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Vocabulary Intervention Discourse in Special Education Classroom: What Word?

A Dissertation submitted in partial satisfaction of the requirements for the degree of

Doctor of Philosophy

in

Education

by

Joyce Junghhee Kim

June 2017

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Committee Chairperson

University of California, Riverside
To my parents, with love…
ABSTRACT OF THE DISSERTATION

Vocabulary Intervention Discourse in Special Education Classroom: What Word?

by

Joyce Junghhee Kim
Doctor of Philosophy, Graduate Program in Education
University of California, Riverside, June 2017
Dr. Rollanda O’Connor, Chairperson

The Every Student Succeeds Act (ESSA, 2015), which replaced the federal
government’s education policy called the No Child Left Behind Act (NCLB, 2002), takes
full effect in the 2017-2018 school year with renewed focus on accountability systems
established by each state. States must have for their middle schools rigorous
accountability systems in place (ESSA, 2016; Whitehouse, 2016) at a time when there is
a lack of clear direction on the implementation of ESSA for general education, much less
for special education (Klein, 2015). In addition, the Common Core State Standards
(CCSS, 2016) encourage regular practice with academic vocabulary as school personnel
are feeling the “middle school squeeze” (McLaughlin, Glaab, & Carrasco, 2014). In the
context of national and state education objectives, students with special needs, English
Learners (ELs), or both must navigate the topsy-turvy waters of academic vocabulary on
their way to academic achievement.
Despite well-established insights about academic vocabulary instruction, Direct Explicit Instruction is not commonplace for 6th graders (Ford-Connors & Paratore, 2014). In their review of 33 studies of vocabulary instruction in 5th grade and beyond, Ford-Connors and Paratore (2014) noted that what is lacking from the literature on contexts for vocabulary instruction are studies that specifically identify what the teacher says or does to create the contexts for word-learning. Perhaps more disheartening is the little research on the relationship between teachers’ instructional talk and students’ vocabulary and comprehension amongst academically at-risk 6th grade students (Silverman et al., 2013).

The current study is intended to address the gap in the extant literature on what the teacher says or does to create the contexts for word-learning, particularly in a 6th grade special education classroom. This study investigated classroom discourse practices of teaching academic vocabulary to 6th grade students in special education classrooms in Orange and Blossom Middle Schools in California. Qualitative methods were used, including observation, discourse analysis and document review. Findings included nine teacher talk moves characterized as two different types of initiation and variations of teacher feedback, including teachers’ spontaneous narratives. These spontaneous narratives provided additional contexts for the vocabulary words and increased opportunities for students to orally use the vocabulary words. Furthermore, during the school-year, subtle changes in the speech patterns resulted in one teacher but not in the other. Implications and future directions for teacher training and professional development are discussed.
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One sunny day, in a 6th grade special education classroom …

Teacher: First, we’re going to review. [T. pointing to the word on screen via computer mouse.] What word?

Students: Individual!

Teacher: What is an individual or something that’s individual?

Students: A person! Just one! A single person or thing! [crosstalk]

…

Student: I would rather be friends with a kind individual.
Orange Middle School and Blossom Middle School are located in Hummingbird School District in southern California. These research sites are analogous to many middle schools throughout the country which must prepare for the Every Student Succeeds Act (ESSA, 2015) that takes full effect in the 2017-18 school year. The ESSA, signed into law on December 10, 2015, replaced the federal government's education policy called the No Child Left Behind Act (NCLB, 2002) but with renewed focus on accountability systems established by each state. For middle schools, this means that states must incorporate at least four indicators into their accountability systems, such as proficiency on state tests, English-language competency, plus other academic factors that can be disaggregated by subgroup (ESSA, 2016). Furthermore, states are required to add at least one additional indicator of a very different kind, such as student engagement, postsecondary readiness, school climate/safety, or whatever else the state deems appropriate (Whitehouse, 2016).

Confounding these guidelines is the lack of clear direction on the implementation of ESSA for general education, much less for special education (Klein, 2015). The new guideline calls for schools to devise an evidence-based plan to help the subgroups of students who are falling behind, such as minority students, English Learners (ELs), or those receiving special education. Districts must monitor these plans. If the school continues to fall short, the district should step in, though there is no specified timeline. Moreover, a provision in the ESSA requires states and districts to establish a “comprehensive improvement plan” in schools where student subgroups are chronically underperforming. Yet, the ESSA allows only 10% of students in special education to be
given alternative tests, nor does it specify the comprehensive nature of such a required improvement plan.

While Orange and Blossom Middle Schools anticipate the State of California’s looming 2017-18 implementation of the ESSA, they must also address the national preoccupation with vocabulary skills required by the Common Core State Standards (CCSS). The U.S. Department of Education’s National Center for Education Statistics (NCES, 2013) examined the vocabulary skills of students nationwide, which closely corresponded to students’ reading comprehension levels. According to the biennial National Assessment of Education Progress (NAEP, 2013), the top 25% of fourth grade readers demonstrated an average 255-point vocabulary score on a 500-point scale and the weakest 25% of fourth grade readers scored only 177 points (NCES, 2013). This Nation’s Report Card, for the first time, examined vocabulary in isolation and noted a grave trend: 1) the average fourth-grader scored 218 points in 2011, which was statistically unchanged from 2009; 2) the average eighth-grader scored 265, which was also statistically unchanged from 2009; and 3) the average twelfth-grader scored 296 points in 2009 (test was not repeated for 2011; Aud, Wilkinson-Flicker, Nachazel, & Dziuba, 2013). This stagnating trend was punctuated by that fact that nearly one-quarter of U.S. eighth graders scored below basic on national assessment of reading (NAEP, 2013). In wake of the National Reading Panel Report, which identified vocabulary as one of the five major components of reading (NICHD, 2000), and past research studies, which deemed vocabulary as significant to academic success (Baker, Simmons, &
Kame’enui, 1998; Townsend, Filippini, Collin, & Biancaros, 2012), this lack of improvement in vocabulary skills noted by the NAEP warrants renewed attention.

Similar to the NAEP vocabulary test, which values abstract thinking to derive the words’ meanings from passages in lieu of static definitions, the CCSS demands in-depth knowledge of academic vocabulary (van Lier & Walqui, 2012). According to Applebee (2013), these premium academic objectives were initiated by the Council of Chief State School Officers (CCSSO) and the National Governors Association Center for Best Practices (NGA Center) to address the disparate academic standards that the states had created within the context of No Child Left Behind (NCLB, 2002). The CCSS stipulate grade-level learning goals or academic standards in English language arts/literacy (ELA) and mathematics. By 2014, these standards had been endorsed by forty-five states, the District of Columbia, four territories, and the Department of Defense Education Activity (CCSS, 2016).

Thus, the Common Core State Standards (CCSS) epitomize a uniform academic stance across states and serves as a united front in the face of international competition. Jimerson, Stein, Haddock, and Shahroozi (2016) argued that the CCSS roots were first established by the 1983 publication of *A Nation at Risk: the Imperative for Educational Reform*, which framed the lax US education standards as the culprit to America’s economical and scientific downfall. Furthermore, the efforts of the National Council of Teachers of Mathematics in 1989 and early federal government attempts by both the Clinton and the Bush administrations in the 1990s to push for rigorous standards-based
accountability were, in large part, due to the federal government’s economic, scientific, and security interests.

Despite over 30 years of trying to meet high academic standards, U.S. students scored 14th in reading, 17th in science, and 25th in mathematics performance on the 2009 Program for International Student Performance (PISA), which assessed the academic achievement of 15-year-olds in 65 developed nations (King & Jones, 2012). The CCSS were created to respond to this problem by raising academic achievement standards for all American students to international benchmarks. The CCSS released in June of 2010 represent the efforts by the National Governors Association (NGA) and the Council of Chief State School Officers (CCSSO) in conjunction with various stakeholders (parents, schools, administrators, civil right groups) to link college and career readiness standards with grade-level standards.

The CCSS-English Language Arts recognize that academic vocabulary extends across reading, writing, speaking, and listening (CCSS, 2016). Thus, the CCSS-English Language Arts encourage regular practice with academic vocabulary at a time when school personnel are feeling the “middle school squeeze”, the intense pressure to accelerate the growth of student progress to prepare them for high school when they were already lagging behind in elementary school (McLaughlin, Glaab, & Carrasco, 2014).

In their field report of the CCSS implementation in the State of California, McLaughlin et al. (2014) described teachers’ concerns and apprehension about how students will manage the academic language that focuses on the meaning of ideas and evidence justification. They reported teachers’ dismay over how to accelerate students’
academic vocabulary: these teachers felt that they were not asking their students to take “big steps” but an implausible “pole vault”. Indeed, academic vocabulary poses a challenge for struggling adolescent readers, such as those with Learning Disability (LD) and ELs who experience difficulty determining abstract word meanings (Vellutino & Scanlon, 1985), comprehending expository passages (Sáenz & Fuchs, 2002) and making text-based-inferences (Rapp, McMaster, Panayiota, & Espin, 2007). Although Elleman, Compton, Fuchs, Fuchs, and Bouton’s (2011) dynamic assessment measure that consists of inference-making skills show promise in early identification of older “poor comprehenders”, no standard early identification measure for such struggling adolescent readers currently exists. Thus, the objectives in the CCSS-English Language Arts may be laudable; however, these worthy standards without clear implementation remain sadly elusive.

Thus, Orange and Blossom Middle Schools of Hummingbird School District in California must aim for the lofty academic vocabulary tenets outlined in the CCSS-English Language Arts while simultaneously addressing the special needs of students. In the context of national and state education objectives, students with special needs, ELs, or both must navigate the topsy-turvy waters of academic vocabulary on their way to academic achievement.

**Teaching Academic Vocabulary to 6th Graders: Direct Explicit Instruction**

According to Vadasy and Nelson (2012), academic vocabulary consists of words that occur regularly across academic domains; they are often abstract and normally do not occur in everyday informal conversation. Nagy and Townsend (2012) used the metaphor
“words as tools” to describe the two-fold nature of academic vocabulary. One, academic vocabulary is the means for communication. This is especially the case for 6th graders as oral language occurs along a continuum with informal, everyday discourse in the early elementary school-years to abstract, literate language in fourth grade and beyond (Chall, 1983; Snow, 2010). For 6th graders, the instruction in the classroom is delivered using academic vocabulary. Second, academic vocabulary is the disciplinary content or the learning objective. For instance, the subject of math cannot exist without key words like minus, divided, and area (Klinger, Vaughn, & Boardman, 2015). Thinking, expressing, and mastering the content requires obtaining in-depth knowledge of the academic vocabulary, which includes a complex network of meaning, form, and function (Nagy & Scott, 2000). Unsurprisingly, academic vocabulary has been found to contribute unique variance to academic achievement in a sample \((n=339)\) of diverse middle school students (Townsend, Filippini, Collin, & Biancaros, 2012).

Thus, word-learning, which is crucial to academic success, involves a complex process. Dale (1965) described four incremental stages of word-learning: 1) Never having seen the word before; 2) Knowing there is such a word, but not knowing what it means; 3) Having vague knowledge of the word’s meaning, and lastly; 4) Knowing the word well and remembering it. Paribakht and Wesche (1996) added a fifth stage of creative generativity: the ability to use the word in speaking and writing. They believed this generalization of word-knowledge to novel situations across communicative partners marks the true mastery of the word. Likewise, Beck, McKeown, and Omanson (1987) posited a person’s word knowledge along a continuum: no knowledge, general
understanding, context-bound understanding, receptive knowledge of the word but not expressive knowledge, and rich receptive and expressive vocabulary knowledge.

In addition to stages or levels of word-learning, other scholars explored the nature of word-learning. According to Cronbach (1942), learning words entailed the interconnectedness of ideas. For him, generalization referred to the ability to define a word. Application involved the appropriate use of the word. Breadth alluded to the knowledge of multiple meanings of words. Precision indicated the ability to apply the word to all contexts, and availability signaled the ability to use the word productively. Nagy and Scott (2000), in their seminal work on vocabulary processes, have described the dimensions of word knowledge with terms like polysemy (multiple meanings), multidimensionality (various spoken-written-grammatical forms, figurative use), incrementality (small steps of learning) and interrelatedness (semantic connections). Nagy, Berninger, and Abbott (2006) noted the role of morphological awareness defined as the understanding and application of how morphemes (i.e. affixes, roots) contribute to word meaning and form. Building upon their work, Kieffer and Lesaux (2008) underscored this metalinguistic and multifaceted morphological awareness to vocabulary development in older students.

**The Words to Teach: Tier 2 Words**

Given the complex process of word-learning, it behooves 6th graders to learn academic vocabulary words that would garner them the highest rate of return. Biemiller (2010) argued that vocabulary acquisition had a sequential development and examined words worth teaching at the elementary grade levels. Coxhead’s (2000) seminal
Academic Word List features 570 most common general academic word families in college-level texts across subjects.

Rather than static lists of words, Beck, McKeown, and Omanson (1987) created the *Three-Tiers Framework*, which is an elegant way of selecting vocabulary words that warrant instructional attention. The first tier consists of the most basic words that occur in oral conversations amongst young children (e.g. look, talk, dog). The second tier consists of frequently occurring words in the written text for mature language users across a variety of topics (e.g. contradict, fervent, precede). The third tier consists of specific words of low-frequency found in specialized domains (e.g. epidermis, pantheon, zygoma). Beck, McKeown, Kucan (2013) posited that Tier 2 words have the highest utility in the user’s language inventory, as those words appear frequently across subjects.

**The Principles of Direct Explicit Instruction (DEI)**

Academic vocabulary intervention research studies have increased the knowledge-base of effective, evidenced-based practices featuring Direct Explicit Instruction (DEI). Over thirty years ago, Pany, Jenkins, and Schreck (1982), demonstrated that directly teaching synonyms for unfamiliar words to 4th through 6th graders transferred to single-sentence comprehension. Since then, the National Reading Panel (2000) prescribed the consensus of researchers: explicitly teaching the meanings of specific words optimized vocabulary. Expanding this knowledge base, McCandless, Beck, Sandak, and Perfetti (2003) added that clear student-friendly definitions and systemic practice of words with oral language were helpful for students in early grades. Moreover, O’Connor, Beach, Sanchez, Bocian, and Flynn (2015) indicated that
contextualized learning, such as those centered in history lessons, with cognitive-based “cause and effect” exercises and morphological techniques were effective for older students.

**Student Appropriate Words in Sequenced Lessons.** DEI requires the appropriate selection of Tier Two high-utility words introduced and practiced in a sequential, organized manner (Beck et al., 2013). Features of effective vocabulary instruction for 6th graders are: frequency (up to 10 words per week), robustness (student-friendly definitions to foster creating word associations), students’ use of words (activating their funds of knowledge), and facets of word meaning (example or non-example word meaning activity).

Over the course of a week, an effective instructional sequence involves the following student-oriented activities: 1) introduce and create student-friendly definitions for targeted words for Day One; 2) develop example and non-example scenarios for targeted words for Day Two to Day Four, and; 3) assess the students to insure that they understand the meaning and can demonstrate use of the targeted words on Day Five. In their earlier work which reviewed the effective elements of vocabulary instruction, McKeown and Beck (1988) espoused rich instruction that entailed activities using definition, synonyms and new-word associations with high frequency of encounters with each new word and extended use of the words by the students.

**Scaffolding and Student Monitoring/Feedback.** Stone (1998) provided many meanings related to the metaphor of scaffolding; however, in the field of education, according to Meichenbaum and Biemiller (1998), scaffolding is the practice of providing
appropriate assistance to help students reach a higher level of mastery. The degree and the quality of the assistance is contingent upon providing consistent monitoring of student progress with immediate affirmative and corrective feedback. This is especially relevant to students with LD who have attention problems, working memory deficits, and poor sequencing and processing skills (Swanson & Siegal, 2001). Thus, for these students, it is particularly important to receive the appropriate quantity and quality of scaffolding assistance.

By designing many opportunities to learn and requiring frequent student responses, teachers may gauge student understanding and provide scaffolded instruction for ultimate independent student success. Additional word-learning strategies helpful for adolescent students include using morphological awareness skills (Kieffer & Lesaux, 2008; Kieffer & Box, 2013), forming keyword mnemonics (King-Sears, Mercer, & Sindelar, 1992), recalling keyword attributes (Veit, Scruggs, & Mastropieri, 1986), and sharing prior knowledge (Bos & Anders, 1990).

**Addressing Different Forms of Knowledge.** Funded by the U.S. Office of Special Education Programs, Ellis and Worthington (1994) provided a seminal research synthesis on effective teaching principles. These scholars alluded to Rosenshine and Berliner’s (1978) work on direct instruction (i.e. making goals clear to students, allocating extensive content coverage, continuous monitoring of student performance, and providing immediate feedback) which Rosenshine (1986) later expanded into the seven teaching aspects of explicit instruction (i.e. daily review, clear goals, incremental teaching, modeling, non-examples and examples, guided practice, feedback).
Ellis and Worthington (1994) featured the teaching principle of addressing three forms of knowledge. *Semantic or Declarative Knowledge* is factual knowledge that one brings to a task. For instance, the student’s existing factual knowledge of the alphabet principle can assist in learning a vocabulary word. *Procedural Knowledge* refers to one’s familiarity of processes or routines. For example, when using a keyword mnemonics strategy, a student’s knowledge of the specific steps to follow in the strategy represent a type of procedural knowledge. *Conditional Knowledge* refers to knowing when and where either procedural or declarative knowledge should be applied. A student must know when to use a paraphrasing or mnemonics strategy across learning tasks (e.g., book reports, independent reading, tests). Thus, the principles of DEI include student appropriate words in sequenced lessons, scaffolding and student monitoring/feedback, as well as addressing different forms of knowledge. These DEI components were featured in vocabulary intervention studies noted below.

**Vocabulary Intervention Studies with Aspects of DEI**

Baumann and colleagues (2003), in their quasi-experimental studies, highlighted the importance of morphemic and contextual analysis instruction for fifth graders (*n*=157 students). The students who received such instruction were more successful at deriving the meanings of novel affixed words than students who received textbook vocabulary instruction. Townsend and Collins (2009) studied 52 Middle School ELs (mean age = 12.11) who participated in a 20-day after school program called the “Language Workshop” designed on the principles of DEI. After the intervention of 60 target
vocabulary words, ELs in the treatment condition demonstrated more vocabulary growth on these words than their peers in the control condition.

A year later, Lesaux, Kieffer, Faller, and Kelley (2010) conducted a quasi-experimental, mixed-methods study with 476 sixth-grade students who were predominantly language minority (LM) learners (346 LM learners, 130 native English speakers). Lesaux et al. (2010) showed that the 18-week academic vocabulary program resulted in increased word meanings and morphological awareness for LM learners. Building upon this work, Lesaux, Kieffer, Kelley, and Harris (2014) administered a 20-week classroom-based intervention called Academic Language Instruction for All Students (ALIAS) in 14 middle schools in a large, urban school district in California. They found that ALIAS, which targeted 70 academic vocabulary words, significantly improved vocabulary knowledge and morphological awareness skills, as well as comprehension of expository texts and written language skills in linguistically diverse 6th graders (n= 2,082 students).

Lesaux, Kieffer, and colleagues’ work aptly captured the three basic tenets of DEI. First, vocabulary instruction should target a relatively small number of words in semantically and morphologically rich contexts (Stahl & Nagy, 2006). Second, the academic vocabulary words ought to be high-utility words, frequently occurring across academic disciplines (e.g. “Tier Two” words, such as analyze, abstract, consensus, see Beck et al., 2013). Third, effective vocabulary instruction entails balancing direct teaching with word-learning strategies so that students are armed with the cognitive tools,
such as contextual clues and interactive sharing to learn words independently, which is particularly important for older students (Bos & Anders, 1990).

Another vocabulary intervention program that was based on the principles of DEI is Word Generation developed by Snow and a team of colleagues (2009) in response to the widening gap in Boston middle school students’ vocabulary. The key features of Word Generation involved: 1) a motivating starting point for high-interest topics (e.g. stem cell research, censorship, conservation); 2) repeated exposures with daily activities at the 6th grade reading level; 3) opportunities for students to use the words; 3) presentation of words in semantically rich contexts; 4) word-learning strategies; 5) student-friendly definitions; 6) expansion of word’s semantic mapping (e.g. constant means steadfast in one context and means fixed value in another context); 7) encouragement of word awareness (e.g. students’ vocabulary log to aid incidental learning, and lastly; 8) encouragement of experimentation and mistakes (e.g. teacher “talk moves” to help students feel safe to use target words).

Snow, Lawrence, and colleagues tried to demonstrate that high quality classroom discussion mediates the effectiveness of vocabulary treatment (Word Generation) on academic vocabulary outcome. Although valiant effort was noted as they evaluated Word Generation intervention effects in 1,554 middle grade students in 28 schools randomly assigned to treatment or control conditions, multilevel modeling analysis resulted in disappointing findings for the treatment effect size on academic words learned (Hedges $g= 0.25$) and no effect of treatment on general vocabulary (Hedges $g= -0.01$). Lawrence, Crosson, Paré-Blagoev, and Snow (2015) examined the quality of the
classroom discussion across content areas (math, science, social studies and English). Their 168 observations across a random sample of content-area classroom discussions noted “teacher talk moves.” For example, the teachers’ ability to facilitate high-quality discussion was marked by the occurrence of questions requiring students to explain their thinking. Thus, Word Generation accentuated the role of classroom discourse in its DEI elements.

