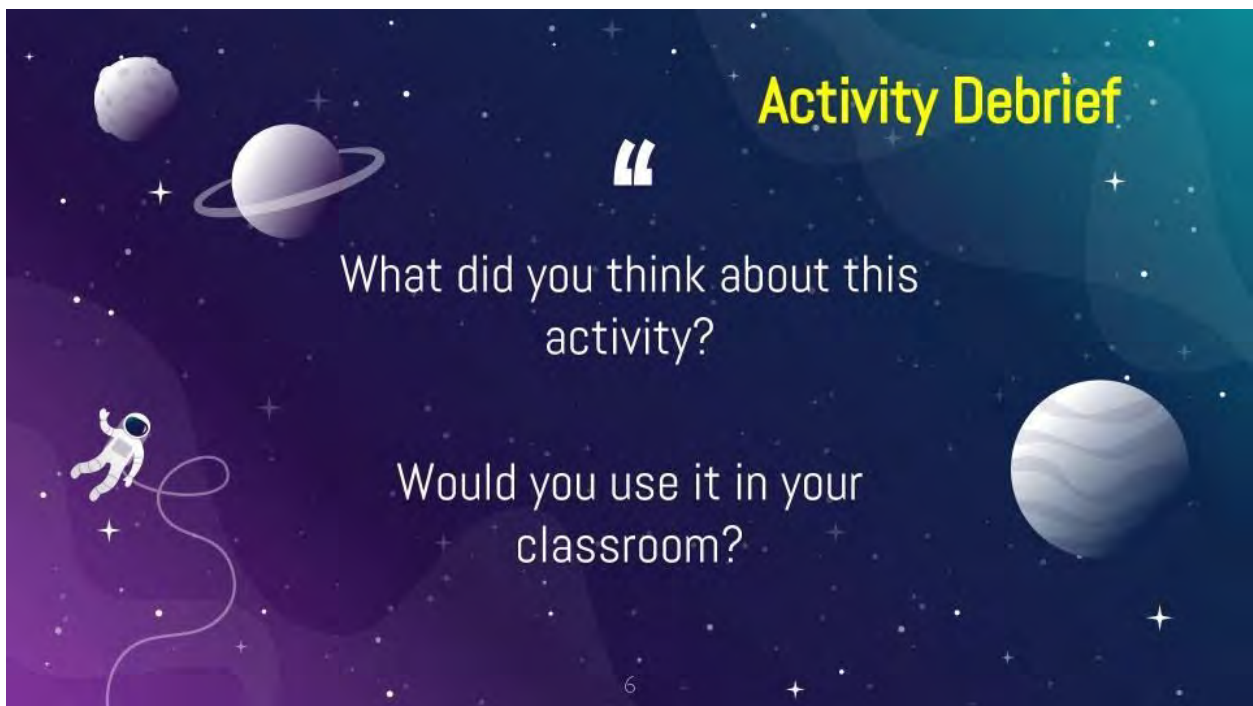


Gallery Walk



- Choose one partner from your group to walk and talk with.
- As you and your partner read the posters from other tables, notice what is the same and different from your group.
- We will discuss this as a class to end.

5

A decorative slide with a space theme. The background is a dark blue and purple gradient with stars and nebulae. There are illustrations of a planet with rings, a planet with stripes, and an astronaut floating in space. The text is centered and reads: "Activity Debrief" in yellow, followed by a quote icon, "What did you think about this activity?" and "Would you use it in your classroom?" in white.

Activity Debrief

“

What did you think about this activity?

Would you use it in your classroom?

”

6

- 1) Silent individual time to complete first column
- 2) Use formulaic expressions to discuss answers with partner



Anticipatory Guide

Read each statement below. Respond in the left column whether you agree (A) or disagree (D) with each statement. Think about why you agree or disagree, and be prepared to share.

Before Reading (A) Agree / (D) Disagree	Statement/Question	After Reading (A) Agree / (D) Disagree	Evidence
	1) Smart people are not neurodiverse.		
	2) Neurodiverse people are not smart.		
	3) Neurodiversity is a problem because neurodiverse people need extra help.		
	4) Neurological differences are scary.		
	5) Neurological differences are something that needs to be fixed.		
	6) It's not fair in a classroom when some students receive accommodations (help they need to succeed) because everyone should be treated the same.		

Save this for later

- Formulaic Expressions:
- 1) Partner A:
 - I will read statement one. It says...
 - I agree/disagree with this statement because...
 - So, for statement number one, I will mark agree/disagree. What do you think?
 - 2) Partner B:
 - I agree with you and can add...
 - I disagree with you because...

Activity Debrief

“

What did you think about this activity?

Would you use it in your classroom?

8



Vocabulary Jigsaw

1. Work in groups of four.
2. Number a piece of lined paper 1 – 9.
3. Each student gets a list.
4. Student A chooses 3 numbers to complete. All the students in the group circle those numbers on their paper.
5. Student A reads their sentence, then Student B, Student C and Student D.
6. The students try to figure out the word based on all the clues and write it on their paper.
7. After Student A's 3 choices are done students pass their list to the right. The new Student A chooses 3 numbers for this round and again everyone circles them. The process continues until all words are complete.