Vaughn, Martinez, Linan-Thompson, Reutebuch, and Carlson (2009) conducted two experimental studies (n=381, n=507) which featured a nine to twelve week, multi-component social studies intervention to 7th graders. The treatment intervention consisted of explicit vocabulary instruction, peer pairing, video clips, and graphic organizers. This intervention garnered improvement on vocabulary and comprehension measures for both ELs and non-ELs. Goldman, Snow, and Vaughn (2016) examined three projects which have been successfully implemented with ELs: Promoting Adolescents’ Comprehension of Text (PACT; Greg, Vaughn, Swanson, & Wanzek, 2016), Catalyzing Comprehension through Discussion and Debate (CCDD; Donovan & Snow, 2010), Reading Evidence, and Argumentation in Disciplinary Instruction (READI; Goldman, 2010). In scrutiny of these theoretically different interventions, Goldman and colleagues (2016) described a common theme of “knowledge building” in academic vocabulary instruction in the form of multiple practice opportunities and activation of different funds of knowledge with rich contextualized learning.

Despite these well-established insights about academic vocabulary instruction, DEI is not commonplace for 6th graders, nor for students in upper middle or secondary
schools (Ford-Connors & Paratore, 2014). In their review of 33 studies of vocabulary instruction in 5th grade and beyond, Ford-Connors and Paratore (2014) noted that what is lacking from the literature on contexts for vocabulary instruction are studies that specifically identify what the teacher says or does to create the contexts for word-learning. Perhaps more disheartening is the little research on the relationship between teachers’ instructional talk and students’ vocabulary and comprehension in 6th grade amongst academically at-risk students (Silverman et al., 2013). This is a troubling finding in light of what we know regarding classroom discourse.

6th Grade Classroom Discourse: Important for Vocabulary Learning

Teacher talk in the classroom matters. Silverman et al. (2013) found that teachers’ instruction to 3rd through 5th graders which contained definitions, word relations, and morphosyntax was positively associated with change in Spanish-English bilingual and English monolingual students’ vocabulary, implying that teacher’s instructional language could help 6th graders. Gamez and Lesaux (2015) analyzed teacher’s language use across the school year in 6th grade urban middle school classrooms. They discovered substantial variability in teachers’ use of sophisticated vocabulary, and their vocabulary use significantly related to students’ reading comprehension. Kieffer and Box (2013) examined 6th grade Spanish-speaking language minority (LM) learners and their native English-speaking peers on English measures of derivational morphological awareness, morphologically complex academic vocabulary, silent word reading fluency, and reading comprehension. Multiple-group path analysis
indicated that teacher instruction of morphological awareness made a significant unique contribution to comprehension via academic vocabulary and word reading fluency.

The mapping between classroom discourse and learning is complex. However, in Murphy et al.’s (2009) meta-analysis of classroom discussion about text, certain aspects of discourse that shape student learning were identified and examined. In fact, Soter, Wilkinson, Murphy, and colleagues (2008) noted high-quality features of classroom discourse features which were categorized as questions, elaborated explanations, exploratory talk, and reasoning words. Other discourse features such as teacher and student turns and various types of questions were also classified.

Another perspective on classroom discourse features conveys the sense of time. In their analysis of upper middle grade classrooms, Nystrand, Wu, Gamoran, Zeiser, and Long (2003) emphasized the notion that discourse is “language in time” to be understood as structured by the reciprocal intentions of the participants. These researchers prefaced discourse participants’ “moves” as unfolding in recitation, discussion, and dialogic spells (characterized by engaged student questions and an absence of teacher test questions). In their examination of classroom discourse over a two-year period, they found absence of student questions and absence of dialogic teacher questions in low performing classes. Wolf, Crosson, and Resnick (2005) examined the teacher-student and student-student linkages in the classroom discourse of 21 teachers from 10 elementary and middle schools; their findings suggest that the use of teacher’s strategies such as asking “disagree/agree” questions and revoicing to keep probing the student’s ideas were
effective ways to encourage student elaboration and academic rigor. Thus, these studies demonstrate that classroom discourse shapes learning.

**Classroom Discourse: Important for Treatment Fidelity**

Teacher talk also provides insight into treatment fidelity. Treatment integrity or fidelity refers to “the extent to which the treatment [independent variable] is implemented as intended” (Yeaton & Sechrest, 1981; p.160). Five dimensions of treatment fidelity consist of: 1) adherence - the extent to which specified program components were delivered as prescribed in program manuals; 2) exposure - the number of sessions implemented, length of each session, or frequency of targets; 3) quality of delivery - elements of program delivery such as implementer enthusiasm, leader preparedness, leader attitude; 4) participant responsiveness - participants’ engagement of program sessions, and lastly; 5) program differentiation - manipulation check performed to protect against treatment diffusion and to distinguish one program from another (Dane & Schneider, 1998). Thus, classroom discourse provides evidence of treatment fidelity.

Measuring and reporting treatment integrity in intervention research is an important indicator of a study’s quality and rigor (Bruhn, Hirsh, & Lloyd, 2015). It is imperative to understanding why and how the intervention was effective. Changes in dependent variables can be attributed to the independent variable only when researchers can show accurate implementation that meets internal validity; conversely, lack of treatment integrity data threaten external validity, and as such studies are more difficult to replicate (Shaddish, Cook, & Campbell, 2002).
Seventeen years ago, Gresham, MacMillan, Beebe-Frankenberger, and Bocian (2000) surveyed treatment integrity in learning disabilities intervention research published in three special education journals (Journal of Learning Disabilities, Learning Disability Quarterly, and Learning Disabilities Research and Practice) during a 5-year period and found that only 18.5% studies measured and clearly reported treatment integrity. In 2005, a panel of researchers (Gersten et al., 2005) described “quality indicators” for randomized control trials and quasi-experimental studies in special education. These researchers recommended that intervention fidelity reports ought to include: 1) fidelity data collection and scores; 2) regular observations of the intervention with use of a treatment component checklist to record presence of intervention element as well as number of intervention sessions; and lastly, 3) interrater reliability among observers. Moreover, the panel advised that the quality of implementation should be investigated and reported to ascertain how the intervention was implemented with varying degrees of integrity.

Swanson, Wanzek, Haring, Ciullo, and McCulley (2013) examined 76 articles published in high impact general and special education journals published in a 4-year period (2005 to 2009). Although fidelity of implementation procedures was provided in 67% of the intervention articles, only 6.6% of the articles provided information on the quality of implementation as Gersten and colleagues (2005) have recommended. Detrich (2014) argued that sound evidence-based educational interventions alone do not lead to education reform; rather, he insisted that treatment fidelity of these evidence-based
interventions must consider rich and full reporting of treatment implementation to deem effectiveness, scale-up potential, and ultimate value to education reform.

The CHAAOS (Creating Habits that Accelerate Academic language Of Students) Program

The CHAAOS program is a three-year longitudinal 12-week vocabulary intervention based on Archer and Hughes’ (2011) 16 elements of Direct Explicit Instruction cross referenced and modified with Swanson and Hoskyn’s (1998, 2001) meta-analytic features of effective interventions for students with disabilities (O’Connor, 2016). The CHAAOS intervention is designed for 6th graders (Year 1), 7th graders (Year 2) and 8th graders (Year 3) in Southern California and in North Carolina, with 65 students receiving special education and 5 special education teachers in 6th grade (Year 1); and up to 130 students receiving special education and 10 special education teachers in 7th and 8th grades. The students come from predominantly low-income, minority households (Hispanic in CA and African American in NC). In a series of 12-week cycles, 48 target academic words per cycle will be taught by classroom teachers who will implement the tightly sequenced vocabulary lessons. These 48 words were generated from Biemiller’s (2010) Words Worth Teaching from his 2nd grade list crossed with Coxhead’s (2000) Academic Word List and later pilot pretested with 6th graders who were receiving special education in August of 2016 to insure the most optimal list of target vocabulary words. For the scope of this proposal, Year 1 implementation of CHAAOS (6th graders in two treatment schools in CA) will serve as the research locus. Year 1 consists of three 4-week instructional cycles, totally 12 weeks of instruction, targeting 48 words in total.
Theoretical Framework: Sociocultural Theory (SCT)

According to Chaiklin (2003), Vygotsky’s (1934) seminal theory on *Thought and Language* and his view on the development of psychological processes have laid the fundamental foundation to what is referred to as the Socio-Cultural Theory (SCT). SCT foregrounds social interactions as the basis for transforming learning experiences. Thus, knowledge is constructed between two or more people through the cultural transmission of tools (e.g. language). This occurs in a space Vygotsky coined as the “Zone of Proximal Development.” According to Vygotsky, the concept of Zone of Proximal Development (ZPD) is defined as:

“The distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers”.


De Guerroro and Villamil (2000) succinctly noted that ZPD establishes two development levels in the learner: the “baseline” ability level without any help from others and the other is the potential level of development when offered assistance from more capable being(s).

Central to ZPD is the concept of scaffolding. The term scaffolding was initially used as a metaphor of a mother’s dialogic conversation with her child to promote language and learning (Bruner, 1978). Influenced by the characteristics of scaffolding behavior by mothers, Wood, Bruner, and Rose (1976) suggested six features of
successful scaffolding implemented by teachers or more capable peers. These six features are: 1) recruiting tutee’s attention; 2) designing tasks that are manageable; 3) making goals; 4) marking critical features; 5) controlling frustration; and lastly, 6) modeling solutions. Later, Wells (1999) argued scaffolding entails three aspects: dialogic discourse in which knowledge is socially constructed, the activity involved, and artifacts that mediate knowledge. Furthermore, in the field of education, Meichenbaum and Biemiller (1998) populated the notion that scaffolding refers to various types of learning support used by the teacher (or more capable peer) to facilitate the learning of the less skilled student.

**SCT and Special Education**

Alluding to Vygotsky’s (1993) *The Fundamentals of Defectology*, Gindis (2003) argued for the theoretical implication and elaboration of SCT to special education. Gindis (2003) highlighted that long before Free Appropriate Public Education (FAPE), Vygotsky passionately advocated that teachers must address the social consequences of a child’s disability since that affects the child’s interactions with others and his relationship with the world. Vygotsky’s firm conviction that specially trained teachers and “differentiated curriculum can fully develop the higher psychological functions of the child with disability” through scaffolding rings true in the field of special education (Gindis, 2003; p. 212). Thus, the more expert being (e.g. special education teacher) must understand the pupil’s ZPD and employ scaffolding to help the pupil succeed.

Foreman and McCormick (1995) argued that scaffolding is foremost mediated by language. This notion has been applied in special education research. Wood, Bruner,
and Ross (1976) examined the practice of scaffolding in children with and without hearing impairments and described five levels of prompting: providing general verbal prompts, supplying specific verbal instructions, indicating materials, preparing materials for assembly, and demonstrating. The aim of what they dubbed “contingent teaching” was to respond immediately at the student-appropriate level to enable the student to solve the task independently. Thus, SCT will guide this proposed study in its examination of how experts rely upon specific verbal and nonverbal communication systems (i.e., discourse practices) to direct novices toward vocabulary acquisition.

**SCT and English Learners**

Amongst Vygotsky’s numerous contributions to the development of language processes (e.g. different forms of speech and levels of regulation), Lantolf (1993) focused on Vygotsky’s view of language play as necessary to development, particularly for ELs. Lantolf reminds us that the word play or game are the same in Russian. According to Vygotsky, language play invokes imitation and is linked with game activity with others; Lantolf argued that such language play opens the ZPD in which children can behave beyond their current level of ability.

This idea that play or game is essential to language processes operates on two pivotal levels, particularly for ELs. Firstly, a play or game activity contains turn-taking events which epitomize opportunities to learn and practice; this is at the very heart of DEI in the form of high frequency of encounters with each new word and students’ extended use of the words (McKeown & Beck, 1988). Such play or game activity is embedded in the CHAAOS Program (e.g. word jeopardy game). In these play moments, a teacher or
more capable peer could monitor the student’s understanding and provide scaffolding when warranted. Thus, Second Language (L2) acquisition researcher Ohta (1995) defined ZPD as the difference between the L2 learner’s current level and the higher level of potential development as determined by how language is used in collaboration with a more capable interlocuter.

Secondly, the notion of a play or game conveys the sense that there are rules which govern behavior. Through this lens, Shultz, Florio, and Erickson (1982) compared the participation structures used by Italian American families at home (e.g. storytelling events/mealtimes) with those employed by teachers and Italian American students in a school in the same working class neighborhood. They found that each event followed a set of rules for talking and listening; moreover, the same behavior (e.g., talking while someone else is talking) may be seen as appropriate in one setting (home) but inappropriate in another (school), or as appropriate at one point in time (before reading group begins) but not at another time (when the teacher is instructing). Misunderstanding the language game rules may potentially preclude student progress. For example, Au (1980) exposed the mismatch between native Hawaiian students’ “talk story” genre (which includes multiple simultaneous speakers) and nonnative Hawaiian teachers’ discourse practices which viewed such behavior as disruptive. Likewise, African American children’s storytelling patterns were interpreted as unfocused by Caucasian adult teachers (Micheals & Cazden, 1986).

The above-mentioned studies in second language acquisition and special education have utilized SCT for its utility in framing discourse analysis. These examples
demonstrate that sociocultural research employing discourse analysis has provided insight into the social interaction between students and teachers in the classroom. Thus, SCT as it pertains to ELs and special education is relevant to the proposed study due to the similarity of the proposed study’s student participants (those receiving special education and those receiving special education who are ELs) as well as the research questions that drive the data collection and analysis.

**Current Study**

The current study is intended to address the gap in the extant literature on what the teacher says or does to create the contexts for word-learning, particularly in a 6th grade special education classroom. Another purpose for this study is to shed light on how treatment fidelity could be scrutinized and reported. Thus, in this proposed study, I plan to examine how two teachers conduct the CHAAOS vocabulary intervention program: how teacher talk shapes learning and treatment fidelity. How do the patterns in the teacher’s speech fulfil her teaching purpose and facilitate students learning new vocabulary words as prescribed by the CHAAOS intervention?

Three questions guide this research study.

1. What are the functions of the instructor’s talk during vocabulary instruction?
2. How do teachers’ speech patterns relate to treatment fidelity? Specifically, how do teachers’ personal, spontaneous narrative (story-telling) episodes relate to treatment fidelity? Do their ad-lib stories adhere to treatment fidelity? If so, how? Comparing the observation instrument (which focuses on treatment
fidelity) with the researcher’s discourse analysis (which focuses on teacher talk) will facilitate noting any creative license taken by the teachers.

3. Do the teachers’ speech patterns in the delivery of vocabulary intervention change over the course of the school-year?

**Study Goals**

This study is designed to extend the knowledge base of how the teacher creates the contexts for word-learning through what the teacher says and does during vocabulary instruction. This information could contribute to the training of special education teacher and service providers. Despite evidence supporting the value of talk as a teaching tool, teachers have difficulty honing their talk to its greatest effect (Ford-Connors, 2011). Moreover, professional development research has found that teachers’ patterns of talk can be challenging to change (Neuman & Cunningham, 2009). The second goal of this study is to contribute ways of assessing and reporting treatment fidelity through classroom discourse analysis.

**Methods**

The ethnographic methodological framework for this study is drawn from three qualitative standards. First, the *standard of fit* entails that the research question or the purpose of the study drive the data collection techniques, ensuring that the study design employs suitable strategies for answering the research question (Howe & Eisenhart, 1990). In this investigation, the research questions dictate a qualitative stance from which ethnographic methods of observation, discourse analysis, and document review
(Lecompte & Schensul, 1999) best serve the two-fold mission of examining how teacher talk shapes learning and how teacher talk embodies treatment fidelity.

Second, the *standard of effective application* requires that data collection and analysis techniques be competently applied, particularly within the temporal, local contexts of the research work (Howe & Eisenhart, 1990). Understanding the fluidity of teacher talk, research techniques are tightly sequenced *via* recording, transcription, and analysis with respect to temporal and local constraints.

Third, the *standard of assumptions* stipulates that background assumptions and existent knowledge should consistently guide the research questions and methods (Howe & Eisenhart, 1990); moreover, the author’s subjectivity (Peskin, 1988) or his personal interpretations with the data must be clarified in his reflections. Thus, researcher’s reflections are part of inscription (mental notes prior to written), description (field notes), and transcriptions (running record) (LeCompte & Schensul, 1999).

The *standard of overall warrant* encompasses the first three standards as well as the notion of using the most plausible theory or modified version to explain the research findings; some theories may be rejected by disconfirming data, thereby commanding more warrant for claims being made (Howe & Eisenhart, 1990). For my proposed study, the theoretical framework being utilized is the Socio-Cultural Theory (SCT).

**Participants**

**Teachers.** Mrs. X has taught at Orange Middle School for 28 years. She attained a Bachelor of Arts in Elementary Education from Union College in May of 1988 and a Master of Arts in Special Education from La Sierra University in 1996. She has one
assistant but she is not in the classroom during CHAAOS vocabulary intervention. Mrs. Y has taught at Blossom Middle School for 4 years. She attained a Bachelor of Arts in English in 2010 from University of California, Riverside. Thereafter, she attained a Masters of Education in Special Education in 2013 from California Baptist University. Her teaching credentials are in special education and multiple subject. She has one assistant who helps with monitoring student progress during CHAAOS vocabulary intervention. Both teachers conducted CHAAOS lessons four days per week; Mrs. X began CHAAOS lessons October 10th, 2016, and Mrs. Y began October 18th, 2016. Both teachers taught a total of 16 words in the first instructional cycle. Two more intervention cycles took place, beginning January 9, 2017 and extending through March 23, 2017.

**Students.** Hummingbird School District is located in a California suburban community that serves 19,000 students (CDE, 2016). The school district has fourteen elementary schools (K-5th grade); four traditional middle schools (6th-8th grade); three comprehensive high schools (9th-12th grade), and two continuation high schools with an adult education program. Hummingbird is in a culturally diverse community with many second and third generation immigrants from other countries. Approximately 57% of the students at Orange Middle School and 21% at Blossom Middle School have a home language other than English. During the 2014-2015 school year, approximately 11% of students at Orange Middle School received special education services. Similarly, approximately 11% of students at Blossom Middle School received special education
services during the 2014-2015 school year. Demographics for Orange and Blossom Middle School are shown in Table 1.

Table 1

*School Demographics 2014-2015 for Orange and Blossom Middle Schools*

<table>
<thead>
<tr>
<th></th>
<th>Blossom</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 922</td>
<td>N =1,356</td>
</tr>
<tr>
<td>Asian</td>
<td>0.7</td>
<td>6.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>94.0</td>
<td>59.0</td>
</tr>
<tr>
<td>White</td>
<td>3.5</td>
<td>19.4</td>
</tr>
<tr>
<td>African American</td>
<td>1.0</td>
<td>6.9</td>
</tr>
<tr>
<td>Other</td>
<td>1.0</td>
<td>8.2</td>
</tr>
<tr>
<td>EL</td>
<td>56.7</td>
<td>20.8</td>
</tr>
<tr>
<td>Free-Reduced Lunch</td>
<td>96.1</td>
<td>67.4</td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>10.7</td>
<td>10.9</td>
</tr>
</tbody>
</table>

*Note: Numbers represent percentages unless otherwise specified*

All student participants required special education services and are in 6th grade. Mrs. X had 14 students in her class at Orange Middle School. Mrs. Y had 11 students in her class at Blossom Middle School. The distribution of Special Education Eligibility Categories in CHAAOS classes at Orange and Blossom Middle Schools in 2016-2017 are noted in Table 2.
Table 2

*Distribution of Special Education Eligibility Categories in CHAAOS classes at Orange and Blossom Middle Schools in 2016-2017*

<table>
<thead>
<tr>
<th>Category</th>
<th>Blossom</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Specific Learning Disability</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>2. Speech/Language Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Intellectual Disability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Emotional Disturbance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Other Health Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Autism</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>7. Deafness/Hearing Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Blindness/Visual Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Traumatic Brain Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Multiple Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Orthopedic Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Other Health Impairment</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total**                                      | 11      | 14     |
Thus, the total number of participants for this study included the two teachers and their students (see Table 3).

Table 3

<table>
<thead>
<tr>
<th>Total Study Participants at Orange and Blossom Middle Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Blossom</strong></td>
</tr>
<tr>
<td>Teachers</td>
</tr>
<tr>
<td>Students</td>
</tr>
</tbody>
</table>

**Setting**

The two research sites were Mrs. X’s classroom at Orange Middle School and Mrs. Y’s classroom at Blossom Middle School. Mrs. X conducted the CHAAOS vocabulary intervention lesson four days a week during 1st period. Mrs. X’s classroom had desk clusters arranged in small groups facing the board, with a group table off to the side and a row of computers in the back of the classroom. Mrs. X had her main desk off to the side and another teacher laptop desk area in the middle of the classroom, from which she conducted the CHAAOS lessons. Mrs. Y conducted the CHAAOS vocabulary intervention lesson four days a week during 2nd period. Mrs. Y’s classroom had desk clusters arranged in small groups facing the board, with a group table off to the side and a row of computers in the back of the classroom. Mrs. Y’s desk area was off to the side of the classroom. Her computer and mouse which she used to conduct CHAAOS lessons were housed on this desk. Both teachers conducted CHAAOS lessons four days per week in their classrooms, teaching a total of 16 words.
The Special Education Departments at Orange and Blossom Middle Schools have been serving students with special needs in self-contained classrooms as well as in other service delivery models (e.g. pull-out, in-class, integrated) for over four decades. Students who receive special education services have been identified by a multi-disciplinary team, including a school psychologist, special education teacher, and/or speech-language pathologist. With parental involvement, services to support a student’s individualized needs are determined through an Individual Education Plan (IEP) meeting and subsequent progress meetings. This process is performed in a similar manner across America since it was first conceptualized in The Education of All Handicapped Children Act of 1975 to realize a free and appropriate public education (FAPE) for all children with disabilities (PL 94-142, 1975). Additionally, the reauthorization of the Disabilities Educational Improvement Act (IDEIA, 2004) affirmed the federal government’s commitment to special education and related services for children with disabilities. Thus, the middle schools in the Hummingbird School District participate in the same decision-making process regarding special education services as any other school in America. Notably, IDEIA underscores the important requirement for “highly qualified” special education teachers to deliver effective instruction.