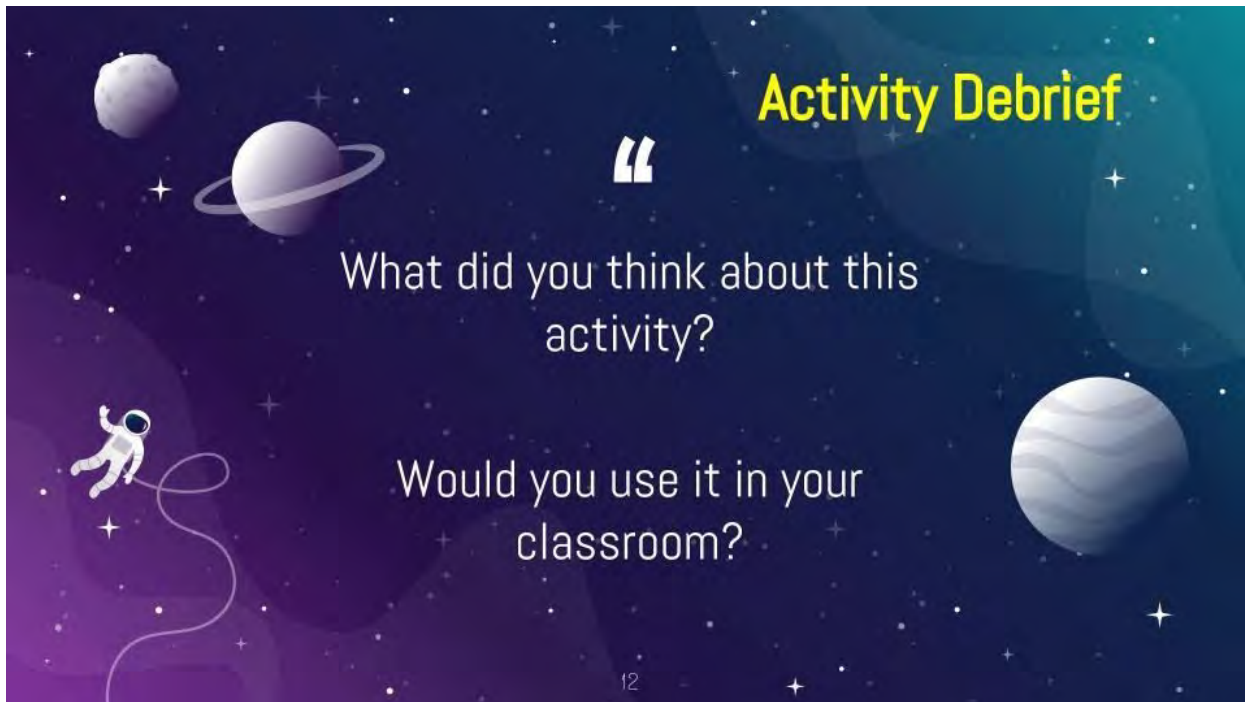


9

- 1) Number your page 1-9
- 2) Remember to write down notes about the clues
T _____ **r**
- 3) Remember to rotate the cards after each word!
- 4) If your group tries *all* the words and are still stuck, I will provide clues!

VOCAB JIGSAW





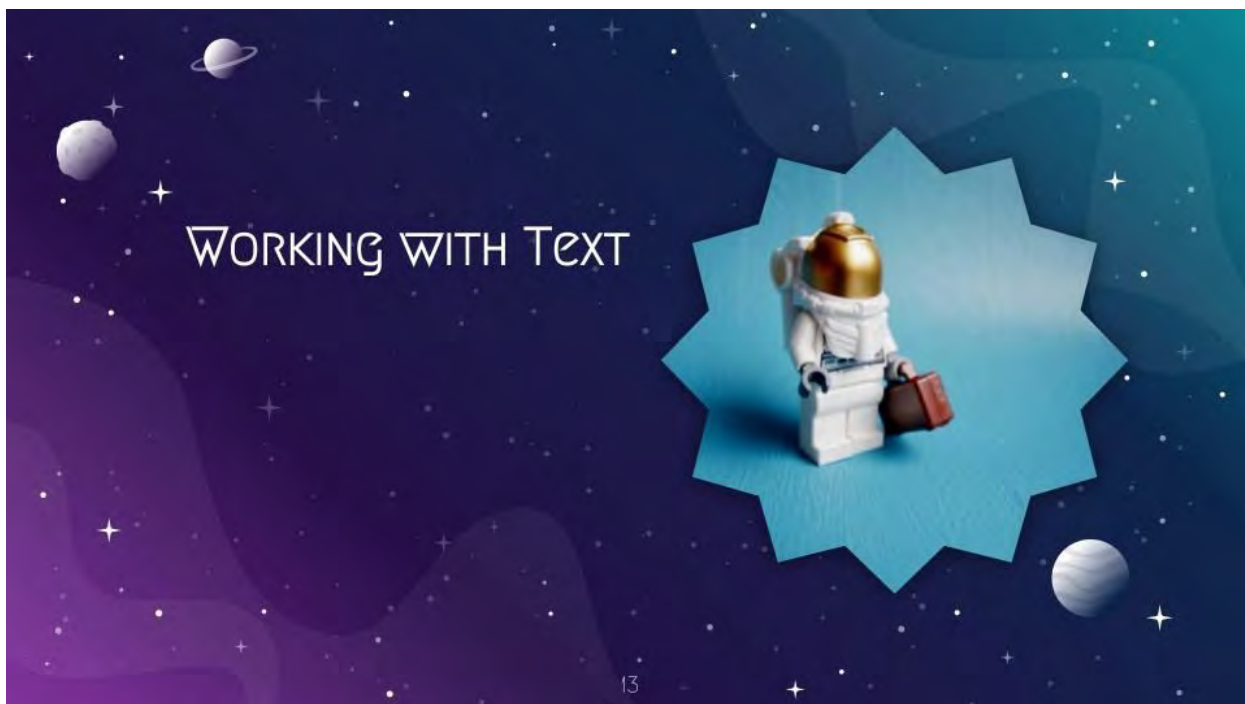
Activity Debrief

“


What did you think about this activity?

Would you use it in your classroom?

12



WORKING WITH TEXT



13

Read with clarifying bookmark!

Heating the Atmosphere
The campfire has burned down to a bed of hot coals, perfect for toasting some marshmallows.

You get a stick about 1 meter (30) long, so long you'd have to hold it away from the hot coals. Like a missile, the marshmallow is brown and gooey. You pop it into your mouth. Yikes! You didn't wait long enough for it to cool. This story has two science experiences with heat. It shows two ways that energy can move. (1) The coals heated your stick from a distance. (2) The marshmallow transferred energy directly to your tongue when you tried to eat it.

convection, conduction, and radiation. Which do you think is at work here? When a freshly toasted marshmallow burns your tongue?



Clarifying bookmark:

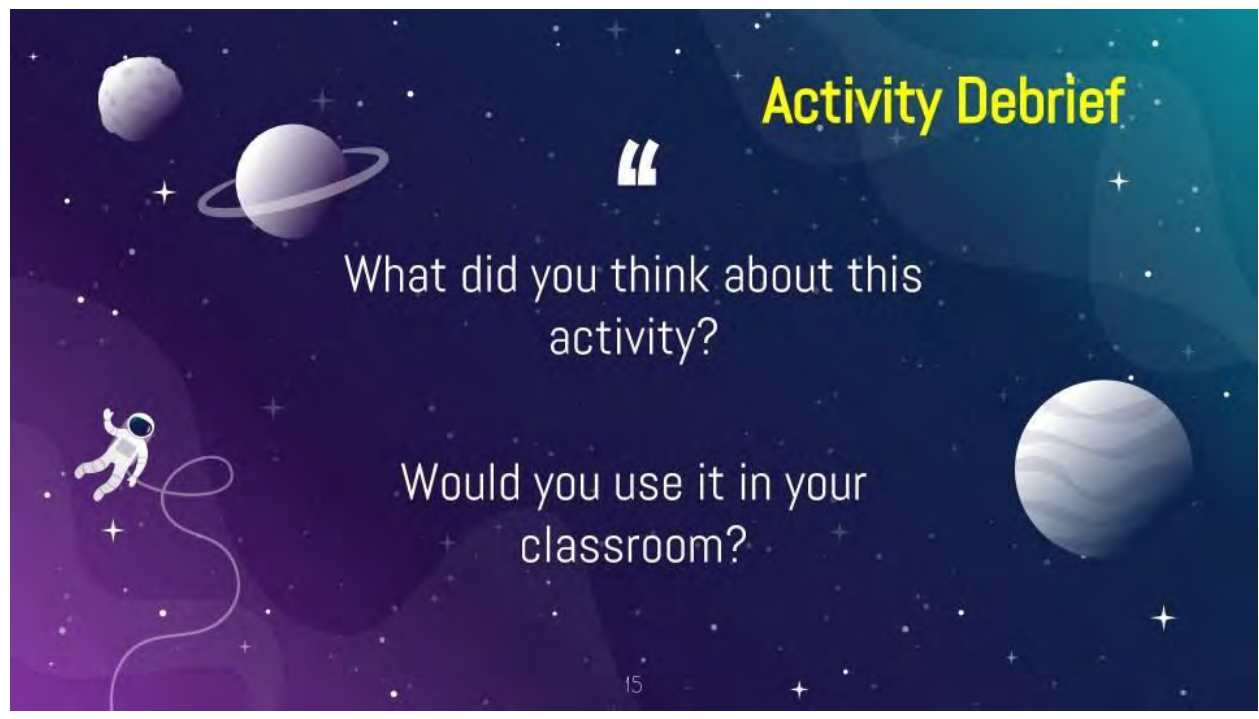
Partner A		Partner B
I can think about what this section may mean	I'm not sure what this is about, but I think it may mean...	I agree with you and can add...
	This part is tricky, I think it means...	
I can summarize my understanding	I can summarize this part by saying...	I disagree with you because...
	The main points of this section are...	

Activity Debrief

“

What did you think about this activity?

Would you use it in your classroom?”