Observation

I observed classes at the two school sites from October to November as a pilot for my proposed study to begin in January of 2017. I observed Mrs. X’s and Mrs. Y’s class eight times. Classroom observations were audio-recorded via cell phone and EchoSmart pen-recorder while I took notes simultaneously. Given the nature of classroom activities,
audio-recordings were most useful for review of whole-class instruction, but were less helpful for small group work. Hence, my notes during teacher progress monitoring of student groups were more useful. Moreover, notes, on some occasions, were my primary method of data collection due to technical recording challenges or pedagogical interference. I typed my notes the same day when possible and four representative tape recordings were transcribed within three days. Qualitative software programs were explored with the transcriptions. Reflection notes were added to the CHAAOS fidelity observation form, which underwent revision after this pilot phase (see Appendix 1). Audio recordings were stored as computer files, which were contained in a password-protected computer desktop.

During this pilot phase, observer to participant-observer methods were used (LeCompte & Preissle, 1983). Initially, for the first two class observations, I participated as an observer. I sat in one part of the classroom, and only observed without any social interaction with the students. I minimally exchanged greetings with the teachers at the beginning and end of each observed class session. Thereafter, I participated as a participant-observer, answering questions that teachers had regarding CHAAOS PowerPoint slides and student booklets. I also interacted with the students as they worked in small groups. On some occasions, I helped the classroom teacher monitor student progress and continued to develop student rapport. I maximized my participant-observer role when I taught CHAAOS lessons on the two days of Mrs. Y’s absence; I had the opportunity to fully interact with the students in Mrs. Y’s class as well as strengthen the rapport I had developed with Mrs. Y’s teaching assistant. In addition, Ms. X shared
her teaching experiences with me during her planning period which was right before the CHAAOS lessons.

As my participant-observer role steadily grew, field relationships were strengthened with teachers by the short talks before classes were observed. Reflexivity (Peshkin, 1990) indicates that while the research is in progress, the researcher ought to safeguard the research project’s intentions by engaging in an active mindfulness about his value orientation (Carspecken, 1996) and how it may skew or block the research project. For instance, as a reflexive scholar, I paid particular attention to my manner of dress, and assumed a least administrative identity to yield fruitful information and exchanges with the teachers.

Document Review

Written documents, including curricular materials such as the CHAAOS intervention lesson plans, PowerPoint slides, and student booklets were reviewed to plan for this study (Merriam & Tisdell, 2015). These resources were examined to inform how participants, including individual teachers and students, would contribute to the meaning-making process and to contextualize observation and discourse analysis data in relation to the CHAAOS intervention.

In addition, I collected classroom observation documents from the principal investigator. These documents provided information related to the implementation of the CHAAOS Program on the two days of the week when I was not present to observe. Also, teacher reflection logs as well as documentation related to teacher coaching sessions were accessible for any additional insight.
Discourse Analysis

The research methodology that serves as the foundation for my analysis was discourse analysis. Discourse analysis has its sociological and anthropological roots in ethnography of communication (Hymes, 1962). In particular, Johnstone’s (2002a) heuristic framework delineates discourse analysis as “a set of tools for thinking” about how the classroom talk is shaped by the world, its participants, and purpose. It provides a helpful guide in examining these data of meaning-making processes situated in the classroom environment. Also, Johnstone’s (2002b) notion of who gets to speak or who initiates the speaking event is fundamental to classroom discourse. Cazdon (2001)’s examples of the three-part sequence of teacher Initiation, student Response, and teacher Evaluation (IRE) or teacher Initiation, student Response and teacher Feedback (IRF; Sinclair & Coulthard, 1972) point to the common framework of examining classroom discourse.

Rymes (2016) posited that classroom discourse analysis is the study of language-in-use in the context of the classroom and how that context affects the language-in-use. According to Marton and Tsui (2004), the teacher’s primary professional task is to create the “space for learning.” Mehen (1979) posited that this space for learning has a sequential organization that divides the lesson into an opening phase, an instructional phase, and a closing phase with turn allocations as interconnected behaviors. Lemke (1990) noted that teachers use unwritten rules of classroom discourse to shift topics and to control pacing. Discourse analysis highlights the structures and functions of classroom talk through classic concepts such as scaffolding (Wood, Bruner, & Ross, 1976), dialogic
teaching (Micheals & O’Connor, 2013), and mediation (Lantolf & Thorne, 2006) in the context of Zone of Proximal Development (Vygotsky, 1962, 1978).

Guided by the essence of discourse analysis and the IRF pattern, I first transcribed the data in a word document with each speaker’s utterance juxtaposed below the other. Next, I analyzed the data in terms of the broad function of the teacher’s talk. I examined the IRF pattern with subtypes of Initiation, Response and Feedback, which allowed for a closer scrutiny of the instructor’s patterns in the classroom discourse. This transcription was later further organized and coded via NVivo software. As a result, the constructed transcript was part representation of the talk and part my (as the transcriber’s) decision about what to include, and consequently my theoretical orientation (Ochs 1999). Thus, the instances selected for detailed analysis represented the researcher’s interest: namely, the functions of the instructors’ talk during vocabulary instruction, correspondence to treatment fidelity, and change in speech patterns over the course of the school-year.

**Coding**

Tharp and Gallimore (1991) argued that teachers cannot and should not be content to provide opportunities to learn and then assess outcomes; they must actively and responsively assist interactions to promote learning. This is particularly true for the espoused Vygotskyan sociocultural framework featured in this paper. Hence, our sense-making process of discourse may be clarified through the lens of involvement strategies in the form of repetition, dialogue, imagery and narrative structure (Tannen, 1989) as well as narrative components such as abstract, orientation, complicating action, evaluation, result and coda (Labov, 1999).
Scholars have operationalized these concepts into “Talk Tools” or “Talk Moves” (Michaels & O’Connor, 2013). Snow and colleges (2009) introduced five talk moves as part of the professional development training for teachers who participated in their Word Generation Program. The five teacher talk moves featured are:

Move 1: Revoicing. The teacher repeats a student’s utterance to confirm teacher’s understanding of student response. Example: “So you’re saying it’s …”

Move 2: Repeating. The teacher asks a student to repeat or reformulate another peer’s (or teacher’s) response. Example: “Can you repeat or say it using different words?”

Move 3: Reasoning. The teacher asks a student to apply his reasoning to someone else’s reasoning. Example: “Do you agree or disagree and why?”

Move 4: Elaboration. The teacher prompts a student for further participation. Example: “Would you like to add more to this?”

Move 5: Wait time. The teacher waits for a student’s response. Example: “Take your time… we’ll wait”.

Pilot classroom observation data and preliminary discourse analysis indicate the applicability of these five “Teacher Moves” in addition to others.

**Preliminary Codebook.** Elaboration of the teacher moves as pertinent to pilot data is provided below. Preliminary codes involved the five teacher moves mentioned above as well as others. Examples are from the pilot study.

Code 1: Initiation - Reasoning. The teacher asks students to apply their reasoning to someone else’s reasoning.
Example: “Why do you think Bora Bora represents relaxation?”

Code 2: Initiation-Statement or Simple Wh-Question. The teacher says a statement expecting students’ response or asks students a simple wh-question.

Example: “What word?” “Let’s read this together.”

Code 3: Response. The students provide an answer or a response.

Example: “Consent.”

Code 4: Feedback- Teacher Revoicing. The teacher repeats a student’s utterance to confirm teacher’s understanding of student response.

Example: “That’s someone’s point of view, that’s their opinion, right?”

Code 5: Feedback-Repeating (TS). The teacher asks a student to repeat or reformulate another peer’s (or teacher’s) response.

Example: “Can you use the same word that Marcy used in a different sentence?”

Code 6: Feedback-Repeating (TT). The teacher repeats herself or students’ utterances.

Example: “The definition of consent is when you say yes to something.”

Code 7: Feedback-Elaboration (TS). The teacher prompts students for further expansion or participation.

Example: “Put it into a sentence.”

Code 8: Feedback- Elaboration (TT). Teacher elaborates her previous statement or a students’ response.

Example: “That is a good point…yes, this is and can be a relaxing place, but at the same time it also could potentially become a scary situation.”

Example: “My husband and I, we didn't go to Bora Bora for our honeymoon. We went to Fiji, which is similar. It's a- An island. We stayed in ... They weren't set on the water like this. Ours were on the beach, but close to the water, little hut type things like that that we stayed in, and I think it was about a month. A month or two before we went there for our honeymoon, they had a huge tsunami that came through and wiped out a few of the housing areas where we were staying. Of course, the one we were staying in was fine, but two down from where we were at, it was completely gone. It was annihilated.”

Code 10: Classroom Management. Teacher redirects class or manages classroom environment.

Example: “Pencils down!” “Pay attention!”

These preliminary codes were ways of organizing the discourse for analysis. These ten codes (nine teacher talk moves and student response) best served the pilot data from Cycle 1 of the CHAAOS program. Additional data collection and analysis during Cycle 2 and Cycle 3 indicated that these nine codes best categorized the teacher talk moves in addressing the three research questions.
Research Questions

This qualitative two-case study design with a focus on linguistic task (vocabulary instruction) utilized participant observation, field notes, informal interviews/discussions with teachers before or after class, and ancillary documents to make sense of the teachers’ discourse practices in their implementation of the CHAAOS program. Cazden (1986) suggested that a combination of data collection techniques may be the best approach; moreover, Bloome et al. (2005) remarked that data collected must remain contextualized with research questions driving the data collection and analysis. Thus, the following three research questions directed this investigation.

Research Question 1

What are the functions of the instructor’s talk during vocabulary instruction? Broadly speaking, the functions were initially coded in the traditional IRF manner but specific functions may be to elaborate upon an example, diffuse a situation, save face, entertain, or clarify confusion. Thus, I broadly coded using IRF (Initiation/Response/Feedback), and then examined specific functions under each I/R/F.

Research Question 2

How do teachers’ speech patterns relate to treatment fidelity? For instance, how do the teachers’ personal, spontaneous narrative (story-telling) episodes in midst of vocabulary instruction relate to treatment fidelity? The intervention dictates that teachers provide examples and non-examples; personal narratives are non-scripted examples. I analyzed teachers’ stories by identifying narrative discourse features that may be associated with DEI of academic vocabulary instruction of development.
Research Question 3

Do the teachers’ speech patterns in the delivery of vocabulary intervention change over the course of the school-year? I examined if the frequency or quality of teacher talk moves changed during the three months of observation.

Three research questions informed this qualitative investigation. In the process of examining these questions, a combination of participant observation, field notes, informal interviews/discussions with teachers before or after class, and ancillary documents were utilized to make sense of the teachers’ discourse practices in their implementation of the CHAAOS Program. With these qualitative research precepts in mind, I offer the following analysis.

Road to Analysis

Cycle 1 was relayed to teacher participants as a pilot study where their feedback on all materials was deemed pivotal to the improvement and iterative design of the CHAAOS vocabulary intervention program. Intervention training in August 2016 targeted teacher participants’ understanding of the vocabulary instruction research base and CHAAOS intervention protocol. Formal standardized teacher training consisted of modeling the first session of CHAAOS instruction with use of the teacher manual, teacher PowerPoint slides, and student workbook, followed by discussion of these components.

During the first week of Cycle 1 instruction, teacher participants used the observation-fidelity instrument as they observed the PI demonstrate the CHAAOS lessons to their students. This observation-fidelity instrument examined elements such as
modeling/scaffolding, student-friendly definitions and questions, activities and student support which were validated features in observation tool (Grossman, Cohen, Ronfelt, & Brown, 2014). As teachers implemented the lessons in Week 2, the PI observed their instruction daily to ensure that teachers were practicing the well-defined CHAAOS protocol. Thus, teachers were familiar with the components of the observation-fidelity form when the PI reviewed their quality of program implementation using the same observation-fidelity instrument. Teachers completed the teacher background survey, and the CHAAOS research team was sensitive to teacher differences in education, experience, level of expertise, and comfort with the CHAAOS program. During Cycle 1 only the presence or absence of treatment components was marked on the observation-fidelity forms. Observation notes and teacher feedback on ease and difficulty of lesson components were used to revise lesson format and provide teacher feedback prior to the next cycle of instruction. And it was during this stage of observation (Cycle 1), that the preliminary codebook of the ten teacher’s talk moves was delineated.

During Cycle 2, teachers implemented revised lessons and documented their instruction in the teacher completion log, where they made brief self-reflection notes. Also, observers began rating instruction for fidelity (1 to 3) and student engagement and learning. Both teacher participants primarily received 3s across all categories. The average scores of teacher fidelity rating from Cycle 2 across the five Direct Explicit Instruction (DEI) dimensions were 2.8 and above. These observations documented that both teacher participants posed questions, required frequent responses, and provided immediate corrective and affirmative feedback during the portion of the lesson that
involved student repetitions of the word. To a slightly lesser extent, elements such as
providing step-by-step demonstration and modeling preceding student practice, and
scaffolding during the student-friendly sentence and response context received the lowest
average rating of 2.7 and 2.8, respectively. Inter-rater reliability (IRR) was established
between two raters at 92% percent agreement. During Cycle 2, the preliminary coding of
the ten teacher talk moves established earlier was substantiated, and data collection for
this research study continued.

The CHAAOS research team conducted 27 observations in Cycle 1 and 28
observations in Cycle 2. Ongoing observation and feedback to teacher participants
regarding the implementation of the CHAAOS intervention was based on fidelity
measures. The observation-fidelity instrument provided the basis for training to
minimize drift in provider skills. Time-sensitive, immediate feedback to teachers was
provided following daily classroom observation and audio recording, which confirmed
consistency of program delivery. Student workbooks were collected as evidence of
student participation and intervention receipt in the CHAAOS vocabulary lessons.

The area of most difference between the two teachers was in the area of student
engagement/student support, with one teacher scoring 3s consistently and the other
teacher scoring a mix of 3s, 2s, and occasionally 1s (average 2.5). Treatment dosage (i.e.,
meeting the goal of 15 min per session) was universally met, with many vocabulary
lessons running over the projected time mostly due to classroom peer activity. The
average minutes of instruction was 25.95 minutes per lesson.
The CHAAOS research team conducted 18 classroom observations in Cycle 3. This lower number of observations in comparison to those conducted in Cycle 1 and Cycle 2 was due to teacher absences (two and three absences, respectively) and Smarter Balanced Assessment System Consortium (SBAC) testing, which is a California State-wide assessment based on the Common Core State Standards (CCSS) for English language arts/literacy (ELA) and mathematics. For minimal disruption to CHAAOS Vocabulary intervention dosage, one school started Cycle 3 earlier than originally planned and conducted lessons five days a week. During teacher absences, members of the CHAAOS team conducted the lessons.

In Cycle 3, the area of most difference between the two teachers continued to be in the realm of student engagement/student support, with one teacher scoring 3s consistently and the other teacher scoring a mix of 3s, 2s, and occasionally 1s (average 2.7). When student support was further scrutinized into areas of scaffolding, corrective feedback, pacing and motivation, the teacher with the lower score demonstrated less student response scaffolding and supportive guidance and practice. Treatment dosage (i.e., meeting the goal of 15 min per session) was again universally met. As teachers became familiar with the lessons, the average minutes of instruction was 23.6 minutes per lesson, a 2.7-minute decrease from Cycle 2’s average instruction time.

From this set of CHAAOS research team’s observations, I conducted 16 observations during Cycle 2 and 11 observations during Cycle 3. During Cycle 3, five planned observations were not conducted due to the SBAC practice testing schedule or teacher absences. During three teacher absences, I taught the lessons, gaining valuable
insight to classroom discourse. It is from these participant-observer experiences that I offer the following findings and analysis to my three research questions.

**Capturing Teacher Talk Moves in CHAAOS: Research Question One**

1. What are the functions of the instructor’s talk during vocabulary instruction?

The nine teacher talk moves were categorized in the traditional IRF manner and noted in Table 4. There were two distinct types of initiation: initiating with a statement or a simple wh-question and initiating with a reasoning question. In addition, there were six different types of feedback. Three of which pertained to repeating utterance: teacher revoicing a student’s utterance to confirm teacher’s understanding, teacher asking a student to repeat or reformulate another peer’s or teacher’s response, and teacher repeating herself or the student’s utterance. The remaining three types of feedback entailed elaboration: teacher prompting the student for further expansion or participation, teacher elaborating her previous statements or those of her students, and teacher elaborating by way of offering a personal story. Lastly, the teacher talk move of classroom management consisted of redirection or management of the classroom environment. These nine teacher talk moves and their examples from the data are described in Table 4.
Table 4

Nine Teacher Talk Moves and Examples

<table>
<thead>
<tr>
<th>Teacher Talk Move</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initiation Statement</td>
<td>The teacher says a statement expecting students’ response or asks students a simple wh-question, such as a “what”, “when”, “who” question.</td>
<td><em>What word?</em>&lt;br&gt;<em>Write that down.</em></td>
</tr>
<tr>
<td>or Simple Wh-Question</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Initiation Reasoning</td>
<td>The teacher asks students via why-questions or how-questions to apply their reasoning to their previous statement or someone else’s reasoning.</td>
<td><em>Why are our hands a major source of germs?</em>&lt;br&gt;<em>He’s locked out so how do you think you’ll gain access to his house?</em></td>
</tr>
<tr>
<td>3. Feedback Teacher Revoicing</td>
<td>The teacher repeats a student’s utterance to confirm teacher’s understanding of student response.</td>
<td><em>That’s someone’s point of view, that’s their opinion, right?</em></td>
</tr>
<tr>
<td>4. Feedback Repeating TS</td>
<td>The teacher asks a student to repeat or reformulate another peer’s or teacher’s response.</td>
<td><em>Repeat that!</em>&lt;br&gt;<em>Can you use the same word Jose had said in a different way?</em></td>
</tr>
<tr>
<td>5. Feedback Repeating TT</td>
<td>The teacher repeats herself or students’ utterances.</td>
<td><em>Right, you’re putting a limit on something.</em></td>
</tr>
<tr>
<td>6. Feedback Elaboration TS</td>
<td>The teacher prompts students for further expansion or participation.</td>
<td><em>Put it into a sentence.</em></td>
</tr>
<tr>
<td>7. Feedback Elaboration TT</td>
<td>The teacher elaborates her previous statement or a student’s response.</td>
<td><em>So, when you’re a food critic you evaluate or grade if the food tastes good or not.</em></td>
</tr>
<tr>
<td>8. Feedback Elaboration</td>
<td>The teacher elaborates by way of offering a personal story.</td>
<td><em>My husband and I, we didn't go to Bora Bora for our honeymoon. We went to Fiji, which is similar...</em></td>
</tr>
<tr>
<td>Teacher Story</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Classroom Management</td>
<td>The teacher redirects the class or manages the classroom environment.</td>
<td><em>Pencils down!</em>&lt;br&gt;<em>Please stop talking!</em></td>
</tr>
</tbody>
</table>
Specific functions were examined under each I/R/F with the aim to understand the multi-faceted nature of teacher talk moves as they unfolded during academic vocabulary intervention in two special education classrooms. These nine teacher talk moves and the functionality of Ms. Y’s and Ms. X’s talk moves are summarized in Table 5. In what contextualized learning scenarios do these talk moves occur? How do these planned and aleatory talk moves affect classroom discourse? With these questions in mind, we turn to the talk moves found in Initiation.

**Initiation**

There were two types of initiating teacher talk moves during CHAAOS vocabulary intervention. The first type was categorized as Initiation Statement/Simple Wh-Question (Code 1) while the second type was categorized as Initiation Reasoning (Code 2). This distinction was made after I broadly coded all initiating teacher talk moves, and found that these two distinct initiating talk moves resulted in different kinds of student responses. The Initiation Statement/Simple Wh-Question (Code 1) talk moves garnered short, simple answers; whereas, Initiation Reasoning (Code 2) talk moves produced more involved and individualized answers.

In addition, Ms. Y and Ms. X used these two talk moves with different quality and functionality. Ms. Y’s Initiation Statement/Simple Wh-Question (Code 1) talk moves were wordy and functioned to target students’ receptive language. However, Ms. X’s Initiation Statement/Simple Wh-Question (Code 1) talk moves were more concise and functioned to target students’ expressive language. Ms. Y’s Initiation Reasoning (Code 2) talk moves accompanied leading questions to predestined answers. In contrast, Ms.
Y’s Initiation Reasoning (Code 2) talk moves featured stand-alone, open-ended why-questions or how-questions, facilitating teacher-student rapport. Thus, while both teachers utilized the two types of initiating talk moves, the quality of questions and their functionality vastly differed, as noted in the sections below.

Initiation Statement/Simple Wh-Question (Code 1). The teacher said a statement expecting students’ response or asked students a simple wh-question, such as a “what”, “when”, or a “who” question. Ms. Y’s Initiation Statement/Simple Wh-Question talk moves, on average, were less concise and twice longer than those of Ms. X. Consider this illustrative example as Ms. Y initiated with the following talk move.

Ms. Y: Okay. Now what you guys are going to do, you have this on your page as well, there are pictures. What you are going to determine is if this is a major problem or not. The problem is in the picture. You’re going to look at the picture and above it is a little description. You’re going to circle: ‘Is this a major problem? Yes or No’, okay?

The verbose quality of Ms. Y’s Initiation Statement/Simple Wh-Question (Code 1) talk move functioned to describe in great detail the three-step directive, in other words, what she wants her students to do: 1) look at the picture, 2) determine whether it is a problem, and; 3) circle the answer. Here, the purpose of the talk move was to direct the whole class to the material at hand.

On the other hand, Ms. X’s Initiation Statement/Simple Wh-Question (Code 1) talk moves were brief and frequently directed to individual students, in addition to the
general class. This is a representative example of Ms. X’s Initiation Statement/Simple Wh-Question (Code 1) talk move:

Ms. X: Look at these pictures! [Ms. X with her computer mouse scrolls across the three pictures. Then, the computer mouse stops under the first picture of the car crash.] Let’s focus on this one first! [Ss look at the car crash picture.] The first one—Is the car crash a major problem or not?

The brevity of her question (e.g. “Is the car crash a major problem or not?”) allowed numerous opportunities to ask the same question, first to the general class, followed by using individual student names to pose the exact question for the purpose of students practicing their oral language, using the word “major”. Individual students answered using the target word major:

Student 1: Yeah, I think it’s a major problem!

Student 2: Yes that looks like a major car crash.

Although both teachers used the same teacher talk move of Initiation Statement/Simple Wh-Question (Code 1), Ms. Y targeted students’ receptive language while Ms. X targeted students’ expressive language. In this fashion, Ms. X offered higher counts of opportunities for her students to orally practice the vocabulary words in the context of semi-structured expressive language elicitations. This, in turn, yielded a closer tie to Direct Explicit Instruction (DEI) by way of offering individualized opportunity to practice in an organized manner, which is advantageous for students in special education (Swanson & Siegal, 2001). Of equal benefit, Ms. Y’s detailed talk move of Initiation Statement/Simple Wh-Question (Code 1) suited her students with
receptive language impairments as understanding directions lays the foundation for expressive language outputs (Boyle, McCartney, O’Hare, & Law, 2010).

Also, such different talk move orientations of Ms. Y and Ms. X suggested a close tie to their pedagogy philosophy. In fact, Pimental and McNeil (2013) found that in their analysis of five secondary science teachers and their students ($n=116$), teacher’s beliefs influenced what type of discourse talk moves the teachers made in a whole-class discussion, and that the results were often simple, short sentence responses which did not include reasoning. During an informal conversation between Ms. Y and the researcher, Ms. Y shared her goal of implementing the CHAAOS lesson while being sensitive to students’ different levels of ability. Thus, her initiating questions or statements were not individual-specific and did not put students on the spot: “Would someone like to read the example sentence?” or “Who could answer this question?” Students were not called upon unless they volunteered. This resulted in two or three more vociferously confident male students who responded to her initiating talk moves. Furthermore, these male students’ responses in Ms. Y’s class were often simple, short responses that did not emphasize reasoning.

In contrast, Ms. X told the researcher that she consciously calls on students and formulates questions specific to their ability. During an informal conversation before class, Ms. X shared her thoughts with the researcher.

**Ms. X:** Oh, I know exactly who my non-readers are! So, I usually have the whole class read the sentence with me and then, I call on individual students. Like I know if Pedro hears the whole class or Dylan’s answer first, it
would help him answer my question. And I tend to ask questions about their opinions or experiences using the word, so really their answer is never wrong. And if they don’t use the correct form of the word, like using the -ed past tense or something, I could always shape their response so it’s no big deal. That way, everyone gets to participate! And really who wants to sit in a class all day long and not say anything? Like, kill me now. I’d get so bored as a student!

For Ms. X, teaching involved individualized instruction. She viewed her job as a teacher who must optimize student participation. Thus, for her, it was necessary to take the CHAAOS vocabulary lesson and scaffold the questions specifically to her students of varying ability for most optimal opportunities for oral language practice. According to Ribot, Hoff, and Burridge (2017), increased opportunities for oral language practice holds the key to vocabulary growth: their longitudinal multilevel modeling analysis of young children (n=47) indicated the importance of language output/opportunities for expressive vocabulary growth. Notably, Ms. X initiated her questions with student names; this may have contributed to student accountability and perhaps her way of calling on individual students was a bellwether for engaged student participation during the CHAAOS lessons.

**Initiation Reasoning (Code 2).** The teacher asked students via why-questions or how questions to apply their reasoning to someone else’s reasoning. Ms. Y’s Initiation Reasoning (Code 2) talk move involved the quality of adding leading questions meant to direct students to the set answers. For instance, Ms. Y asked these questions in succession.
Ms. Y: We kind of talked about this yesterday. Why are our hands a major source or major way that we spread germs? What are some things that we do?

[Ms. Y leads them to the answer: we spread germs by touching things with our hands.]

In another lesson, her reasoning question is married with a what-question.

Ms. Y: Why are there all these cracks in the ground? What do you see?

[Ms. Y leads them to the featured sentence on the CHAAOS PowerPoint Slide: California is in a drought so we conserve water.]

Even her why-question regarding a personal story is imbued with a predestined answer:

Ms. Y: I have to call interpreting services all the time, to contact parents.

Why do you think that is? What language do some of you speak at home?

[Ms. Y leads them to the predestined answer: Students and their parents speak Spanish and she does not, so she needs interpreting services for teacher-parent communication.]

Ms. Y’s Initiation Reasoning (Code 2) talk move involved leading questions to a predetermined answer; thus, it functioned to clarify the meaning of the vocabulary word in practice. It may also be considered a type of scaffolding for students with difficulty understanding logical reasoning. Consider this example:

Ms. Y: Obviously, this car is no longer usable--look at how bad it’s damaged! I would think that’s a major problem, right? What are you going to circle?
This is in keeping with her pedagogical stance of administering the CHAAOS Vocabulary lesson to emphasize and reinforce students’ receptive language skills without uncomfortably calling on a specific student.

For Ms. X, her Initiation Reasoning (Code 2) talk move expressed her curiosity regarding her students’ processing skills and functioned to foster teacher-student rapport. With no predestined answer in mind, she inquired after their answers to assess if they could use the vocabulary word themselves in their logical formulation. Thus, she was not in a hurry to lead them to a determined answer. Rather, she was a willing traveler on her students’ road of processing the vocabulary word. Examples of Ms. X’s Initiation Reasoning (Code 2) talk move consisted of stand-alone, open-ended why-questions or how-questions.

After a student responded that he thought the picture was of a “major” car accident, Ms. X asked, “Why do you say that?” This allowed the student to state: “The car is broken”, followed by a discussion about the broken parts. In another lesson featuring the word “contribute” in a natural catastrophe scenario, Ms. X asked a reasoning question to each individual student. Examples include: “How are you going to cook with no kitchen?”, “Why do you think your skill will be valuable to the group?”, “Why do you want to be doctor?”, and “How must you deal with sickness to contribute to society as a healer?”

As each student gave his response, Ms. X affirmed his character with the following comments: “Wow, you already learned in Boy Scouts how to cast a sprained ankle?!” “You’re going to contribute to the group by being a fighter to protect us;
you’re a keeper!” or “Oh my, you guys provided many ways of hunting for food—from spearing fish, to gathering vegetables to hunting for animals! Nice!” Ms. X’s use of affirmation valued their oral expression of reasoning skills as well as facilitate teacher-student rapport. When the researcher came early to observe the next lesson, Ms. X praised the CHAAOS vocabulary lesson design, saying:

I know this is the first year of the research study and you guys want our input, but sometimes, I have so much fun teaching, I’m not sure exactly how many minutes I’m spending on each section. Because you know, if students are responding, I want them to do so without me hurrying up their sentences because I want them to know their words count. Like what they say and how they say it expresses their brilliance—because there aren’t too many times during the day that they get to experience success in other classes or subjects. And when they share their answers during the UCR thing, you know, they get to know each other and I get to know them better, too. You know, that makes them feel good and also lets them know that I care about them.

Thus, Ms. X used the vehicle of her reasoning talk move to encourage not just vocabulary knowledge but teacher-student relationships as well. For her, the more oral language opportunities given to students, the better the students would do with the vocabulary words while fostering improved teacher-student relationships.
**Response**

In the IRF tradition, R stands for student response. In this research investigation, the two types of student responses were either statements or questions. Also, they were in the form of whole-class student responses or student-individual responses. However, regardless of the type or form of the student responses, all student responses were organized into one code, simply as response.

The rationale for this organization was threefold: 1) student responses, whether they were statements or questions led to rich analysis in the context of sequential analysis of I-R-F; 2) other recent studies in the literature favored sequential analysis in which student response was viewed as strings in midst of teacher-dominated/directed classroom discourse (Mascareño, Deunk, Snow, & Bosker, 2017; Molinari, Mameli, Gnisci, 2013), and lastly; 3) the focus of this investigation was centered on teacher talk moves.

**Response.** Students provided an answer or a response.

Examples include: “Consent!” and “Can he chew with such rotten teeth?”

The reason for this simplified Response coding was due to the overarching research question, which centered on teacher talk moves not student talk moves. Thus, student responses were analyzed in a sequential manner between teacher initiating talk moves and teacher feedback talk moves (see below).

**Feedback**

Teacher feedback has been touted as a pivotal factor in closing the gap between the baseline level of the learner and the potential level of development in ZPD (De Gueroro & Villamil, 2000). Vygotsky’s lifelong passion centered on the belief that
specially trained teachers, coupled with differentiated curriculum, can fully develop the higher psychological functions of the child with disability via the presence of child-centered scaffolding or feedback (Gindis, 2003).

Using the CHAAOS data set, six different types of teacher feedback were coded. Three of which involved repetition and the remaining three involved elaboration. Each type of feedback garnered varying degrees of talk move combinations and functionality for Ms. Y and Ms. X. For instance, Ms. Y’s Feedback Teacher Revoicing (Code 4) talk move was combined with intonation while Ms. X’s Feedback Teacher Revoicing (Code 4) talk move was used with additional wh-questions as they both provided corrective feedback to their students. Also, Ms. Y’s Feedback Repeating TS (Code 5) talk move involved students repeating the teacher’s responses while Ms. X’s Feedback Repeating TS (Code 5) talk move prompted students to repeat the teacher’s response as well as reformulate another peer’s responses, fostering student-to-student interaction.

Interestingly, even Ms. Y’s and Ms. X’s Feedback Repeating TT (Code 6) talk moves were different in functionality. Ms. Y’s Feedback Repeating TT (Code 6) talk moves functioned as a vehicle for affirmation; whereas, Ms. X’s Feedback Repeating TT (Code 6) talk moves served as a precursor to her why-questions. Both teachers used Feedback Elaboration TS (Code 7) to prompt students for further expansion of their English grammar and class participation, and used Feedback Elaboration TT (Code 8) talk moves to target cognitive strategies. The sixth type of feedback talk move (Personal Teacher Story) is featured in the Research Question Two section. For now, we turn our attention to the above-mentioned five types of feedback talk moves.
**Feedback Teacher Revoicing (Code 3).** The teacher repeated a student’s utterance to confirm teacher’s understanding of student response. Example: “*That’s someone’s point of view, that’s their opinion, right?*” Although Ms. Y generously sprinkles “*right?*” and “*okay?*” in her utterances, three distinct occurrences of her revoicing talk move showcased her desire to confirm her understanding of student response, using the additive falling or rising intonation quality.

Upon student confusion of which words were practiced during the week, Ms. Y’s revoicing talk move with a falling intonation took place: “*Those are the four, rigid, contribute, major, evaluate, right!*” In another instance, when a student’s answer did not make sense, Ms. Y used revoicing with an incredulous rising intonation: “*Throwing trash by the road is an interpret thing to do?*” During a teaching moment, when a student uttered an unsure answer: “*You’re showing something that is not known?*”, Ms. Y revoiced the student’s response with a tone of certitude: “*It was not known and now when you reveal it, it is known.*” Ms. Y’s revoicing talk move consisted of confirming her understanding of student response while artfully adding corrective feedback through her intonation. This was in keeping with the literature on prosody and IRF exchanges which demonstrated that teachers will systematically use their intonation to coincide with their positive or negative assessment of student response (Hellerman, 2003).

Likewise, Ms. X used the revoicing talk move, followed by additional wh-questions, to confirm her understanding of student response and to further student knowledge of the vocabulary word.

*Ms. X (revoicing): So you abandoned your homework?*
Jose: Yeah, I abandoned my homework.

Ms. X (wh-question): What else have you abandoned?

Jose: I abandoned my trash.

Ms. X (wh-question): Okay. Everyone has done that! We all abandoned our trash. What else?

Jose: I abandoned school.

Ms. X (wh-question): [Ms. X squinted her eyes, looking uncertain of student’s understanding of abandon] Oh, yeah? You abandoned school? Where are you now?

Jose: At school.

Ms. X: So, you didn’t abandon school. You just wish you had but you’re still in school. So, you didn’t abandon school. But you could abandon buildings, people, and things. Like, you could say, ‘The owner of the warehouse abandoned the warehouse building because it was too expensive to keep’, or ‘The young unwed mother abandoned her baby for adoption’ or ‘I abandoned my broken life jacket’.

[Ms. X scanned students’ faces to see if anyone was confused.] What did the warehouse owner abandon?

Students: “the building!”/ “the warehouse!”

Ms. X asked another question: What did the unwed mother abandon?

Students: her baby!

Ms. X: What did I abandon?

Students: life jacket/ your broken life jacket!
With such line of revoicing in conjunction with wh-questions, Ms. X provided corrective and interactive feedback to her students, which was individually scaffolded (for Jose) yet benefited the whole class as students chorally answered near the end of their discussion. In a similar light, Molinari et al. (2013) analyzed IRF patterns in 587 minutes of twelve whole-class discussions in Italian primary schools and noted one major type of feedback that was sequential in nature and helped children with difficulties: consecutive, constructive, “scaffolding and interactive” sequences that fostered deduction, reasoning. Thus, the revoicing talk move was used by both teachers for immediate corrective feedback; Ms. Y used revoicing with intonation and Ms. X used revoicing with wh-questions.

Furthermore, their revoicing talk move was used in the corrective process to maintain their students’ face. Let us regard Ms. Y’s example, in midst of a card game.

Mrs. Y: Guys, I know some of these words are confusing, like publish and persuade. What does publish mean, again?

Samuel: When you convince someone to do something.

Ms. Y: Publish means when you convince someone to do something?

[rising intonation with incredulous tone]

Samuel: Oh, no. It’s the other one. To put out for everyone to read or listen to.

Ms. Y: Yes, publish means to put out for everyone to read or listen to.
Here, Samuel was allowed the opportunity to self-correct, given Ms. Y’s revoicing talk move with rising intonation. Thereby, the student was able to not lose-face or be shamed due to his initial incorrect response.

In a similar vein, Ms. X used the revoicing talk move with additional wh-questions to maintain a student’s dignity during the corrective feedback process. Consider Ms. X’s example.

Pablo: My pizza attained me.

Ms. X: My pizza attained me. What does attain mean?

Pablo: To get or earn something.

Ms. X: So who attained what?

Pablo: Oh, I attained my pizza.

Ms. X: Yeah, that makes sense. You attained your pizza.

You attained your pizza because of your good work! Excellent!

According to Goffman (1975), negotiating social relationships often involves the work of not shaming others. In the corrective process, both teachers called attention to the incorrect or incomplete student response, and offered the student opportunities to self-correct or co-construct their final expression or understanding of the vocabulary word.

**Feedback Repeating TS (Code 4).** The teacher asked a student to repeat or reformulate another peer’s or teacher’s response. In Ms. Y’s Feedback Repeating TS (Code 5) talk moves, she asked students to repeat the teacher’s response but never another peer’s response. For instance, Ms. Y said: “Say this after me!” to have students repeat the vocabulary words. Likewise, Ms. X, on many occasions uttered: “Say it!” or “Repeat
that; I didn’t hear everyone!” to have students repeat the vocabulary words that Ms. X had just uttered. In addition, Ms. X’s Feedback Repeating TS (Code 5) talk moves asked students to reformulate another peer’s or teacher’s response, inciting another dimension of student involvement in the form of student-to-student interaction.

For Ms. X, repeating just her utterance was not enough for students to fully engage in utilizing the word. She asked her students to repeat or reformulate their peer’s response. Consider this representative illustration:

Ms. X: Javier, what are you apprehensive of?
Javier: I’m apprehensive of flying in airplanes.
Ms. X: Alfonso, what is Javier apprehensive of?
Alfonso: Javier is apprehensive of flying in airplanes.
Ms. X: Mateo, what makes both Jose and Dylan apprehensive?
Mateo: Spiders [The class laughed.] Well, that’s what they said. They’re apprehensive of spiders!
Ms. X: I don’t blame you guys! I hate spiders, too! I would get apprehensive or scared if you put me in a dark room filled with spiders! Wouldn’t you guys feel apprehensive, too?!”
Class: Yeah! / Oh, sure! / You know, my sister’s apprehensive of spiders, too!

In her semi-structured way of eliciting students to reformulate their peers’ responses, Ms. X promoted a friendly class atmosphere that was conducive to sharing and learning. In such manner, Ms. X demonstrated her Feedback Repeating TS (Code 5) talk moves that
were socially constructed with common activity (e.g. sharing fears) that mediated knowledge (e.g. vocabulary word “apprehensive”) (Wells, 1999).

On another front, the Feedback Repeating TS (Code 5) talk moves of both Ms. Y and Ms. X manifested their teacher beliefs. Ms. Y undertook an authoritative stance with student directives to repeat after her while Ms. X espoused a facilitator stance with requests for students to repeat or reformulate another peer’s response. Thus, their talk moves functioned in very different ways. Ms. Y’s talk move became another rule that students must follow in a class where classroom management/redirection was necessary; whereas, Ms. Y’s talk move operated as a social impetus in a class where students were friendly and well-behaved.

*Feedback Repeating TT (Code 5).* The teacher repeated herself or students’ utterances. Example: “*Right, [restrict means] you’re putting a limit on something*.” Ms. Y’s Feedback Repeating TT (Code 5) talk move functioned as a way of affirmation. She frequently added “okay” or “right” or a verbal praise after her repetition to show that the student’s response was correct: “*You’re evaluating, you’re giving a grade, right!*” or “*Right, you’re putting a limit on something, okay!*” and “*Negative means bad. Good job!*” Likewise, Ms. X will also repeated a student’s response with affirmation: “*Yes, firm, inflexible and unmoving! Nice job!*” But while Ms. Y’s Feedback Repeating TT (Code 5) talk move highlighted the student’s response in a positive light, Ms. X’s Feedback Repeating TT (Code 5) talk move functioned in another light, as a precursor to a why-question.
Ms. X’s Feedback Repeating TT (Code 5) talk move functioned as a set-up to her authentic why-question with students responding to her inquiry. Consider these two examples. The first posed the why-question to an individual student; the second example posed the why-question to the entire class.

*Ms. X: Do your parents place restrictions on you? Like, do they limit or restrict your activity?*

*Emmanuel: Yeah, they restrict my soccer.*

*Ms. X (repeating-why?): So, your parents restrict your soccer activity. Why do you think they restrict your soccer activity?*

*Emmanuel: Well, I guess I need to do other things like homework and look after my sister.*

At times, her why-question, after her repeating talk move, extended to the entire class.

*Ms. X (repeating): Oh, so your parents restrict your cell phone time.*

*Javier: Yeah.*

*Ms. X (why? to class): Well, guys, why do you think Javier’s parents restrict his cell phone time?*

*Emmanuel: It can get too expensive.*

*Ms. X: Javier’s parents restrict his cell phone time because it can get too expensive.*

*Jose: He’ll be playing games on it all day*

*Ms. X: Javier’s parents restrict his cell phone time BE--*

*Jose: BEcause he’ll be playing games on it all day.*
Peter: Maybe his parents need to use his phone

Ms. X: Yeah, could be. So Javier’s parents

Peter: restrict his cell phone time BEcause they need to use his phone.

After the Feedback Repeating TT (Code 5) and Initiation Reasoning (Code 2) talk moves, Ms. X shaped student responses with the sentence stem: “Javier’s parents restrict his cell phone time because…” This allowed for personalized, student-centered practice opportunities in the context of answering Ms. X’s authentic questions (Dillon, 1994). This type of question and answer (Q&A) episodes were similar to Lantolf’s (1993) notion of language play or game in which the language game rule is explicit: Ms. X asks a genuine question and the students try to address her curiosity through numerous and various answers.

Feedback Elaboration TS (Code 6). The teacher prompted students for further expansion or participation. Examples include: “Put it into a sentence”, “Ask your partner, this is a card game”, and “Guys, remember, you can work as a team!” Students in both classes received prompting for increased student participation in game activities such as card activity. Ms. X’s Feedback Elaboration TS (Code 6) talk moves prompted students how to set up the game. For example, “Guys, line up the cards first. The definitions on one side. The words on the other side. It’s easier to match that way!” Likewise, Ms. Y’s Feedback Elaboration TS (Code 6) talk moves involved directing the less engaged or confused students: “Guys, line up the green cards and the yellow cards so everyone at your table can see.” During Jeopardy game activity, both teachers prompted student-to-student participation. For instance, Ms. Y said: “Guys, ask the folks
in your group! That is not cheating, that’s teamwork!” In the same fashion, Ms. X said:

“Pick who’s going to speak for the team! You guys can discuss as a group first!”