Anticipatory Guide

Read each statement below. Respond in the left column whether you agree (A) or disagree (D) with each statement. Think about why you agree or disagree, and be prepared to share.

1) Silent individual time to complete after reading column

Before Reading (A) Agree / (D) Disagree	Statement/Question	After Reading (A) Agree / (D) Disagree	Evidence
	1) Smart people are not neurodiverse.		
	2) Neurodiverse people are not smart.		
	3) Neurodiversity is a problem because neurodiverse people need extra help.		
	4) Neurological differences are scary.		
	5) Neurological differences are something that needs to be fixed.		
	6) It's not fair in a classroom when some students receive accommodations (help they need to succeed) because everyone should be treated the same.		

Formulaic Expressions:

Anticipatory Guide

Read each statement below. Respond in the left column whether you agree (A) or disagree (D) with each statement. Think about why you agree or disagree, and be prepared to share.

Citing a source:

- Put words that are not yours in quotation marks
- Put page numbers
- Make sure quote is related to statement

Before Reading (A) Agree / (D) Disagree	Statement/Question	After Reading (A) Agree / (D) Disagree	Evidence
	1) Smart people are not neurodiverse.	D	"all people have naturally differing neurology" (2)
	2) Neurodiverse people are not smart.	D	
	3) Neurodiversity is a problem because neurodiverse people need extra help.		
	4) Neurological differences are scary.		
	5) Neurological differences are something that needs to be fixed.		
	6) It's not fair in a classroom when some students receive		

- Partner talk about the statements!

- Use the formulaic expressions

3) Neurodiversity is a problem because neurodiverse people need extra help.		
4) Neurological differences are scary.		
5) Neurological differences are something that needs to be fixed.		
6) It's not fair in a classroom when some students receive accommodations (help they need to succeed) because everyone should be treated the same.		

Formulaic Expressions:

- 1) Partner A:
 - o I will read statement one. It says...
 - o I agree/disagree with this statement because...
 - o So, for statement number one, I will mark agree/disagree. What do you think?
- 2) Partner B:
 - o I agree with you and can add...
 - o I disagree with you because...

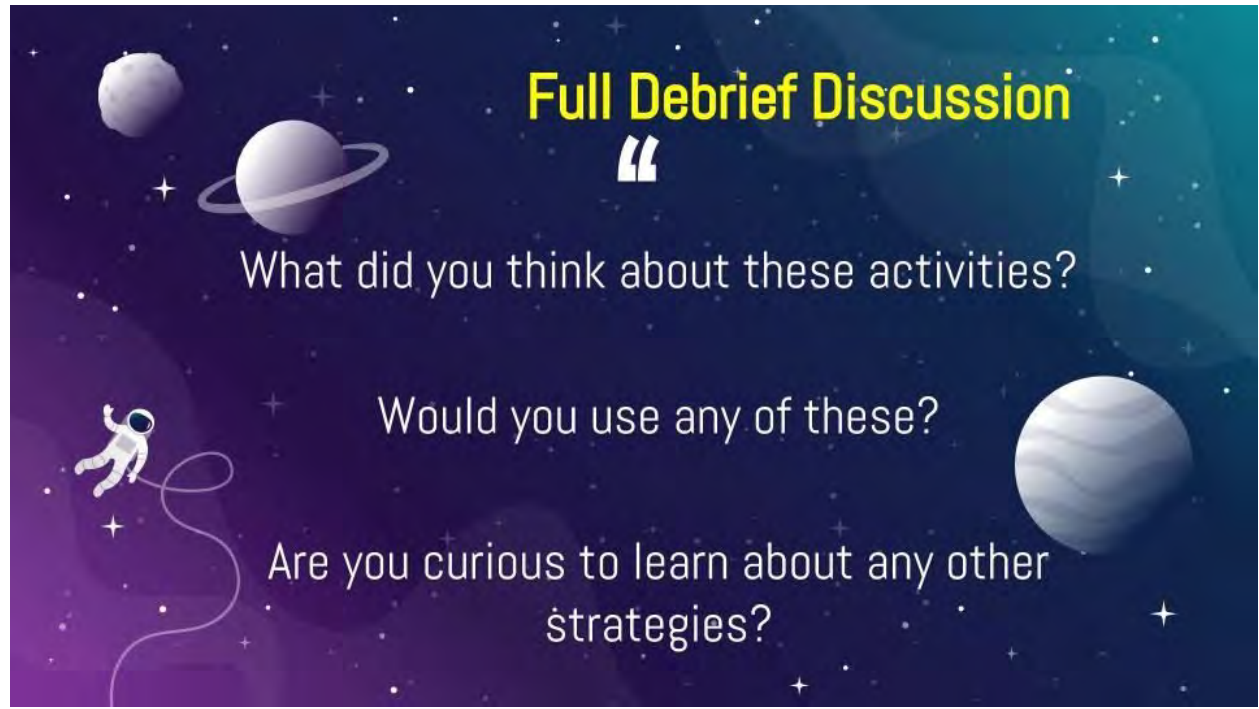
Full Debrief Discussion



What did you think about these activities?

Would you use any of these?

Are you curious to learn about any other strategies?



Heating the Atmosphere Vocabulary Jigsaw

Card A	Card A
1) This word starts with a T 2) This word starts with a C 3) This word starts with a C 4) The SECOND word starts with an E 5) This word starts with an A 6) This word starts with a C 7) This word starts with a C 8) This word starts with a I 9) BOTH words start with a G	1) This word starts with a T 2) This word starts with a C 3) This word starts with a C 4) The SECOND word starts with an E 5) This word starts with an A 6) This word starts with a C 7) This word starts with a C 8) This word starts with a I 9) BOTH words start with a G

Card B	Card B
1) This word has 2 syllables 2) This word has 3 syllables 3) This word has 3 syllables 4) This word has 4 syllables 5) These words have 6 syllables 6) This word has 6 syllables 7) This word has 2 syllables 8) This word has 3 syllables 9) These words have 3 syllables	1) This word has 2 syllables 2) This word has 3 syllables 3) This word has 3 syllables 4) This word has 4 syllables 5) These words have 6 syllables 6) This word has 6 syllables 7) This word has 2 syllables 8) This word has 3 syllables 9) These words have 3 syllables

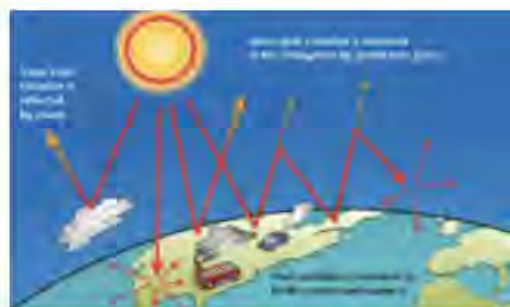
Card C	Card C
1) This word ends with a R	1) This word ends with a R
2) This word ends with an N	2) This word ends with an N
3) This word ends with an N	3) This word ends with an N
4) This word ends with an N	4) This word ends with an N
5) This word ends with an Y	5) This word ends with an Y
6) This word ends with an B	6) This word ends with an B
7) This word ends with an E	7) This word ends with an E
8) This word ends with an D	8) This word ends with an D
9) This word ends with an S	9) This word ends with an S

ANSWER KEY	ANSWER KEY
1) Transfer	1) Transfer
2) Convection	2) Convection
3) Conduction	3) Conduction
4) Radiation	4) Radiation
5) Kinetic Energy	5) Kinetic Energy
6) Absorb	6) Absorb
7) Collide	7) Collide
8) Infrared	8) Infrared
9) Greenhouse gas	9) Greenhouse gas

Card D	Card D
<p>1) This word means to move from one place or situation to another</p> <p>2) This word means the movement in a gas or liquid caused by warm gas or liquid rising, and cold gas or liquid sinking</p> <p>3) this word means the passage of electricity through wires or heat through metal</p> <p>4) this word means the energy in the form of heat or light that is sent out as waves that you cannot see</p> <p>5) this word means the energy that an object has because of its motion</p> <p>6) this word means to take in or soak up (energy or a liquid or other substance) by chemical or physical action.</p> <p>7) this word means to hit something or someone that is moving in a different direction from you</p> <p>8) this word means a special type of light that gives out heat but cannot be seen</p> <p>9) a gas that is thought to trap heat above the Earth by absorbing radiation</p>	<p>1) This word means to move from one place or situation to another</p> <p>2) This word means the movement in a gas or liquid caused by warm gas or liquid rising, and cold gas or liquid sinking</p> <p>3) this word means the passage of electricity through wires or heat through metal</p> <p>4) this word means the energy in the form of heat or light that is sent out as waves that you cannot see</p> <p>5) this word means the energy that an object has because of its motion</p> <p>6) this word means to take in or soak up (energy or a liquid or other substance) by chemical or physical action.</p> <p>7) this word means to hit something or someone that is moving in a different direction from you</p> <p>8) this word means a special type of light that gives out heat but cannot be seen</p> <p>9) a gas that is thought to trap heat above the Earth by absorbing radiation</p>

Word Bank

- Transfer
- Convection
- Conduction
- Radiation
- Kinetic Energy
- Absorb
- Collide
- Infrared
- Greenhouse gas



Clarifying bookmark:

Partner A		Partner B
I can think about what this section may mean	I'm not sure what this is about, but I think it may mean...	I agree with you and can add...
	This part is tricky, I think it means...	
		I disagree with you because...
I can summarize my understanding	I can summarize this part by saying...	
	The main points of this section are...	

Clarifying bookmark:

Partner A		Partner B
I can think about what this section may mean	I'm not sure what this is about, but I think it may mean...	I agree with you and can add...
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	The main points of this section are...	