Such feedback on prompting social (student-to-student) interaction for students in special education classrooms encouraged the students to engage in team roles, using the currency of English in the context of a game, where there were many turns or opportunities to test one’s knowledge of the vocabulary words, which is especially important for English Learners (Ohta, 1995). Consider this turn-by-turn interaction in Ms. X’s class.

Ms. X: Work with your partner and try to match up the cards. Remember, you guys can ask each other if you’re not sure.

Lorenzo: Do you know this one? [pointing to the word restrict]

Vincent: Isn’t it ‘to put a limit on?’ I’m pretty sure.

Lorenzo: Well, negative goes with bad, interpret with explain, what’s prejudice? [As Lorenzo is talking, Vincent is physically matching up the cards.]

Vincent: To dislike something before having a reason to! We talked about our prejudices in class. Ms. X is prejudiced against tomatoes!

Remember, she said when she was a little girl how she hated tomatoes—

Lorenzo: Oh yeah! So, yeah, you’re right. Restrict must mean to put a limit on. Ms. X, we’re done! [Raising Vincent’s hand] We’re finished!
In this illustrative case, Ms. X’s Feedback Elaboration TS (Code 6) talk moves served as an impetus for increased student-to-student participation in a language game activity. Vincent became the more “experienced” peer leading Lorenzo in his ZPD. And Vincent used their shared experience of listening to Ms. X’s “tomato prejudice” story to confirm their knowledge of the word prejudice. In such non-high stakes, no-stress, fun game environment, peer-to-peer interaction promoted learning and teamwork.

In addition to promoting increased teamwork, both Ms. Y’s and Ms. X’s Feedback Elaboration TS (Code 6) talk moves stimulated students for further expansion of their English grammar. For instance, Ms. Y’s Feedback Elaboration TS (Code 6) talk move consisted of explicit directions such as “You have to write a sentence” to a less obvious direction concerning English grammar. For example, in midst of a classroom discussion on the word “evaluate”, a student answered: “Evaluate the ride and decided it was awesome!” This sentence was missing a subject. Although a dropped subject in Spanish grammar may be acceptable, English grammar dictates a SVO structure, where Subject, Verb and Object is the usually the normative order (Fromkin, Rodman, & Hyams, 2013). Ms. Y’s Feedback Elaboration TS (Code 6) talk move: “Okay. Have you been on it personally?” She stressed the subject in the sentence and asked a question that would warrant a subject in the answer. The student responded: “It’s by Hollywood. You can go inside, but it’s above the earth! It’s different!” When she motioned for him to write that, the student’s face lit up with the understanding that his expanded sentence with a subject was the better, more complete answer.
Ms. X’s Feedback Elaboration TS (Code 6) talk move elicited students’ further expansion of their utterance by targeting English grammar, in particular, affixes. During classroom discussion on the word “negotiate”, Ms. X posed the question: “Have you ever negotiated for something with your parents? And how did your negotiations go? Were you successful?” As one student after another responded to her questions, Ms. X repeated the appropriate past tense -ed affix and shaped their utterances as needed.

Consider this exchange:

*Ricardo:* I negotiate later bed time for helping my sister with homework.

*Ms. X:* So you negotiated with your parents for a later bed time if you helped your sister with her homework?

*Ricardo:* Yeah, I negotiated with my parents.

*Ms. X:* And were you successful in your negotiation?

*Ricardo:* Yeah, I was successful in my negotiation with my parents. They let me sleep later if I help my sister with her homework.

Linguists (Fromkin et al., 2013) and education researchers (McClelland & Rumelhart, 1985) stipulated that language as it pertains to reading, writing, and speaking involves distributed memory and information processing, which are represented as an interconnected units (McClelland & Rumelhart, 1985); for example, this perspective argues for a tripod notion of orthographic (print) information and phonological (sound) information both interplaying with meaning (lexicon), resulting in comprehension. Thus, semantic representation in the form of words and meaningful word parts (morphemes) is
an integral part of this triangle model of reading; moreover, the Lexical Quality Hypothesis (Perfetti, 2007) anticipates good readers as having highly specified orthographic and morphological/semantic representation of words that are readily accessible and struggling readers as having yet to cement the orthographical, phonological, and semantic representations.

Lesaux and Harris (2013) highlighted the importance of morphological awareness skills to vocabulary and reading development amongst English Language Learners (ELLs). They argued that reading difficulties for adolescent Language Minority (LM) learners may be related to depressed skills in morphological awareness, which involves phonological, semantic, and orthographic information integration. Kieffer (2014) provided further elucidation on this matter by examining the role of MA in Spanish-speaking LM learners with reading difficulties and in native English-speaking students with similar reading difficulties, compared with a group of skilled readers. In his analysis of 138 6th graders, Kieffer (2014) found that MA had considerable influence on comprehension and decoding.

This important role of morphology awareness is aligned with the complexity of oral pronunciation and spelling development, perhaps best epitomized in the past-tense morpheme “-\textit{ed}” (Bourassa & Trieman, 2014). This is the same affix that Ms. X embedded in her lesson above. This morpheme contains both phonological information (i.e. different pronunciations contingent upon voiced or voiceless contexts) as well as morphological information (i.e. the meaning of past tense and the rule for forming past tense) and seems to undergo developmental stages of spelling mastery (from
phonologically-based to graphotactic to morphologically-based), according to Nunes, Bryant and Bindman (1997; as cited in Bourassa & Trieman, 2014). Such nuanced understanding embedded in the actual spelling (i.e. visual print) profoundly impacts decoding and reading comprehension.

According to Gerber and Richards-Tutor (2011), the four stages of spelling development (preliterate, letter-naming, word pattern, and transitional) cannot evolve and mature without acquisition and understanding of phonemic, phonetic, and morphological aspects of oral and written language. Also, problem-solving in spelling endeavors suggests a metalinguistic activity that flourishes in a typically developing child; whereas, such problem-solving activity in children with LD must be facilitated by direct, strategy instruction (Gerber & Richards-Tutor, 2011). In Ms. X’s class, her students gained many opportunities to practice their oral language with the focus on the “-ed” marker.

ELs who are not yet past the age of puberty have the ability to internalize these rules in their Universal Grammar if they are exposed to enough examples to generate the rules themselves (Curtiss, 2014). Ms. X, through her multiple examples and student practice opportunities, extended students’ oral language with lexicon knowledge. This strategy has been shown to be effective in improving the academic vocabulary of English Learners (Kieffer & Box, 2013).

**Feedback- Elaboration TT (Code 7).** The teacher elaborated her previous statement or a student’s response. Example: "That is a good point...yes, this is and can be a relaxing place, but at the same time it also could potentially become a scary situation.” Ms. Y’s and Ms. X’s Feedback- Elaboration TT (Code 7) talk moves both functioned to affirm
students’ responses and provided additional oral language support via cognitive strategies. Ms. Y’s Feedback-Elaboration TT (Code 7) talk moves occurred back-to-back during a classroom discussion on the word “major”.

Ms. Y: Why is his teeth so black? [pointing to the picture of rotten teeth]

Esteban: ‘Cuz they don’t brush it.

Ms. Y: Yes, they probably don’t have good hygiene practices.

Julio: People that smokes, that happens.

Ms. Y: Yes, there’s certain things like drugs and smoking that can cause major teeth damages.

Ms. Y elaborated on Esteban’s response of “’Cuz they don’t brush it” by way of adding “hygiene practices” to their class discussion. She further supported their vocabulary lesson by connecting “smoking”, a poor hygiene practice, as “a major cause of teeth damages”. Her Feedback-Elaboration TT (Code 7) talk move allowed the use of cause and effect logic to cement the students’ understanding of the vocabulary word major.

Likewise, Ms. X utilized cause and effect logic, but in a hypothetical situation to further student knowledge of the vocabulary word restrict.

Hugo: My parents restrict how much Halloween candy I can eat.

Ms. X: Yes, your parents restrict your sugar intake, especially during Halloween. I mean, wouldn’t you if you were the parent? You guys aren’t like three-year olds who just don’t know any better and will keep on eating sugar. But say, you were the parent of a
toddler who kept on eating candy because he just didn’t know any better, wouldn’t you restrict your child’s candy?

Students: Yeah, probably/ Yes, because the baby could get sick.

Providing oral language practice using cognitive strategies of cause and effect, whether real (Ms. Y) or imaginary (Ms. X), lays a good foundation to vocabulary and reading comprehension. Justice, Mashburn, and Petscher (2013) found that reading-comprehension deficits (in which children have age-appropriate decoding skills with unexpectedly poor reading comprehension) are the consequences of developmental language deficits. Catts, Tomblin, Compton and Bridges (2012) hypothesized that language measures would predict late emerging reading disability membership and suggest the importance of oral language in identification and intervention. Taken together with Buly and Valencia’s (2002) study, these findings support the view that poor comprehenders can experience comprehension deficit due to hardships in vocabulary, word recognition, and meaning construction processes. Thus, the oral language opportunities in both Ms. Y’s and Ms. X’s classroom are pivotal to their students’ vocabulary development.

Moreover, adding the cognitive layer in the oral language practice may also be germane to 6th graders in Ms. Y and Ms. X’s Special Education classrooms. Swanson and Zheng (2013) provided evidence of memory difficulties in children with learning disabilities. Likewise, van Bergen, Plakas, Maasen, and van der Leij (2014) found that at-risk dyslexic Dutch children have depressed verbal short-term memory as well as depressed nonverbal ability patterns. In addition, using cause and effect logic
framework has been shown to facilitate academic vocabulary development among older students (O’Connor, Beach, Sanchez, Bocian, & Flynn, 2015).

On another occasion, Ms. Y elaborated upon a student’s response and jogged his memory by alluding to a previous example in the form of visual imagery:

Students: A. When you give help.

Ms. Y: Excellent! When you contribute, you are helping out, you are pitching in! The example that they gave was the sentence with the picture about the party, right?

This word recall in her Feedback-Elaboration TT (Code 7) talk move was helpful as students nodded in recalling their memory of the party visual imagery. Similarly, Ms. X probed their visual memory in her elaboration talk move.

Axel: Unique means one of a kind.

Ms. X: That’s right. Unique means the only one of its kind or special. Guys, remember that cute picture of the platypus?!

Students: Oh, yeah!/I remember!

Here, Ms. X elaborated upon the student’s response by adding the synonym “special” and prompted the shared visual memory of the word and its association. By doing so, she affirmed the student response and used the cognitive recall strategy of shared visualization memory to promote a collegial classroom atmosphere.

Cognitive framing continued in another example of Ms. Y’s Feedback-Elaboration TT (Code 7) talk move. This time, the cognitive strategy of opposites was used.
Ms. Y:  Rigid?  [Ms. Y asks students for the definition of rigid.]

Students:  Not flexible. Something that is not flexible.

Ms. Y:  Right! Not flexible, right. Flexible is complete opposite.

Here, Ms. Y elaborated upon student response via providing a semantic mapping of the opposite meaning of the target vocabulary word. In these ways, Ms. Y embedded cognitive strategies in her Feedback-Elaboration TT (Code 7) talk moves.

Ms. X’s Feedback-Elaboration TT (Code 7) talk moves also featured a cognitive framing strategy of extended semantic mapping. In discussing the word significant, students seemed confused about a picture of large parent holding the hand of a smaller girl standing next to him. In their student workbook/PowerPoint slide, this picture was captioned with the heading “Review Significant: Something large enough to be important”. The confusion was settled through Ms. X’s Feedback-Elaboration (TT) talk move that showcased cognitive re-framing.

Ms. X:  What’s significant?

Students:  Important.

Ms. X:  Yeah, something that is important. In this picture, it says Her dad’s watch was significant to her. And your workbook says, “something large enough to be significant”.

I know some of you are thinking, you saw the word “large” and you’re thinking size-wise like drinks at McDonald’s or that come in small, medium or large.
Guys, significant doesn’t have to mean size-wise, large.

You guys are not fully grown and not as a tall or large as adults but you are still significant or very important to your parents. And some of you have parents, moms who are very petite, you know, short, small, but they are very significant or important to you.

In this instance, Ms. X used her students’ current fund of knowledge and extended the semantic mapping of their vocabulary. A visualization-association strategy, semantic mapping necessitates that teachers first start at the foundational level of the students’ current fund of knowledge; this is especially crucial for students who are ELs and for students who receive special education (Orosco & O’Connor, 2014). By tapping into how their students are processing, and at what stage they require support, Ms. Y and Ms X’s scaffolding manifested in feedback elaboration talk moves of the cognitive nature.

Feedback Elaboration Teacher Story (Code 8). The teacher elaborated by way of offering a personal story. Example: “My husband and I, we didn't go to Bora Bora for our honeymoon. We went to Fiji, which is similar. It's a- an island. We stayed in ... They weren't set on the water like this. Ours were on the beach, but close to the water, little hut type things like that that we stayed in, and I think it was about a month. A month or two before we went there for our honeymoon, they had a huge tsunami that came through and wiped out a few of the housing areas where we were staying. Of course, the one we were staying in was fine, but two down from where we were at, it was completely gone. It was
This talk move was scrutinized in the context of Research Question 2 and is further expounded in that section.

**Classroom Management (Code 9).** The teacher redirected the class or managed the classroom environment. For Example: “Pencils down!”, “Please stop talking!” Ms. X’s use of the “Pencils down!” command was a signal for students to pay attention to the task at hand. For example, if she asked students to say the word and did not hear everyone, she used the command “Pencils down!”. Immediately, students would repeat the word in choral timing. There was only one student in Ms. X’s class who required regular redirection but he was amiable to Ms. X’s classroom management strategies: 1) verbal request of “pencils down”, 2) “easy button” device usage, and 3) the student’s personalized behavioral checklist. In contrast, Ms. Y utilized token rewards or threat of detention to manage her classroom with differing effects. Finally, during the latter part of the school-year, the two or three male students in Ms. Y’s class, who engaged in student crosstalk, were separated via changed sitting arrangements. This, in conjunction with her talk moves, may have changed the classroom discourse dynamics, mitigating the number of times Ms. Y had to redirect a few students.

**Summary of Talk Moves.** These nine teacher talk moves best captured *how* the CHAAOS lessons were delivered. Surprisingly, they showed that these same categories of talk moves functioned differently as summarized in Table 5. Ms. Y’s initiation talk moves prefaced her students’ receptive language skills while Ms. X’s initiation talk moves focused on her students’ expressive language skills. Feedback Teacher Revoicing
(Code 3) talk moves by Ms. Y involved the use of intonation, whereas the same talk move by Ms. X involved additional sequential wh-questions.

In fact, the Feedback Repeating TS (Code 4) talk move was utilized by Ms. Y to have students repeat the teacher’s utterance and not reformulate their peers’ responses. However, this same talk move by Ms. X involved students reformulating their peers’ responses, contributing to student-student interaction. Ms. Y’s Feedback Repeating TT (Code 5) talk moves acted as the vehicle for student affirmation; whereas, Ms. X’s usage of this talk move was a precursor to her authentic why-question. In addition, Feedback-Elaboration TS (Code 6) talk move by both teachers emphasized English Grammar in their support of their students’ oral language and Feedback Elaboration TT (Code 8) involved cognitive strategies. In these ways, the functionality of instructor’s talk moves and how each teacher utilized her teacher talk move during vocabulary instruction were realized.
<table>
<thead>
<tr>
<th>Teacher Talk Move</th>
<th>Functionality of Ms. Y</th>
<th>Functionality of Ms. X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initiation Statement or Simple Wh-Question</td>
<td>Verbose initiation: focus on students’ receptive language skills</td>
<td>Concise initiation: focus on students’ expressive language skills</td>
</tr>
<tr>
<td>2. Initiation Reasoning</td>
<td>Leading questions: focus on predetermined answers</td>
<td>Open-ended questions: focus on student processing</td>
</tr>
<tr>
<td>3. Feedback Teacher Revoicing</td>
<td>Accompanied with intonation: focus on corrective feedback</td>
<td>Accompanied with additional wh-questions: focus on corrective feedback</td>
</tr>
<tr>
<td>4. Feedback Repeating TS</td>
<td>Asked students to only repeat or reformulate teacher’s utterance: authoritative stance</td>
<td>Asked students to repeat or reformulate teachers’ utterance and those of their peers: facilitator stance</td>
</tr>
<tr>
<td>5. Feedback Repeating TT</td>
<td>Acted as a vehicle for student affirmation</td>
<td>Acted as a precursor to why-questions.</td>
</tr>
<tr>
<td>6. Feedback Elaboration TS</td>
<td>Emphasized English grammar &amp; team work</td>
<td>Emphasized English grammar &amp; team work</td>
</tr>
<tr>
<td>7. Feedback Elaboration TT</td>
<td>Stressed cognitive strategies: cause &amp; effect, visual imagery, opposite</td>
<td>Stressed cognitive strategies: cause &amp; effect, visual imagery, semantic mapping</td>
</tr>
<tr>
<td>8. Feedback Elaboration Teacher Story</td>
<td>Offered additional contexts for featured vocabulary words</td>
<td>Offered additional opportunities for oral language practice</td>
</tr>
<tr>
<td>9. Classroom Management</td>
<td>Redirection to managing student participation</td>
<td>Limited redirection to absence of this talk move</td>
</tr>
</tbody>
</table>

Table 5

Nine Teacher Talk Moves and Functionality of Ms. Y’s and Ms. X’s Talk Moves
Teachers’ Stories in midst of CHAAOS: Research Question Two

2. How do teachers’ speech patterns relate to treatment fidelity? For instance, how do teachers’ personal, spontaneous narrative (story-telling) episodes relate to treatment fidelity? Do their ad-lib stories adhere to treatment fidelity? If so, how? Comparing the observation instrument (which focuses on treatment fidelity) with the researcher’s discourse analysis (which focuses on teacher talk) will facilitate noting any creative license taken by the teachers.

Labov (1999) defined narrative or story-telling as a way to express past experience by “matching a verbal sequence of clauses to the sequence of events which actually occurred” and at its most minimal form, this sequence could be “two clauses temporarily ordered” (p. 226), which is akin to what Applebee (1975) has referred to as the “heaps” sequence. According to Hedberg and Westby (1993), there are various types of narratives: 1) scripts which delineates a familiar, recurring event usually told in the second person present tense; 2) recounts which are prompted personal experience in the past tense; 3) accounts are unprompted stories not experienced by the listener; 4) event casts which report on a factual scene, or a future plan; and lastly, 5) fictional stories which can be of past, present, future or imaginary nature.

Labov (1999) furthered our understanding of narrative analysis by way of scrutinizing the constituents of a story. The abstract is the part of the story that explains or introduces what the story is about. The orientation section of the story addresses the “who, when, what and where” questions. The complication action describes the plot of
the story, answering the “then, what happened?” question. The *evaluation* of the story addresses why this story is being told: what’s the significance of the story? Lastly, *result* refers to the part of the story that addresses what finally occurred.

Both teachers’ personal, spontaneous narrative (story-telling) episodes related to treatment fidelity in the form of additional examples or expanded contexts of the vocabulary word used in student-friendly sentences. In this manner, their ad-lib stories adhered to treatment fidelity by adding supplementary information to what was already present or available in the CHAAOS lesson. Thus, teachers’ personal stories were organized as Feedback Elaboration Teacher Story (Code 8) talk move, in which the teacher elaborated by way of offering a personal story as a form of elaborated feedback to further students’ knowledge of the vocabulary word.

Ms. Y’s personal stories were *accounts* or unprompted stories not experienced by her student listeners. During the observed Cycle 2 and Cycle 3, Ms. Y told three stories in total. The three personal stories ranged in length and complexity, from the most minimal form, to short accounts to a fully developed account.

*Minimal Story Account 1 (Ms. Y):*

*Utterance 1*  
*Floppy, you asked what does it mean?*

*Utterance 2*  
*Oh, my dog, she has floppy ears, where ears are like this*  
*[gestures with her hands].*
The observation instrument (01/12/2017) and researcher’s notes marked this minimal narrative as a compendious story which addressed students’ confusion over the word “floppy”. This word was featured as part of a group of words (firm, inflexible, unmoving) associated with the target word “rigid”. The students had to circle the synonyms of “rigid”, but many did not know the definition of “floppy” which served as the incorrect choice. Ms. Y’s concise illustrative story diffused the confusion quickly and provided the much-needed support for students to complete their notebook task.

*Short Story Account 2 (Ms.Y):*

*Utterance 1*  Second word is reveal: this is how I remember the word.

*Utterance 2*  When a magician is doing a trick, typically they have something hidden, especially if they’re making something pop out of a hat, right?

*Utterance 3*  They remove the blanket or whatever it is, a piece of cloth... and then they reveal the bunny, right?

*Utterance 4*  So, that’s how I remember the word reveal.

The observation instrument (1/30/2017) and researcher’s notes highlighted Ms. Y’s Short Account Story 2 as a spontaneous supplement to the available student-friendly sentence: “He opened the curtains and revealed the grand prize!” She followed the CHAAOS treatment protocol but also added her original story to provide a visual imagery for her students and to show them a strategy she uses (i.e. imagery of a magician
revealing the bunny) to memorize the word. Thus, this story, as an additional example, functioned as scaffolding student support, demonstrating to students that teachers, like all folks, use cognitive strategies for vocabulary acquisition.