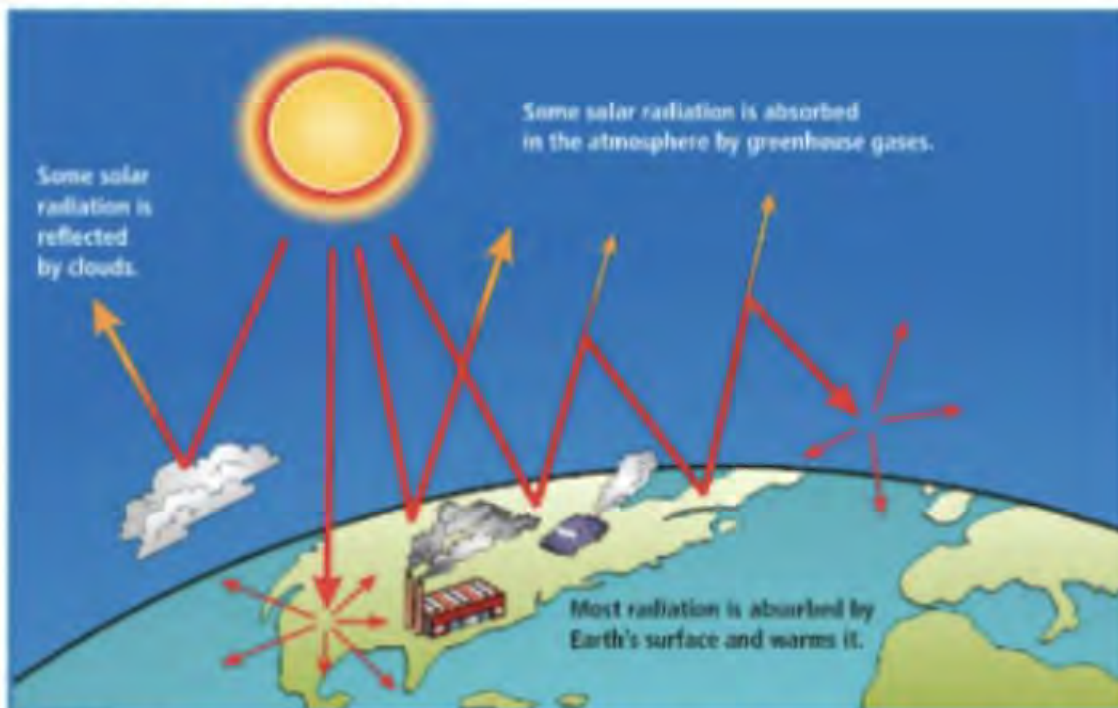
Clarifying bookmark:

Partner A		Partner B
I can think about what this section may mean	I'm not sure what this is about, but I think it may mean...	I agree with you and can add...
	This part is tricky, I think it means...	
		I disagree with you because...
I can summarize my understanding	I can summarize this part by saying...	
	The main points of this section are...	

Silent graffiti quotes from “Heating Up the Atmosphere”

Particles are always in motion. They vibrate back and forth in solids and move all over the place in liquids and gases...In hot materials, particles are moving fast. In cold materials, they are moving more slowly. (page 70)

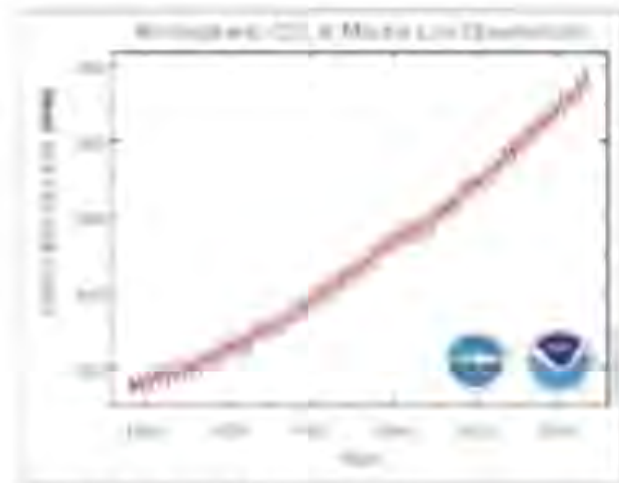
The Greenhouse Effect



Some of the solar radiation passes through the atmosphere, and some is trapped in the atmosphere by greenhouse gases. The effect of this is to warm Earth's surface and the atmosphere.

Energy continually transfers between Earth's systems due to interactions among our planet's air, land, and water—as well as living things.





Scripps Institution of Oceanography
NOAA Earth System Research Laboratory

Our atmosphere heats up by these same two kinds of energy transfer: radiation and conduction. Starting with radiation and conduction. Starting with radiation, visible light rays from the Sun pass right through our atmosphere. They strike the Earth, get absorbed, and heat up the land and ocean. The heated land and ocean come in contact with air particles. That conduction transfers energy to the air. (page 71)

Anticipatory Guide

Read each statement below. Respond in the left column whether you agree (A) or disagree (D) with each statement. Think about why you agree or disagree, and be prepared to share.

Before Reading (A) Agree / (D) Disagree	Statement/Question	After Reading (A) Agree / (D) Disagree	Evidence
	1) Smart people are not neurodiverse.		
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Formulaic Expressions:

- 1) Partner A:
 - I will read statement one. It says...
 - I agree/disagree with this statement because...
 - So, for statement number one, I will mark agree/disagree. What do you think?
- 2) Partner B:
 - I agree with you and can add...
 - I disagree with you because...