During another CHAAOS lesson, a student reading the featured sentence with the target vocabulary word “stable” triggered this impromptu story from Ms. Y. This developed story account had the end result of providing another opportunity for the whole class to voice the definition of the target vocabulary word.

**Developed Story Account 3 (Ms.Y):**

**Utterance 1**
So actually, we had this happen in our house.

**Utterance 2**
We had an end table at the end of the couch where we could put our things on.

**Utterance 3**
It’s a small table, and one morning when I was at work, the table was all over my living room floor, and I was like...

what?

**Utterance 4**
Apparently, my husband got up in the middle of the night and because it was dark, he ran into the table and obliterated the table.

**Utterance 5**
So, he glued it all over.

**Utterance 6**
Later on, couple of months later, the dog decided to have a go at it and ran right into the table and it fell apart!
Utterance 7 So, it was stable for a certain period of time and then went back to being unsteady.

...

Utterance 8 All right, let’s get back to this.

Utterance 9 So I was giving you guys an example of the table that I had back at home that was steady and then no longer was anymore.

Utterance 10 So, what is the actual definition of stable?

Students constant, steady, fix!

The observation instrument (03/13/2017) and researcher’s notes clarified Ms. Y’s Developed Story Account 3 as a spontaneous supplement to the available student friendly sentence which was read by a student volunteer: “The table was broken, but we repaired it and it is now stable”. This sentence triggered Ms. Y’s story. Thus, her abstract (Utterance 1) tells us what this story was about—a broken, unstable table. The orientation (Utterance 2-3) section provides us with the setting of the story. The complication action (Utterance 4-6) describes the chain of events. The result (Utterance 7) featured the target vocabulary word “stable”. The evaluation (Utterance 9) served as a precursor to Ms. Y’s question (Utterance 10). By providing her spontaneous story, Ms. Y gave an additional example of a student-friendly context; moreover, she used numerous sentences and provided another opportunity for her students to answer: “constant, steady, fix!” than what was designed in the CHAAOS lesson.
In contrast, Ms. X interspersed five short personal narratives in her instruction. These stories took on the minimal form, and they adhered to Grice’s (1975) maxims of relevance, quality, and manner. Her stories were always relevant to the class discussion, and the quality and manner of delivery were appropriate for her student audience. Also, she imbued Brown and Levinson’s (1987) positive politeness strategies by way of raising common ground and being attentive to her listeners’ interests. Furthermore, Ms. X’s spontaneous stories generated additional opportunities to practice oral language and garnered individual responses from students.

Similar to addressing the “floppy” word question in Ms. Y’s class, Ms. X concisely explained the meaning of “floppy” with her minimal description.

*Minimal Story Account 1 (Ms. X):*

*Utterance 1*  
You see lots of floppy ears on bunnies around Easter.

*Utterance 2*  
Like one ear may be firm and stand upright like this

[gestures with her fingers] and the other ear just flops

[gestures with her fingers] hangs loose.

*Utterance 3*  
Don’t you remember seeing cute bunnies with floppy ears on cards or posters around Easter? I do!

The observation instrument (01/12/2017) and researcher’s notes remarked how Ms. X’s brief, concise way of explaining the word “floppy” via a minimal story did not take valuable time away from student notebook activity. Moreover, this common imagery of the floppy ears of Easter bunnies elicited nods and confirmation from students.
as they quietly worked on circling the appropriate synonyms in the group of words before them.

Minimal Story Account 2 (Ms. X):

Utterance 1  You can get a lot of evidence from saliva these days.
Utterance 2  Just the other day, I was watching some TV crime show, you know, where they solve unsolved mysteries and just by using latest technology, they were able to gather evidence from saliva to set the man free.

The observation instrument (01/18/2017) and researcher’s notes emphasized how this brief story garnered student responses on the different forms of evidence that technology makes possible. One student chimed: “I saw a show and they found DNA evidence used to set a man free, too!” Another student said: “You can get evidence from even hair!” Also, one student commented: “You can get evidence of your ancestry online!” Ms. X’s spontaneous story resulted in spontaneous utterances of the vocabulary word “evidence” by students.

Minimal Story Account 3 (Ms.X):

Utterance 1  I think we’ve all sat on an unstable desk or table at one point in our lives.
Utterance 2  I remember I leaned on a wobbly or unstable desk as I was teaching one day and I ended up almost falling to the ground.

Utterance 3  Have you ever done that—like sat or leaned against something unstable?

The observation instrument (03/20/2017) and researcher’s notes expressed numerous students shaking their heads in confirmation and one by one, sharing with the class their recounts or prompted ‘unstable’ story. Some examples include:

Student 1  Yeah, I sat on an unstable bench, once.
Student 2  I fell off because the chair was unstable.
Student 3  One time, I was taking a test and the desk was unstable.
Student 4  Oh, that happened to me, too!

Ms. X’s minimal stories, though brief in nature, sought a common ground to elicit responses from students. Thus, oral language practice occurred, supported by the teacher and affirmed by peers.

Another example of this nature is the minimal story account featured below. With Ms. X’s childhood story, she evoked sympathy from her students as well as their responses featuring the target vocabulary word “prejudice”.

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Minimal Story Account 4 (Ms.X):

Utterance 1  When I was a little girl, I had to finish everything that was on my plate and I hated tomatoes! Ugh!

Utterance 2  I remember trying to hide the tomatoes on my plate, but of course, my parents knew—parents always know, don’t they? [Students nod in agreement.]

Utterance 3  Are you guys prejudiced against certain food or vegetables—like maybe the smell or color throws you off?

The observation tool (01/23/2017) and researcher’s notes denoted that all students participated and answered this question using the sentence stem “I’m prejudiced against…” Answers varied from broccoli to spinach to nuts to kiwi. Although these answers were constrained to foods, this stream of shared recounts of their personal experiences featuring the target vocabulary word hit the DEI standards: they were meaningful, student-centered and numerous in nature. Conversational strategies like the use of ‘tag questions’, more readily associated with females than males (Tannen, 1989), was utilized to draw in her student-listeners via the establishment of a common ground (i.e. Parents always know!). Thus, Ms. X’s impromptu story solidified not only teacher-student rapport but continued to build student-student rapport as it elicited student recounts of similar experiences.
Using such minimal story form seemed to be Ms. X’s forte. Her brief stories provided the contextualized platform from which students practiced their oral language using the featured vocabulary word. For instance, consider this story.

**Minimal Story Account 5 (Ms. X):**

*Utterance 1*  
One time, I saw a woman who was talking, and since I didn’t see her earpiece, I inferred she was a crazy woman who was talking to herself!

*Utterance 2*  
But of course, she was just talking on her cell phone!

*Utterance 3*  
Have you ever done that—like see something that makes you infer one thing and sometimes you’re right and sometimes your inference, what you had inferred, was totally not the case?

By following her personal narrative with an authentic question to her listeners, Ms. X showcased her skill of a consummate storyteller by captivating her audience members. Thus, she becomes the cynosure of all eyes in her classroom, with no need for constant redirection of her students. By her shameless example, her story (Utterance 1-2) and her question (Utterance 3) act as what Goffman (1955) called *face-work*: the words or gestures that stress the importance of participants not being ashamed or to lose face. Face-work serves to neutralize incidents or factors that threaten one’s dignity or face. By
sharing her example of her inference gone wrong, her students become dauntless in sharing their examples of inferences gone wrong (or right) as well:

**Student 1** Yeah, I saw no more chocolate donuts so I inferred that they were all out but they had more in the back.

**Ms. X** So you inferred that they were all out of your favorite donuts but your inference in this case was wrong.

**Student 1** Yeah.

**Student 2** One time, I inferred that a woman was pregnant but she was just fat. [Students laughed.]

**Ms. X** [Teacher smiled.] Hmmm... Has anyone inferred something and your inference was right?

**Student 3** Yeah, I inferred that my friend was late to school or wasn’t coming to school because he wasn’t on the bus.

**Ms. X** Yeah, that makes sense, that’s logical! You didn’t see your friend on the bus. And that made you infer that he was going to be late or not come to school. So guys, your inference, what you infer could be right or wrong and also your inference is based on some information or what you know about.

Using the platform of her own inference-gone-wrong story, Ms. X carefully responded to each student’s response to insure their receptive and expressive language.
skills pertaining to the word “infer”. She used various affixes (e.g. inference, infer, inferred) in the context of their student-centered conversation while engaging in face-work to foster a non-threatening safe environment that was conducive to learning.
Changes in Teacher Talk Moves during CHAAOS: Research Question Three

3. Do the teachers’ speech patterns in the delivery of vocabulary intervention change over the course of the school-year?

To answer this question, I utilized both time and event sampling based on the advantages both techniques offer (Slee, Campbell, & Spears, 2012). The rationale for using time sampling is twofold. One, the complexity of observing how teachers use language in their instruction can be appreciated in a sequential manner streamed into time intervals of 20 minutes, from start of the CHAAOS lesson to the finish; during this time interval, the presence or absence of the specified teacher talk moves could be noted and produced into a transcription for further analysis. Two, a time-dependent method may be characterized by either one–zero sampling (e.g. observe for 30 seconds and record for 60 seconds) or continuous recording; I chose continuous recording method for it provided information on the frequency of teacher talk behaviors.

From the data collected, there were six lessons (three for each teacher) of similar lesson nature (weekly introductory lesson) which had a similar time duration of 20 minutes. The 20-minute time duration garnered the highest number of comparable lessons at three different time points during the data collection period (Cycle 2 - Cycle 3). Part of my rationale for selecting these six lessons was the fact that they featured three time points; although these time points were not equal-distant from each other, they were consecutively progressive and these selected lessons were representative of weekly introductory lessons.
To combat the small number of time sampled lessons, I also used event sampling. The rationale for this is twofold. First, event sampling is a procedure whereby the observer records each predetermined event, and it allows the study of both frequently and infrequently occurring events. The predetermined events of interest were portions of the CHAAOS lessons that contained teacher talk moves during student activity events. Second, the scrutiny of student activity events allowed for additional insight into how the teachers utilized teacher talk moves throughout the school-year in contexts other than the weekly introductory lessons. In addition, Shumow and his colleagues (2013) used event sampling with discourse analysis to richly describe science student lab activity.

**Time Sampling: Ms. Y’s Change in Teacher Talk Moves**

Ms. Y’s Time Point 1 was January 23, 2017, on which she administered CHAAOS Cycle 2 Set 7 Lesson 9. At Time Point 1, Ms. Y’s repertoire of teacher talk moves consisted of the following: repeating, elaboration, and initiation (Table 6). Classroom management was also featured as part of the classroom discourse.
At Time Point 1, the top three frequently occurring talk moves were initiation, elaboration and repeating. Ms. Y initiated primarily with simple statement or simple wh-question, and students responded. Most common sequential talk moves were of the *Initiation-Response-Feedback Elaboration (TT)* nature. Consider this iconic example:

*Ms. Y (initiation):* Is there someone that would like to read the sample sentence?
[A male student raises his hand. Ms. Y nods for him to read.]

Philip (response): Symbols are difficult to clarify.

Ms. Y (feedback elaboration): Okay. Symbols are difficult to clarify. So, unless you actually know this language, you're not, I mean that's a bunch of pictures, right? So, you would need someone to interpret or to clarify to you what that is actually saying, okay? So, the definition of interpret is to explain the meaning of something.

At this stage, Ms. Y added her teacher story of needing to call “interpreting” services to clarify the communication between the Spanish-speaking parents and herself. Such an example served to augment the contexts of the vocabulary word “interpret”.

Ms. Y’s Time Point 2 was January 30, 201, on which she administered CHAAOS Cycle 2 Set 8 Lesson 13. At Time Point 2, Ms. Y’s repertoire of teacher talk moves consisted of the following: elaboration, repeating and initiation (Table 7). Classroom management was also featured as part of the classroom discourse.
Table 7

Ms. Y’s Teacher Talk Moves at Time Point 2

At Time Point 2, the top three frequently occurring talk moves were simple initiation, repeating and elaboration, respectively. The most occurring sequential talk move pattern was Initiation-Response-Feedback Repeating (TT). The following is an illustrative example.

*Ms. Y (initiation):* So what is the definition of preliminary?

*Students (response):* Something that comes first.
Ms. Y (feedback repeating): Okay. Something that comes first. Good. This is the same example, [Ms. Y points to the picture with the sentence she has said previously and repeats it again.] so she did some preliminary or beginning sketches before starting to paint.

Time Point 2, only a week after Time Point 1, featured a similar sequence of talk moves, just with feedback-repeating talk move occurring twice as much as feedback-elaboration. Interestingly, Ms. Y’s feedback repeating talk moves occurred with positive words of affirmation such as “good”, “good job”, “yup, you’re right!”. Thus, students received a higher number of positive verbal reinforcement during this lesson than during their lesson a week ago at Time Point 1.

Ms. Y’s Time Point 3 was March 13, 2017, on which she administered CHAAOS Cycle 3 Set 12 Lesson 13. At Time Point 3, Ms. Y’s repertoire of teacher talk moves were similar to those at Time Point 1, and consisted of the following: repeating, elaboration, and initiation (Table 8).
At Time Point 3, the top three frequently occurring talk moves were simple initiation, elaboration, and repeating, respectively. The most occurring sequential talk move pattern was *Initiation-Response-Feedback Elaboration (TT)*. The following is an illustrative example.

*Ms. Y (initiation): What does controversy mean?*

*Students (response): argument!"
Ms. Y (feedback-elaboration): So, you’re disagreeing on something. You think or feel differently from the other person.

Furthermore, Ms. Y’s teacher talk move included her reasoning initiation (i.e. “Why are there all these cracks in the ground.”) during class discussion on the vocabulary word “conserve”. Also, she regaled her students with her “unstable”, broken table story.

At Time Point 3, there was one incidence of classroom management. However, it must be noted that the classroom management at Time Point 3 was of a very different nature from that at Time Point 1 and 2. At previous time points, Ms. Y had to redirect her class (a few male students) to pay attention. At Time Point 3, Ms. Y reminded students not to speak at once since she could not hear all their answers at the same time. Her encouragement to “raise [their] hands” was met with students shooting up their arms.

There were no overt changes in Ms. Y’s speech patterns of teacher talk moves at each time point since her repertoire of teacher talk moves did not change from Time Point 1 to Time Point 3. However, there were two significant changes to note.

Upon scrutiny of her initiation moves at word count level using Nvivo software, there was a significant change. Ms. Y’s wordy initiation decreased from 867 word count level, to 513 word count level, to 279 word count level at Time Point 1, 2, 3, respectively. By closely examining the word count level, Ms. Y’s improvement in initiating more concisely was unearthed. For example, at Time Point 1, a typical initiation entailed the following:

Ms. Y: Okay, Okay. So, if you have not yet, go ahead and write these down on the first four lines in your packet. Second page. Okay. Those of you who are already
done writing the words, what I want you guys to do is just go through and say the words ... you guys to take the definitions or synonyms, but just go through and read through the list of the words that we have already gone over with your partner. Okay?

However, at Time Point 3, a typical initiation was represented with this example:

Ms. Y: All right, we got conserve, stable, unify, significant! If you haven’t copied them already, go ahead and write those down.

Also, another change was noted in the nature of her classroom management. By Time Point 3, Ms. Y’s use of classroom management was noticeably different. Her students were yelling out answers, so she had to direct them towards orderly participation. From telling her students to “pay attention” (Time Point 1) to encouraging them to “raise [their] hands” (Time Point 3) perhaps signaled her underlying achievement of slightly increased student engagement. To understand this subtle yet very important change, let us now turn to the student activity event sampling analysis.

**Event Sampling: Ms. Y’s Change in Teacher Talk Moves**

While the comparison of time points captured the overarching progressive snapshots of the teachers’ discursive practices, the analysis of the event sampling data painted subtle changes over time in the area of teacher-student and student-student interaction. The sampled events were student activities featured in the CHAAOS vocabulary lessons. Thus, three items were examined: 1) the teacher’s talk move initiating the student activity; 2) the student response; and lastly, 3) the teacher’s verbal interaction with the students regarding the student activity.
The event sampling analysis of antecedent, behavior and consequence from the biobehavioral sciences (B.F. Skinner, 1953) was borrowed by Bloom and Lahey (1972) to view language as a set of behaviors that were observable, countable and reinforceable. Thus, with this view in mind, student activity, teacher talk moves and teacher-student and student-student interaction were examined. Through the analysis of event sampling, Ms. Y’s change in teacher language behavior and absent or present teacher-student and student-student participation were brought to life. Table 9 summarized Ms. Y’s teacher talk moves and noted participation level in these seven events in chronological order. Descriptions and analysis of these seven student activities follow.
Table 9

*Event Sampling: Ms. Y’s Changes in Teacher Talk Moves*

<table>
<thead>
<tr>
<th>Student Activity &amp; Date</th>
<th>Teacher Talk Moves</th>
<th>Interaction Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survivors of the Apocalypse 01/12/2017</td>
<td>Wordy Initiation</td>
<td>Absent Teacher-Student Interaction</td>
</tr>
<tr>
<td>Pow-Wow Card Game 01/18/2017</td>
<td>Detailed Initiation, Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Space Race Card Game* 01/20/2017</td>
<td>Detailed Initiation with embedded Feedback Elaboration TS (Modeling), Additional Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Instagram Insanity* 01/20/2017</td>
<td>Initiation with Student Understanding Check, Feedback Elaboration TS (Expanding student’s sentence)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Concentration Game 01/25/2017</td>
<td>Initiation with Helpful Suggestion, Feedback Elaboration TT (Corrective Feedback)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Sentence Game 02/01/2017</td>
<td>Initiation with Helpful Suggestion, Feedback Elaboration TT (English Grammar Emphasis)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Crossword Puzzle 03/06/2017</td>
<td>Initiation with Helpful Suggestion, Feedback Elaboration TT (Corrective Feedback)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
</tbody>
</table>

*Note: Instagram Insanity and Space Race Card Game were in the same lesson.*
Survivors of the Apocalypse (01/12/2017: Cycle 2 Set 5 Lesson 4). After the teacher read the Survivors of the Apocalypse PowerPoint slide, students were directed to discuss what skills each person would contribute to the group of survivors. Then, they had to circle the appropriate word that fit each sentence in their notebook.

The Ms. Y initiated this exercise with a wordy and detailed instruction:

*It says our group will survive this, and you guys are going to choose [Ms. Y points] with the vocab words. You're going to choose the correct word and write it in the blank. Our group will survive this major, or rigid catastrophe, we evaluated or emerged our skills. Each of us will publish or contribute a special skill and then it says I will be the, and it gives you choices. Farmer, fire fighter, cook, scientist because and you need to provide a reason. The first three lines, you guys, there are words provided to you that you are choosing from. These words, we're choosing the one that makes the most sense according to the content. The last two lines, you guys are filling in those. This is a group thing so with your table partner, you guys are going to work through this together. Except for the last part because you need to provide your own reason. The rest of it, you guys are discussing with your partner.*

After this wordy instruction, Ms. Y went to her desk and did not interact with the students as some students discussed in their respective groups. Student group discussions were not facilitated by Ms. Y. Once time was up, Ms. Y collected their notebooks.

Partner Pow-Wow (01/18/2017: Cycle 2 Set 6 Lesson 6). This activity called for students to partner pow-wow review the four words of the week (i.e. evidence, perceive,
eliminate, infer). Students referred to their books which featured the sentence stem or carrier sentence “What does ____ mean?” The four words of the week were featured below the sentence stem, and students were to exchange questions (e.g. What does evidence mean?) and answers (e.g. proof!) with their partners during this pow-wow review activity.

Ms. Y initiated with her detailed instruction:

*It says partner pow-wow which means you're going to get to have a conversation with your table partner. So, the directions read: Be ready to say your answer to your partner. Use your notes to help you. There's a question. There's one question. Right? Or a sentence stem I should say. That there's a question that you are going to decide which of the words that are listed below would fit in to complete. Joseph, do you want to come work with Santiago? You guys are going to, with your partner, read the sentence stem and say the correct vocabulary word that will fill in the sentence that makes the most sense. Okay? So, you guys can go ahead and do that now, it should only take a couple of seconds.*

This time, Ms. Y interacted with students as they worked on this activity. She provided step-by-step modeling:

*Joseph: eliminate. Get rid of.*


*Ms. Y(feedback elaboration): Okay, as you do that, your partner's going to tell you the definition, and you're going to switch roles. One of you will say the first one, the "What does evidence mean?" And your partner will give you the
definition. Then you, who had to say the definition, will then do the next one, "What does eliminate mean?" And your partner will say that definition. Does that make sense? So, you're [looking at Santiago] going to ask Joseph, "What does evidence mean?"

Santiago: What does evidence mean? [looking at Joseph]

Joseph: Proof!

Providing step-by-step modeling with her Feedback Elaboration TS talk move facilitated appropriate student participation.

**Space Race Card Student Activity (01/20/2017: Cycle 2 Set 6 Lesson 8).** Students stated the word and the definition using the cards to their partners. Each student took turns saying the word and the definition, matching the cards. Ms. Y initiated the activity:

*Before we jump into focusing on the new words, we're going to quickly review all of the words we went over yesterday. Stephen, you can join them and be a group of three. So, you're going to say "Major means ..." and then you're going to tell your partner the definition and your partner can say the next one, "Evaluate means ...". Just go back and forth and just review the four words and the definitions from yesterday. Okay, so we have major, evaluate, and rigid. If you need to look back to them, it was in yesterday's notebook one page prior.*

Ms. Y interacted with a group of two male students.