Appendix D - Summary of Interviews and List of Teachers

Teacher #	Pseudonym	Subject	Grade Level	Years Teaching
1	Karina	Humanities	6th	9
2	Gina	Humanities	9th	9
3	Angela	Humanities	10th	6
4	Dave	Math	9th and 10th	10
5	Daniel	Science	9th, 11th, and 12th	19
6	Jack	Science	10th and 11th	7
7	Joseph	SPED	11th and 12th	2
8	AJ	Science	6th	7
9	Jane	Math	6th	3
10	Peter	Science	7th and 8th	9
11	Yoshi	Humanities	11th and 12th	13
12	Ken	Math	9th and 10th	2
13	Matthew	SPED/ELD	11th and 12th	4
14	Antonio	SPED/ELD	9th and 10th	4

Teacher 1: Teacher 1 reported using many ELD strategies in their classroom. Prior to the professional development training, they were using strategies such as providing engaging bilingual content to their ELL students. Committed to supporting ELLs they also developed a school program that allowed teachers to work with ELL students in smaller focus groups. With that being said, teacher 1 believed that a lack of school resources was not allowing them to teach to the best of their ability. With these resource deficits, they believed that “the reclassification system is an impossible expectation”. After receiving the PD, teacher 1 reported that she was implementing new strategies learned. They found their ELL teaching to be enhanced by these practices observing more engagement and participation from students. They shared that “even students that

are typically avoidant are stepping up” as students were achieving academically. Teacher 1 changed their curriculum and is excited to continue to use these strategies.

Teacher 2: Teacher 2 also perceived themselves to be practicing good ELL teaching strategies. They did mention that LTELS get frustrated with content because they have trouble accessing grade level texts and tasks. They shared that they have a “text rich classroom” with word walls, sentence frames, in addition to having other supports like audio access for texts. When talking about the school they saw good intent in its effort to best support ELLs but cited them not having enough resources and training to realize their desired outcomes. If it was up to teacher 2 they would be “giving money to teachers to join conferences to make them feel like they are professionals of teaching ELLs”. Once receiving the PD this teacher said that they felt more motivated to work on giving more support for ELL students and saw that other teachers felt so as well. Teacher 2 reported that they believe there should be more PD workshops as this is very relevant towards student success in all subjects and grades.

Teacher 3: Before the training, teacher 3 was looking to strengthen their ELL instruction. They reported that they used strategies including chunking and guiding in order to help engage ELL students. In regard to school support, they shared that at the school “we don't have instructional coaches”. Despite feeling that the school was doing its best with what it had, the lack of coaches was really taking away from student learning experiences. Once receiving the PD, teacher 3 felt that the SDAIE strategy provided her with new teaching methods to bring to the classroom. These new strategies centered on making vocabulary more accessible for ELL students by frontloading words for students. Teacher 3 was excited to continue to use and build on these practices as they observed more students engaged and participating in an academic conversation with their peers.

Teacher 4: Teacher 4 reported not using a lot of ELL teaching strategies. A big part of this is because they see math as a subject that has less barriers due to language. Teacher 4 believes that what ELLs need most is “comfort in their ability to verbalize what they have to say”. With respect to the school, they think the effort to support ELL teaching is primarily put on the humanities teaching staff. In addition, teacher 4 also thinks the school does not allow teachers enough time to plan lessons that can aid ELLs. Post training, after the training they tried some new vocabulary previewing activity and implementing word walls to better support ELLs. He reflected on the need of his students to understand vocabulary in geometry and his role as a teacher to assist his ELLs.

Teacher 5: Teacher 5 reports that they use different ELL teaching practices such as giving examples, models, visual aids, and scaffolds. They also report that their classroom's noisy environment gets in the way of reaching all students. After the PD teacher 5 explains that it helped and made them aware of the different practices that they can use when teaching students. Teacher 5 also commented that they think that "it is important that we can observe other teachers and strip their teaching down to the objective side and really assess what is good practice to what practices that should be revised or altered."

Teacher 6: Teacher 6 did not seem to be using many ELL practices. When asked how they support ELLs they said that there are "sentence frames in the room that students can choose to use if they want". Despite these limited practices, teacher 6 was not ignorant of the challenges ELLs face in classrooms without language support. The teacher shared that they and other staff meet with administration to help grow their ELL practices but teachers don't have enough "time to plan, build, and design lessons that utilize discussed best practices as aligned with units". After participating in the training this teacher did report that they were starting to use the interactive vocabulary activities talked about. Teacher 6 saw these activities to be more interactive and engaging for students and they plan on continuing to use them in future lessons.

Teacher 7: Prior to attending professional development, teacher 7 used a number of different strategies to support ELLs in the classroom. These strategies included providing sentence frames, homogeneous grouping, heterogeneous grouping, and selecting texts that are appropriate for students' reading levels. With respect to ELL support at the school, teacher 7 felt like it was nearly non-existent. They stated that they "would love more support about equity and supporting...ELLs. I would love coaches full time". In addition, they also thought it would be helpful if the school "would focus on more intentional PDs on ELD and English Learning Strategies". With that being said, teacher 7 was very happy to have attended the PD and learn about SDAIE strategies. They have since started to implement these strategies in their classroom. They shared they were partial to using new vocab strategies to help students better comprehend texts. Despite these strategies being effective they added that "there is so much more work to be done about resetting students comfort and confidence. More of this is what's needed".

Teacher 8: Teacher 8 believes they are personally doing a fine job at teaching ELLs by using partner work, audiobooks, and providing Latin roots of vocabulary for support. With respect to the school, they do not think the standard is being met. This teacher describes ELL teaching training as teachers helping other teachers while "administrators haven't given much coaching". They go on to say the school could

benefit from highly trained coaches to support the teaching staff and students. Post professional development, teacher 8 saw a big improvement when implementing SDAIE strategies in their classroom. Their students were understanding vocabulary better and “kids were making connections between reading and experiments. It was very effective for the curriculum”. Similar to other teachers, teacher 8 wanted to implement these practices but felt they needed to “add more time to add more strategies and to transform these tools”.

Teacher 9: Teacher 9 was pretty positive that many of her students are ELLs but didn't know what that meant to be an ELL because many of her students speak well. She provides instructions and modeling on the board, on the work in front of the students and she repeats her words. “I also use vocabulary lessons about math and ways to work with math”. She was mainly concerned that her ELLs “don't want to talk” because they may have trouble getting their ideas about math across. She stated that this year has been challenging for her but she receives minimal check-ins and coaching because her classroom is still functioning and thinks that all science and math teachers should be trained in supporting ELLs. After the PD on SDAIE strategies, she felt that she's beginning to understand how to better support her ELLs and her implementation of tools has had a positive impact on her students. “Especially [on student] learning. I think that participation is such a bigger issue of growing student confidence...”

Teacher 10: Teacher 10 perceives his teaching to be accessible to ELLs. They use strategies such as think-pair-share, explicit vocabulary instruction, and visual models/diagrams. As the main barrier to ELL success, teacher 10 stated that “when there is so much need and the least resources, the system is designed to fail our students”. Unlike other teachers though, they perceive the school to be providing a number of different support resources including “1 on 1 coaching, and PD opportunities”. The fix that this teacher did want to see in support of ELLs is an alignment of curriculum and how that material should be taught. Following the SDAIE professional development, teacher 10 was very pleased with what they learned and was implementing new SDAIE vocabulary and comprehension practices in their classroom. This teacher was excited to be reminded of these practices as “it's important to know what strategies work. It was like a reality check that my students may need this”. They hope this will bring their students academic success.

Teacher 11: When talking with teacher 11 about their ELL practices they shared that they try to implement what they know but scaffolds do not always get through to the seniors that they teach. Further, they believe that scaffolds do not always help in getting students college-ready. When reflecting on the school's ELL practices teacher 11 was disappointed that very few of the teachers spoke a second language. In addition, this

teacher thinks the school curriculum is not tailored for ELL students. They shared that the curriculum is not “giving students an opportunity to utilize... linguistic strengths in their home language”. Like other teachers, teacher 11 said there is zero coaching for staff which leaves teachers to grow on their own. After attending the PD, teacher 11 seemed to have mixed feelings. They perceived the linguistic demands to be a good reminder of good practice but also felt that these strategies don’t always apply to their juniors and seniors. They shared that “these are good tools to augment a lesson that is interesting but the tools can be meaningless if the task isn't interesting”. Teacher 11 further found that their students were not engaged with a lot of the SDAIE strategies used.

Teacher 12: Prior to the PD, teacher 12 used a fair amount of ELD practices including displaying a word wall, posters, and vocabulary lists. As a math teacher, a challenge this teacher sees their students face frequently is in solving math word problems. With lower reading scores being a challenge “students are turned off when they have to read THEN do math, it's a lot all at once”. In terms of school-wide support, Teacher 12 sees inconsistencies with coaching and uniform ELD practices across the school. Similar to others interviewed, they also feel that they are overworked and that more prep time is needed to create lesson plans that include support for ELLs. After receiving the PD, teacher 12 found the training to be very helpful when implemented in their classroom. They have started using vocabulary strategies such as jigsaws and Frayer diagrams. In addition, this teacher shared that “hearing about what other teachers are doing puts me in a mindset of thinking about my ELLs and how I can create lessons that fit their needs”.

Teacher 13: Teacher 13 uses a fair amount of ELL supports and strategies in their classroom. These include the use of audiobooks, sentence starters, visuals, graphic organizers, and repeating information to name a few. They also have a focus of teaching their students’ research skills so they are learning to find the answer to questions on their own. In terms of opinions on the school’s ELL approach, Teacher 13 holds similar ideas to others in that there is not enough coaching support. They stated that “the most dangerous thing is when teachers work in isolation without the critique of their colleagues or others.” This teacher reported that they started to implement more support in their class and that of the teachers that they support as an RSP.

Teacher 14: Teacher 14 reports that they offer a lot of support such as graphic organizers, outlines, sentence starters, visual aids, and previewing vocab. As a resource specialist (RSP) this teacher pulls students in small groups to give out mini-lessons where it would be helpful if ELL students had support from their Gen ED classes going in. The teacher doesn’t believe they get enough support and guidance

from the school. After the PD this teacher reports that they got so much more ideas to implement in their teaching practice and “got tips and activities to give teachers in their lesson planning.” Teacher 14 believes there should be more workshops on best SDAIE practices.