*Mateo: What does major mean? [asking his partner]*
Ms. Y: So, you're gonna go over it with Dan. So you guys are gonna say the following words there. "Major means ... " and you're going to tell him what major means. Then he'll tell you "Evaluate means ..."

Mateo: Major means most important.

Dan: Evaluate means to grade.

Her feedback talk move of step-by-step modeling helped students engage in the activity at hand. Students with language impairments often have difficulty with statements and questions (Boyle, McCartney, Hare, & Law, 2010). By Ms. Y’s clarification and modeling that this activity was focused on simple declarative statements (“Evaluate means to grade.”) instead of the previous pow-wow activity of questions and answers, she helped students engage with each other to complete the activity.

**Instagram Insanity Student Activity (01/20/2017: Cycle 2 Set 6 Lesson 8).** Students were given the task of creating captions using the featured vocabulary. Students’ notebooks featured four pictures with blank lines; students worked in groups to create one sentence for their selected picture.

Ms. Y initiated with this set of directions:

Ms. Y: Right, you're going to choose one of these pictures. You're going to work, and you can work in partners. You are going to create a sentence for one of the pictures. You don't need to do it for both, only for one. So, you're going to choose this picture or this picture and write a sentence with the word, okay? Make sense?

[Ms. Y walked around the classroom, listening in on the group discussions.]

Julio: Let’s do this one! We could use perceive.
Joe: Yeah, here, look it! The cat perceives as the lion! [spots Ms. Y observing their group.]

Ms. Y: Yep, I agree with that! The cat perceives himself as the lion! Good job!

Ms. Y’s feedback served as part affirmation and grammar correction (i.e. reflexive pronoun himself), enhancing the student’s Instagram caption.

**Concentration Game Review (01/25/2017: Cycle 2 Set 7 Lesson 11).** Ms. Y added cards from Week 1 (major, evaluate, rigid, contribute) and Week 2 (evidence, eliminate, perceive, infer) to this week’s set. Students worked in pairs to match the word cards with corresponding definition cards. If the students finished early, they were to quiz each other with the cards.

Ms. Y passed the cards ‘face up’ instead of ‘face down’ in a traditional memory or concentration game. This was to facilitate word-definition matching, not additional cognitive memory skills. Her directions contained helpful hints of organizing the cards to facilitate their word-definition matching activity.

Ms. Y initiated:

*Okay, so we’re doing the sort of the same thing we did yesterday. You guys are going to separate the cards into words and definitions. Then match them. So definitions go on one side. Words go another side. And you’re going to find the matching pair. So words, so definitions. Notice the words are capitalized and definitions are lowercased.*

*Student:* Can we look at our notes?

*Ms. Y:* Try to do it first without looking at your notes.
Ms. Y monitored each group. She found an error by one group.

**Ms. Y (Feedback-Elaboration TT):** When you’re evaluating something, you are...

**Group response:** Making it clear!

**Ms. Y (Feedback-Elaboration TT):** No, if I’m evaluating your performance, I’m giving you a gr...

**Student in the group:** Grade!

**Ms. Y:** There you go. Good job! [Looks around and sees Ss have finished.] Go ahead and bunch the cards up back. Put the paperclip back on them. Thank you. Thank you. They don’t have to be separated by color. It’s okay, guys. Thank you.

Ms. Y’s initiation move contained helpful suggestion of separating the cards into definition and word piles, pointing out that the words were capitalized and definitions were lowercased. Her Feedback Elaboration (TT) talk moves provided corrective feedback and her speech contained positive verbal reinforcements (e.g. *There you go!* *Good job!*). After experiencing a positive teacher-student and student-student interactions, all student groups returned their cards with upmost care to their teacher.

**Sentence Game Student Activity (02/01/2017: Cycle 2 Set 8 Lesson 15).** Students played a game where they had to match a sentence with a blank to with its corresponding word card. Here, Ms. Y initiated with the following direction:

*You guys are going to do, basically do what you did yesterday, where you're going to have a sentence frame given to you, and then you're going to decide which vocabulary word will fit best to complete that sentence. Remember, a*
suggestion would be, you line up all the sentences on one desk and words on another desk, then you can see everything all at once.

She monitored each group as she walked around the classroom. She spotted one student experiencing some difficulty.

Student 1: We’re missing a word

Ms. Y: [Ms. Y organized their cards into straight lines.] Okay, now you can read through each sentence and pick from the word choices to see which one best replaces...

Student 2: Oh, being taken out of context, being interpreted the wrong way—[Once Ms. Y straightened their cards, he realized his mistake.]

Ms. Y: There you go! So, last night my sister blank her biggest secret to me

Students: Revealed!

Ms. Y: There you go!

One group was still working on this sentence activity.

Ms. Y: Okay. We have this group left to finish. Okay, so- throwing trash by the road is an interpret thing to do?[incredible rising intonation on “interpret”]

Student 1: No.

Student 2: Negative!

Ms. Y: Their accent blank they were tourists from another country.

Students: Indicated!

Ms. Y: Indicated, right!... Good job. We are officially finished!
Her less wordy initiation talk move, followed by corrective feedback and affirmation resulted in students successfully completing this group task. And by Ms. Y helping out the last group and announcing that they were “officially finished” when all groups completed the task fostered a student-friendly, teamwork ambience.

**Crossword Puzzle Student Activity. (03/06/2017: Cycle 3 Set 10 Lesson 8).** Students completed a crossword puzzle activity in groups. The word bank contained: apprehensive, sustain, negotiate, abandon, controversy, apply, and primary. Consider Ms. Y’s concise initiation talk move, her monitoring of students as they worked on their review, and her energetic review of the crossword puzzle with the entire class in the following example:

*Ms. Y:* Now, you guys are going to complete the crossword puzzle, and then you’re going to have a discussion with your group partners. Make sure you guys understand and then we’ll review together as a whole group, okay?

Ms. Y spotted a student having difficulty with a clue in the crossword puzzle.

*Ms. Y:* Remember, something that is exact, it has be to... you know how I like papers not be to be folded or corners not tattered, and I’m constantly doing this [She taps the papers she was holding onto the desk to make them perfectly align.] I like paper to be very exact, very ... it starts with a ‘P’... [gives phonetic cue] pre--

*Student:* Precise!

*Ms. Y:* good job!

Ms. Y walked around the small group clusters of desks, checking student progress.
Ms. Y: You did 5 down. So, okay, afraid something bad will happen. You are...

Students: Apprehensive!

Ms. Y: You’re working out an agreement. What are you doing ... remember with your parents, what do you guys do?

Student: Negotiate!

After all students completed their crossword puzzle, she assembled the group for a review of the answers to the crossword.

Ms. Y: Okay, let’s quickly review. Raise your hand if you want to tell me your answer.

Ms. Y: 2 across. Leave something and never look back? [She nods at the student with his hand raised.]

Student: Abandon!

Ms. Y: Yes! To leave and have no intention to come back ...

[She precedes to all the words, with one remaining] Hopefully, we all got 4 down? Go ahead and shout it out!

All students: Precise!

The small incremental changes in Ms. Y’s speech patterns all work in concert for the benefit of her students’ vocabulary skills. One, her initiation talk move became more concise. Two, she imbued her initiation talk move with helpful suggestions on how to complete the student activities. Three, she went from not interacting with her students during student activity to actively monitoring their progress. Four, she used, feedback teacher talk moves with positive verbal praise, imbuing teacher-student interaction as
well as fostering student-student interaction. It was precisely during ‘game’ activity events that such incremental changes in her language behaviors were noted. According to Vygotsky (1934), language play is linked with game activity with others, and Lantolf (1993) argued that for ELs such language play opens the ZPD in which children can behave beyond their current level of ability. Ms. Y’s subtle changes personified herself to be the more advanced ‘player’ in the language game, helping those who are now beginning to understand the joy of this game.

**Time Sampling: Ms. X’s Consistency in Teacher Talk Moves**

Ms. X’s Time Point 1 was January 23, 2017, on which she administered CHAAOS Cycle 2 Set 7 Lesson 9. At Time Point 1, Ms. X’s repertoire of teacher talk moves consisted of the following: revoicing, repeating, elaboration, and initiation (Table 10). Limited classroom management occurred as part of the classroom discourse. This one utterance of classroom management was directed specifically to a student “not to bother” his partner was who still writing in his notebook. Other than this one student who required more attention, the rest of the class followed directions.
Table 10

Ms. X’s Teacher Talk Moves at Time Point 1

At Time Point 1, the top three frequently occurring talk moves were simple initiation, elaboration, and repeating, respectively. The most occurring sequential talk move pattern was *Initiation-Response-Feedback Elaboration (TT)*. In this exemplary elaboration example, Ms. X provided additional context and information regarding the vocabulary word “prejudice” as she facilitated their discussion on what food prejudices the class had.
Ms. X (Initiation): Are you prejudiced against certain types of food, like vegetables?

Student 1 (Response): I don’t like mushrooms.

Ms. X (Feedback Elaboration): You’re prejudiced against mushrooms? So, maybe the texture throws you off. We can be prejudiced against certain foods due to the smell or texture without really having any good reason.

This served to expand the featured sentence in the CHAAOS lesson: “He was prejudiced against fast food restaurants.”

Ms. X’s Time Point 2 was January 30, 2017, on which she administered CHAAOS Cycle 2 Set 8 Lesson 13. At Time Point 2, Ms. X’s repertoire of teacher talk maintained the same pattern of revoicing, repeating, elaboration, and initiation (Table 11). The one classroom management utterance was a directive of “Pencils down!” to encourage all students to say the vocabulary word.
At Time Point 2, the top three frequently occurring talk moves were simple initiation, elaboration, and repeating, respectively. Students took turns to answer her reasoning question of “How do you indicate [what you want] that?” The most occurring sequential talk move pattern was *Initiation-Response-Feedback Elaboration (TT)*. The following example represented this pattern.
Ms. X (Initiation): Let’s everybody read...

Students (Response): He pointed at the delicious donut to indicate he wanted to buy it.

Ms. Y (Feedback Elaboration): Indicate is a very useful word, guys. You know how to point or signal the things you want, like you point to something at a store to indicate that’s the object of your desire.

Time Point 2, only a week after Time Point 1, featured a similar sequence of talk moves, just feedback-elaboration occurring approximately twice as much as feedback-repeating. Interestingly, Ms. X’s feedback elaboration talk moves occurred to extend the contexts of vocabulary words. Thus, students received opportunities to express how they indicate their objects of desire at different locales (e.g. ice cream store, donut shop).

Ms. X’s Time Point 3 was March 13, 2017, on which she administered CHAOS Cycle 3 Set 11 Lesson 9. At Time Point 3, Ms. X’s repertoire of teacher talk moves consisted of those featured at Time Point 1 and 2: revoicing, repeating, elaboration, and initiation (Table 12). No classroom management talk move occurred.
Moreover, at Time Point 3, the top three frequently occurring talk moves were simple initiation, elaboration, with reasoning closely followed by repeating, revoicing and story elaboration (Table 12). Ms. X maintained her most occurring sequential talk move pattern of *Initiation-Response-Feedback Elaboration (TT)*. The following is an exemplary of this speech pattern, for Ms. X’s use of Feedback-Elaboration TS* talk
move at the end of the first sequence begets a series of student responses which she elaborated upon.

*Ms. X (Initiation):* Can you think of places you have access to?

*Student 1 (Response):* I have access to Disneyland.

*Ms. X (Feedback Elaboration TT):* Yes, if you purchase a ticket or the annual pass, right? Just by living in CA, we have access to Disneyland. It's relatively not too far of a place to get to by car.

*Ms. X (Feedback Elaboration TS*):* Anyone else? Use access in a sentence with a place.

*Student 2:* I have access to the bowling alley when we go bowling

*Ms. X (Feedback Elaboration TT):* Great! So you guys like to go bowling and have access to the bowling alley.

*Student 3:* I have access to the mall.

*Ms. X (Feedback Elaboration TT):* It’s amazing just how many stores there are in a shopping mall, and we have access to so many shopping malls!

*Student 4:* I have access to the playground by my house.

*Ms. X (Feedback Elaboration TT):* Cool! So, there’s a park near your house.

*Student 5:* I have access to a good school.

*Ms. X (Feedback Elaboration TT):* Most definitely, you have access to a good school!

At Time Point 3, Ms. X’s repertoire of teacher talk moves consistently provided the speech pattern of following up her students’ responses with elaboration. In fact, Ms. X’s
speech patterns of teacher talk moves at each time point did not change much over time. Her consistent speech patterns worked in concert to garner student responses. Interestingly, the total number of coded teacher initiation moves (48) to student responses (63) garnered a 1:3 ration of teacher initiation moves to student responses. To better understand, this high level of student response in Ms. X’s class, we now turn to event sampling analysis of student activities featured in the CHAAOS lessons which brought into view Ms. X’s consistent teacher-student interaction and encouragement of student-student interaction.

**Event Sampling: Ms. X’s Consistency in Teacher Talk Moves**

The event sampling analysis pertained to: 1) the teacher’s talk move initiating the student activity; 2) the student response; and lastly, 3) the teacher’s verbal interaction with the students regarding the student activity.

This framework analysis unearthed the nature of student activity, teacher talk moves and presence of teacher-student and student-student interactions. Through the analysis of event sampling, Ms. X’s consistency in teacher language behavior and present teacher-student and student-student participation were brought to life. Table 13 summarizes the Ms. X’s teacher talk moves and participation level noted in these seven events in chronological order. Descriptions and analysis of these seven student activities follow.
Table 13

*Event Sampling: Ms. X’s Consistency in Teacher Talk Moves*

<table>
<thead>
<tr>
<th>Student Activity &amp; Date</th>
<th>Teacher Talk Moves</th>
<th>Interaction Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Sentence</td>
<td>Concise Initiation, Feedback Repeating TS &amp; Feedback Repeating TT (Scaffolding)</td>
<td>Present Teacher-Student interaction and Student-Student Interaction</td>
</tr>
<tr>
<td>01/10/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which Word Belongs?</td>
<td>Concise Initiation, Feedback Repeating TS (Class Discussion)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>01/18/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Pow-Wow *</td>
<td>Concise Initiation, Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Sentence Completion *</td>
<td>Concise Initiation, Feedback Elaboration TS Feedback Repeating TS (Scaffolding)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Let’s Talk!</td>
<td>Concise Initiation, Feedback Elaboration TT (Example/Non-example)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>Synonym Sharing</td>
<td>Concise Initiation (Impromptu Student Discussion)</td>
<td>Present Student-Student Interaction</td>
</tr>
<tr>
<td>Word Quiz Partner</td>
<td>Concise Initiation, Feedback Repeating TT (Student Monitoring)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
</tbody>
</table>

*Note: Partner Pow Wow and Sentence Completion were featured in the same lesson.*
Picture Sentence Activity (01/10/2017: C2 Set 5 Lesson 2). In table groups, students were given 5 minutes to create sentences using the image and word provided. Ms. X monitored their progress. Then, Ms. X had students share responses and discuss sentences as a class. Ms. X’s initiation talk move was followed by student monitoring.

*Ms. X: It says directions: Choose ONE picture. Work in your table groups to create a sentence for ONE of the picture. You guys, do both pictures! [Students are in their table groups, working. Ms. X is observing, as she walks around the class.]*

Javier: Look at this! That’s some gross teeth!

Peter: Yeah, major problem!

*Ms. X (Feedback Repeating TS): Okay, guys, so create a sentence. Javier, what did Peter say?*

Javier: That this was a major problem.

*Ms. X (Feedback Elaboration TS): What do you mean by this? Be specific. And who has the major problem?*

Javier: His gross teeth! [overlap with Peter]

Peter: He has a major problem! [pointing to the man in the picture.]

*Ms. X (Feedback Repeating TS): Good! So put it together! He has a ... Peter: major problem*

Javier: with his gross teeth.

*Ms. X (Feedback Repeating TT): He has a major problem with his gross or rotten teeth. Good! Now, do the other one!*
Ms. X’s Feedback Repeating TS talk moves asked the student to repeat or reformulate another student’s response. Thus, this prompting instigated student-student interaction. At the same time, Ms. X’s Feedback Elaboration TS talk move (e.g. Be specific) resulted in the specificity of the students’ responses. Lastly, her Feedback Repeating TT talk move reinforced the students’ jointly produced sentence. These talk moves worked to provide appropriate scaffolding, resulting in the student reformulation of the sentence.

For the second sentence in their activity, Ms. X led a class discussion.

*Ms. X:* Let’s discuss your sentences that you created. Miguel, speak for your table and share a sentence.

*Miguel:* The doctor is evaluating him.

*Ms. X:* Great! Did anyone come up with something different?

*Hector:* We said the dentist is evaluating him.

*Ms. X:* Yeah, so a doctor has many fields of specialization. A doctor who specializes in teeth is called a dentist. Sometimes, after the dentist gets done evaluating you, you might have a dental hygienist clean your teeth. Because dentists are so busy evaluating patients, dental hygienists may step in to clean your teeth.

Likewise, it is in the discussion of student responses (e.g. *The doctor is evaluating him./ We said the dentist is evaluating him.*) that Ms. X affirmed and extended their understanding of the word “evaluate” through increased semantic mapping (e.g. *doctors/dentists, dental hygienists*).
Which Word Belongs? (01/12/2017: Cycle 2 Set 5 Lesson 4). Students read the words and determined which three words fit with the target word.

*Ms. X: [Computer mouse pointing to the PowerPoint Slide sentence, reads the following.] Directions: Read the group of words and circle the words that mean the same. [Ms. X looks at her students.] Here we are circling on the words that mean the same as our vocab words. We have the word major. Underneath it, we have little, important, serious and main. Which of these words are the same as major? So, get into your groups and decide as a group which words are the same as major and circle those. [Students are working.]*

*Ms. X: Hector and Dan, tell us which words you circled or mean the same as major?*

*Hector: Important.*

*Ms. X (Feedback Repeating TS): Important. Yes, good! Who can tell us a word that means the same as major? A different group, Miguel and Alfonso, can you tell us a word that means the same as major?*

*Alfonso: Serious.*

*Ms. X (Feedback Repeating TS): Great! So, what words did Hector’s and Alfonso’s group say that were the same as major?*

*Class: Important and Serious!*

*Ms. X (Feedback Repeating TS): Okay, so there is another word that means the same as major? Miguel and Roberto?*

*Miguel: Main.*
Ms. X: Very good! Major means the same as important, serious and main. Little is the opposite of major, isn’t it?

Class: yeah.

Ms. X: Now in still in your group, work on the next one.

This exchange illustrated the way Ms. X used Feedback Repeating TS talk move in which the teacher asked students to repeat or reformulate another peer’s response. By doing this, student-student interaction increased and all student groups participated in the exchange.

Partner Pow-Wow (01/18/2017: C2 Set 6 Lesson 6).* This activity called for students to partner pow-wow review the four words of the week (i.e. evidence, perceive, eliminate, infer). Students referred to their books which featured the sentence stem or carrier sentence “What does ____ mean?” The four words of the week were featured below the sentence stem, and students were to exchange questions (e.g. What does evidence mean?) and answers (e.g. proof!) with their partners during this pow-wow review activity.

Ms. X: Partner Pow-Wow! Be ready to say your answers to your partner! Use your notes to help you. So, you’re going to be working with your partner and asking each other questions like: What does evidence mean? [Ms. X walks over to a group.] So pretend Carlos is my partner. I would ask: Carlos, what does evidence mean? And Carlos would answer... evidence means--

Carlos: proof!
Ms. X (Feedback Elaboration TS): yes, and now, Carlos, you ask me a question...

*What does...*

Carlos: What does eliminate mean?

Ms. X: Eliminate means to [Ms. X paused] to get rid of [class chimes in with the definition]. Turn around and partner up!

This example demonstrated how Ms. X used initiation and involved teacher-student interaction when she provided modeling with her student Carlos. She also had the entire class participate in her modeling example when she paused to allow the class to chime in with the definition.

**Sentence Completion Activity (1/18/2017: C2 Set 6 Lesson 6)**. Students read the question: what can you perceive in the photo? Then, students discussed each of the images and what they perceived.

Ms. X: Let’s read. [Ss read the following two sentences with Ms. X] What can you perceive in this photo? Choose ONE picture and complete the sentence.

Let’s look at this [pointing to a photo of a glass]. What can you perceive in the photo? A glass half full or a glass half empty? For me [pointing to the sentence stem and featured phrase], I perceive a glass half full.

Ms. X: Liam, what can you perceive in the photo?

Liam: glass half empty!

Ms. X (Feedback Elaboration TS): [Ms. X points to the sentence stem and reads “I perceive___”]

Liam: I perceive a glass half empty.
Ms. X (Feedback Repeating TS): Peter, what can Liam perceive in this photo?

Peter: He perceives a glass half empty.

Ms. X: Yeah, he perceives a glass as half empty. What can you perceive in this photo?

Peter: I perceive a glass half full.

Ms. X: Some of you may perceive a glass as half full or half empty. There is no right or wrong; it’s the way you perceive or see it. So, look, at the next picture, ask your partner, what can you perceive in the photo? Two faces or a drink glass?

[Ms. X monitored student progress. A student follows her direction.]

Joshua: What can you perceive? Two faces or a drink glass?

Alfonso: Two faces.

Ms. X (Feedback Elaboration TS): Use our vocabulary word perceive and say it in a sentence. [She pointed to the sentence stem, “I perceive__.”]

Alfonso: I perceive two faces.

Ms. X: Excellent!

Ms. X maintained her use of Feedback Repeating TS talk move by consistently asking her students during their activities to repeat or reformulate another peer’s response. Coupled with her other talk moves such as Feedback Elaboration TS, she provided scaffolding and extended her students’ oral language outputs while maintaining positive student-student and teacher-student interaction.
Let’s Talk! (1/25/2017: C2 Set 7 Lesson 11). Students read the direction: Is this an example of prejudice? A man thinks skateboarders are troublemakers, even though he has never met one. They discussed their answers in small groups and later as a class.

Ms. X: Let’s talk! Is this an example of prejudice? A man thinks skateboarders are troublemakers, even though he has never met one. I agree or disagree that the man who hates skateboarders is prejudiced against the sport. Discuss this in your small groups. [Ms. X monitored student progress.]

Joshua: I agree that the man who hates skateboarders is prejudiced against the sport.

Mateo: I agree, too.

Joshua: She’s gonna ask us why.

Alan: It says here, even though he has never met one. So, the man hates skateboarders but he doesn’t know any skateboarders.

During class discussion, this same group of students volunteered their answers. Ms. X expanded upon their response.

Ms. X (Feedback Elaboration TT): yeah, I agree with you guys that the man who hates skateboarders is prejudiced against the sport because he hasn’t met or know any skateboarders so he dislikes with NO reason. That’s being prejudiced. I mean I can understand if the man had skateboarders as neighbors who vandalized his property and were troublemakers and if that bad experience left him with a good reason to dislike skateboarders... BUT here, it reads: A man thinks skateboarders
are troublemakers, even though he has never met one. So, yeah, that’s disliking with no reason and that’s prejudice!

Ms. X elaboration of the students’ response affirmed their answer and enriched their understanding of the word prejudice by stressing the example of the man who was prejudiced against skateboarders with no reason. This example was juxtaposed with a hypothetical situation of a man who may have had a good reason to be prejudiced against skateboarders, and thereby further clarified the meaning of the featured vocabulary word.

**Synonym Sharing Activity (02/27/2017: C3 Set 9 Lesson 1).** Students wrote the vocabulary words of the week and then the synonyms for each word. Although students are accustomed to doing this task independently, Ms. X turned this regular task into a student activity in the following ways.

*Ms. X:* Guys, your brain is like this—Mr. Muscle Man, here [pointing to the picture on PowerPoint Slide 3]. Each time you do an exercise, you muscle gets what?

*Students:* Bigger!

*Ms. X:* Yes! Bigger and your brain is the most important muscle in your body, and each time we work on our vocabulary exercise, our brain gets stronger! And sometimes, we got to jazz it up. Like if you’re a football player, do you only exercise your legs?

*Class:* Noooo!

*Student 1:* You have to have strong arms and shoulders to throw and tackle.
Ms. X: That’s right! And football players or any athletes must work hard and do a combination of exercises to improve. So today, when you write the synonym for these words, I don’t want you to just go through the motions. You’re going to write the synonym as you focus!

After each word was introduced, students had the task to write the synonyms. Then the phone rang. As Ms. X walked over to answer the phone, she gave her students an impromptu student activity.

Ms. X: Guys, share your synonyms with your partner! Talk it over while I answer this phone.

Raul: For number one [the word controversy], it’s debate.

Joe: Yeah, I wrote keep going for sustain.

This impromptu student activity took place for less than 3 minutes, yet all students were engaged in oral discussion regarding the synonyms that they had written down. No direct teacher supervision was given (Ms. X was on the phone), nor was it required. No student was off-task. All students worked with their partners.

Word Quiz Student Activity (03/06/2017: C3 Set 10 Lesson 5). Students completed a quiz and answers were reviewed initially in small groups. Then, Ms. X came around each group and checked student notebooks.

Ms. X: Match letters of definition with words. Once you’re done, check with your partners, guys! [As students discussed their answers, Ms.X checked students’ individual notebook to make sure all were correct.]

Joshua: What did you get for number one.
Mateo: Apply? D. To use.

Joshua: We both got C [work out an agreement] for negotiate.

Mateo: Three abandon is B. To leave something and never come back.

Joshua: Last one, yeah, got apprehensive A. Afraid something bad will happen.

Ms. X: Any questions, here? [Ms. X. eye-checked a student’s answers] D, C, B, 

A—

Students: No, we’re done.

Ms. X: [Ms. X eye-checked another student’s answers in the same group] D, C, B, 

A— excellent!

This example illustrated an interesting yet consistent theme in Ms. X’s class. Ms. X’s students actively participated in student activities. They were responsive to Ms. X’s talk moves, especially her Feedback Repeating TS talk move where they had to repeat or reformulate another peer’s response. This facilitated teacher-student and student-student interaction.

Perhaps because these students were directed to respond to their peers’ response, they understood that the academic language game involved more than the teacher but rather it was a game with many players, among them their peers. Thus, their turns in the game were numerous, and were theirs for the asking. What could possibly account for the high level of student engagement and student responses in comparison to Ms. X’s initiation talk moves? The fact that students were responding to one another, and not just to the teacher may have greatly contributed to the high number of student responses.
Thus, the student activity event examples bring to light the 1:3 ratio of teacher initiation moves (48) to student responses (63).

**Limitations**

One limitation to this research is the decreased number of observations during Cycle 3. This impacted the availability of lessons from which to draw upon as comparisons for Research Question #3. However, such limitation perhaps best underscored the very fluid nature of intervention research in public school systems where mandated state testing takes precedence over a research study project. A second limitation is the lack of data on how the two teachers taught other lessons throughout the day. Their teacher talk moves as they delivered the CHAOS lessons may be different from their day-to-day norm. The teachers’ entire repertoire of teacher talk moves were not examined, thereby leaving the painting of their teacher talk moves half-colored. A third limitation was Ms. X’s wish (expressed in the middle of the project) not to have her classroom discourse audiotaped to “safeguard her students’ responses”. I honored her wish and kept a running record by hand, furiously writing and capturing the impromptu classroom discourse.

**Discussion and Implications**

Providing academic vocabulary intervention to struggling learners in middle school requires appropriate evidenced-based efficacious lessons, devoted teachers and willing student participants in an environment conducive to learning. Such core combination supported by other factors suggests the fundamental platform from which learning takes flight. In Hummingbird School District, Orange Middle School and
Blossom Middle School provided such an environment in the form of Ms. X’s classroom and Ms. Y’s classroom, respectively. Both teachers conscientiously delivered the CHAAOS vocabulary intervention lessons that were based on the best DEI practices to date, and met treatment fidelity in the delivery of the CHAAOS program, which was achieved by their high rating (1-3) scores.

Although it is now de facto that measuring and reporting treatment integrity in intervention research is an important indicator of a study’s quality and rigor (Bruhn et al., 2015; Gersten et al., 2005), among Yeaton and Sechrest’s (1981) five dimensions of treatment fidelity, the quality of delivery is not a reported de jure practice. After all, meeting the high standard of rich and full reporting of treatment implementation necessitates scrutinizing the what and how of teacher talk in the classroom. Just what do these teachers say as they follow the intervention treatment? And how do these teachers say it? Such rich and full reporting calls for discourse analysis. It is only at this level of analysis that we come to understand that these two teachers met the treatment fidelity criteria, and also that there were variations in how they met the treatment fidelity.

Despite scripted sample talk, findings from this study indicated variation in the oral language delivery of the lesson. Specifically, there were nine teacher talk moves and the teachers’ use of these talk moves differed in quality and functionality. Notably, Ms. Y’s verbose initiation talk moves prefaced her students’ receptive language skills; whereas Ms. X’s concise initiation talk moves focused on her students’ expressive language skills, eliciting students to speak. Ms. Y’s initiation reasoning talk moves were accompanied with leading questions with predetermined answers. However, Ms. X’s
initiation reasoning talk moves were open-ended questions that focused on student processing. Although both teachers were mindful of face-work in the corrective feedback process, the Feedback Teacher Revoicing (Code 3) talk moves by Ms. Y involved the use of intonation while the same talk move by Ms. X involved additional sequential wh-questions. The most teacher-specific of all the talk moves was Feedback Repeating TS.

In fact, the Feedback Repeating TS (Code 4) talk move was utilized by Ms. Y to have students repeat only the teacher’s utterance and not reformulate their peers’ responses, manifesting her authoritative stance. However, this same talk move by Ms. X involved students reformulating their peers’ responses, providing yet another opportunity to reuse the vocabulary word in the context of student-student interaction, thereby signaling Ms. X’s facilitator stance. Both teachers used Feedback Repeating TT (Code 5) to affirm student responses. Moreover, Ms. Y’s Feedback Repeating TT (Code 5) talk moves acted as the vehicle for student affirmation and positive reinforcement.

Interestingly, Ms. X’s usage of this talk move was a precursor to her authentic why-question. In addition, Feedback-Elaboration TS (Code 6) talk move by both teachers emphasized English Grammar in their support of their students’ oral language and Feedback Elaboration TT (Code 7) involved cognitive strategies such as cause and effect.

Furthermore, Feedback Elaboration Teacher Story (Code 8) talk moves offered additional examples of the vocabulary words as well as expanded contexts and usage of the featured words. Ms. Y achieved this through stories that varied in length and complexity, from minimal form, short account to fully developed accounts. Ms. X accomplished this through short personal narratives. In these ways, the functionality of
instructor’s talk moves and how each teacher utilized her teacher talk move during vocabulary instruction were realized. And by time sampling analysis coupled with event sampling analysis, these teachers’ changes in speech patterns over time were unearthed. Ms. Y’s wordy initiation became more concise and the nature of her classroom management talk move went from directing student behavior to harnessing increased student participation. Ms. X’s consistency of using Feedback Repeating TS promoted her facilitator stance, resulting in the high student response-teacher initiation ratio of 3:1. Thus, these teacher talk moves were multi-faceted in nature as they unfolded during CHAAOS vocabulary lessons; through the scrutiny of the functionality of Ms. Y’s and Ms. X’s talk moves, we come to a deeper understanding of classroom discourse in addressing the three research questions. Perhaps, ultimately, discourse practices were a stronger reflection of teachers’ perspectives about what special education is and should be, and their own consideration of what constituted good teaching.

As researchers gain a better understanding of what constitutes good teaching, teacher discourse practices take center stage. Teacher discourse practices affect student learning in terms of morphosyntax development (Silverman et al., 2013), academic vocabulary/word fluency (Kieffer et al., 2013), and reading comprehension (Gamez & Lesaux, 2015). Classroom discourse features of high-quality classroom discussion entailed questions, elaborated explanations, exploratory talk, and reasoning words (Soter et al., 2008) as well as revoicing (Wolf et al., 2005); moreover, the reciprocal intentions of the participants must be examined as “language in time” (Nystrand et al., 2003).
Thus, one implication of this finding is to richly analyze teacher classroom discourse not only in terms of treatment fidelity which was excellent by both teachers, but rather to conduct a fine-grain analysis of teacher discourse as part of teacher education training or professional teacher development. In Lachner, Jarodzka, and Nückles (2016)’s review of expert biology and math teachers, the authors found that expert teachers knew how to best explain subject content to students as well as mediate students’ knowledge or potential misconceptions; moreover, they proposed that refinement in teacher discourse entailed reflexive exercises in teacher training programs. Likewise, Jacoby and Lesaux (2014), from observing 147 literacy-based preschool lessons and surveying 167 teachers, emphasized the need to support teachers to attain improvements in teachers’ extended discourse.

Furtak and colleagues’ (2016) study on a 3-year teacher professional development program reported statistically significant improvements in teachers’ skills to elicit questions, interpret student responses and provide feedback. Technological advances in analyzing classroom discourse based on the LENA computer system show much promise (Wang, Pan, Miller, & Cortina 2014). Thus, Plakitsi, Piliouras and Efthimiou (2017) proposed that discourse analysis ought to be used for research purposes and as a training medium to improve teacher instruction.

Also, classroom observations revealed that teachers’ physical arrangement of their classroom may have contributed to the oral delivery of the CHAAOS lessons. As early as John Dewey’s times, classroom layout has been in the minds of education reformers. The notion of how ideas get exchanged is influenced by the physical arrangement of
desks, chairs, boards, and computers. Ms. X arranged her classroom in such a way that during the CHAAOS lesson, she moved towards the back-center of the classroom where her laptop computer was housed. She, along with her students, faced the board, looking at the PowerPoint slides in the same direction. Next to her laptop station, Ms. X had room to place her CHAAOS teacher manual and student notebook. This provided her with easy access to sometimes quickly scan her teacher manual before she uttered her scripted or non-scripted sentences. Also, this physical arrangement allowed her to mark her student notebook copy if she had any future suggestions. In addition, students sat in desks that were arranged in small groups of twos or threes and such desk clusters were equally distributed from Ms. X’s center station, well within easy eye distance.

However, the physical arrangement of Ms. Y’s classroom was very different. Ms. Y’s computer station was located far off to the front side of the classroom, and she had to physically return to her computer station from the center of the classroom to click on her mouse in order to continue with the CHAAOS lesson. During such moments, she was not physically able to keep her eyes on her students who sat in small desk clusters. Consequently, it was during such times that disruptive student crosstalk ensued most often.

The differences between these two physical classroom layouts were made more apparent when I stepped into the role of the substitute-teacher delivering the CHAAOS lessons. I felt more secure in delivering the CHAAOS lesson in Ms. X’s classroom because I had my resources nearby, and I was able to quickly gauge student responses from my station. This was in direct contrast to how I felt in Ms. Y’s classroom, where
each time I moved to the side desk station (to click on the next slide) was valuable time lost. During such moments, Ms. Y’s TA was helpful in redirecting individual students. She, sometimes, would perform this task during Ms. Y’s CHAAOS lessons or at the beginning of the lesson to help students “settle down” and to “check their homework”. Ms. X had no such TA during CHAAOS lessons but she did not require a TA to redirect her class.

Thus, another implication is to include classroom arrangement design tenets to student teachers in their training program. Following the footsteps of educational philosophers such as John Dewey, Gretzel (1974) formalized the fundamental question: “Why does any classroom have a particular architectural form?” (p.528). His notions of the empty learner (in a rectangular classroom of fixed desk rows with teacher desk dead center), active learner (in a square classroom of movable chairs with teacher desk to the side), social learner (in a circular classroom of U-shaped clusters) and stimulus-seeking learner (in an open classroom of curious stations) paved the way for other researchers to scrutinize the above-mentioned question. Seminal work by Rosenfield et al. (1985) demonstrated that students seated in circles engaged in significantly more on-task and collaborative behavior than those in rows.

Similarly, a review of empirical research of classroom arrangement by Wannarka and Ruhl (2008) showed that seating arrangements can increase on-task behavior and decrease off-task behavior, with rows supporting independent thinking and small group clusters promoting peer interaction. And yet, given the importance of classroom arrangement on student academic and social development, teachers’ considerations
contributing to classroom arrangement are not fully known, nor is there a formalized training of best practices in classroom arrangement offered across all teacher education programs (Gremmen, Segers, & Cillessen, 2016). Such introduction or emphasis on physical classroom design, in particular, student seating arrangements, may help novice teachers better handle classroom management issues (Dicke, Elling, Schmeck, & Leutner, 2015).

After I substitute-taught CHAAOS lessons for Ms. X, she pulled me aside during her morning planning session and proceeded to share her views on teaching. She told me that she tried her best to teach the CHAAOS lessons and because she had loaned the practice cards to her students, the returned cards might not be so pristine. She also informed me that she had changed the value on the Jeopardy game board as their game had escalated and they needed a definite winning team of high difference value.

Before I substitute-taught CHAAOS lessons for Ms. Y, she sent an encouraging email about my teaching ability and was a careful participant of the CHAAOS program. She ensured that all CHAAOS lesson materials were returned in their original condition, and made no changes on the instruction materials such as cards or game boards. Furthermore, she proactively arranged CHAAOS lesson and testing schedules to benefit the research team.

I respected both their attitude toward the CHAAOS research project and their ownership of the lessons. Each in her way, followed the CHAAOS protocol to her best ability and epitomized what a devoted teacher ought to be: a constant strive to be better, to do better. Each day I observed was a day of new and old insight. Teaching is hard
work. It challenges the mind, the body and the soul. I have seen these teachers figure out ways to say the same thing in numerous ways, physically chase after students who had forgotten their belongings, and replace their sigh of exasperation with a patient smile. The fruit of their labor may not be measured immediately nor in their students’ standardized test scores, but perhaps in moments where generalization of knowledge or strategy has occurred.

Something akin to this happened in both classrooms. One day, in Ms. Y’s classroom, a student asked, “What’s high quality?” when the teacher used “high quality” to describe the thick “high quality” aspect of their notebook paper. When the teacher answered “better than most”, “superior quality”. The student murmured: “High quality, definition, better than most. Synonym, superior quality”. On another day, in Ms. X’s classroom, when a thunderstorm and heavy rain was pelting the school, a student asked “What’s hydroplaning?” in response to Ms. X’s usage of the word in her story before class got underway. She explained “hydroplaning” as “when the car loses control due to water on the road”. The student repeated the word to himself “hydroplaning, car loses control ‘cuz of water”.

As I observed these occurrences of learning and application of CHAAOS vocabulary strategy instruction, I couldn’t help but wonder… perhaps the most important foundation to vocabulary acquisition, curiosity over words, has been well-planted in these students by their hard-working teachers. After all, these students are starting to generalize word learning strategies by following their teacher’s example of saying the word, the synonym, the definition, the sentence. This pivotal vocabulary framework may
be forming, being etched in their minds to generate for themselves, the very crucial question-- What word?
References


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Table 1

*School Demographics 2014-2015 for Orange and Blossom Middle Schools*

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<td>Free-Reduced Lunch</td>
<td>96.1</td>
<td>67.4</td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>10.7</td>
<td>10.9</td>
</tr>
</tbody>
</table>

*Note:* Numbers represent percentages unless otherwise specified.
Table 2

*Distribution of Special Education Eligibility Categories in CHAAOS classes at Orange and Blossom Middle Schools in 2016-2017*

<table>
<thead>
<tr>
<th>Category</th>
<th>Blossom</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Specific Learning Disability</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>2. Speech/Language Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Intellectual Disability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Emotional Disturbance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Other Health Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Autism</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>7. Deafness/Hearing Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Blindness/Visual Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Traumatic Brain Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Multiple Disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Orthopedic Impairment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Other Health Impairment</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>
Table 3

*Total Study Participants at Orange and Blossom Middle Schools*

<table>
<thead>
<tr>
<th></th>
<th>Blossom</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>1 (Ms. Y)</td>
<td>1 (Ms. X)</td>
</tr>
<tr>
<td>Students</td>
<td>11</td>
<td>14</td>
</tr>
</tbody>
</table>
Table 4

*Nine Teacher Talk Moves and Examples*

<table>
<thead>
<tr>
<th>Teacher Talk Move</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| 1. Initiation Statement or Simple Wh-Question | The teacher says a statement expecting students’ response or asks students a simple wh-question, such as a “what”, “when”, “who” question. | *What word?*  
*Write that down.* |
| 2. Initiation Reasoning                | The teacher asks students via why-questions or how-questions to apply their reasoning to their previous statement or someone else’s reasoning. | *Why are our hands a major source of germs?*  
*He’s locked out so how do you think you’ll gain access to his house?* |
| 3. Feedback Teacher Revoicing          | The teacher repeats a student’s utterance to confirm teacher’s understanding of student response.                                      | *That’s someone’s point of view,*  
*that’s their opinion, right?* |
| 4. Feedback Repeating TS               | The teacher asks a student to repeat or reformulate another peer’s or teacher’s response.                                                  | *Repeat that!*  
*Can you use the same word Jose had said in a different way?* |
| 5. Feedback Repeating TT               | The teacher repeats herself or students’ utterances.                                                                                     | *Right, you’re putting a limit on something.* |
| 6. Feedback Elaboration TS             | The teacher prompts students for further expansion or participation.                                                                      | *Put it into a sentence.*                      |
| 7. Feedback Elaboration TT             | The teacher elaborates her previous statement or a student’s response.                                                                      | *So, when you’re a food critic you evaluate or grade if the food tastes good or not.* |
| 8. Feedback Elaboration Teacher Story  | The teacher elaborates by way of offering a personal story.                                                                                | *My husband and I, we didn’t go to Bora Bora for our honeymoon. We went to Fiji, which is similar...* |
| 9. Classroom Management                | The teacher redirects the class or manages the classroom environment.                                                                      | *Pencils down!*  
*Please stop talking!* |
Table 5

*Nine Teacher Talk Moves and Functionality of Ms. Y’s and Ms. X’s Talk Moves*

<table>
<thead>
<tr>
<th>Teacher Talk Move</th>
<th>Functionality of Ms. Y</th>
<th>Functionality of Ms. X</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initiation Statement or Simple Wh-Question</td>
<td>Verbose initiation: focus on students’ receptive language skills</td>
<td>Concise initiation: focus on students’ expressive language skills</td>
</tr>
<tr>
<td>2. Initiation Reasoning</td>
<td>Leading questions: focus on predetermined answers</td>
<td>Open-ended questions: focus on student processing</td>
</tr>
<tr>
<td>3. Feedback Teacher Revoicing</td>
<td>Accompanied with intonation: focus on corrective feedback</td>
<td>Accompanied with additional wh-questions: focus on corrective feedback</td>
</tr>
<tr>
<td>4. Feedback Repeating TS</td>
<td>Only asked students to repeat or reformulate teacher’s utterance: authoritative stance</td>
<td>Asked students to repeat or reformulate teachers’ utterance and those of their peers: facilitator stance</td>
</tr>
<tr>
<td>5. Feedback Repeating TT</td>
<td>Acted as a vehicle for student affirmation</td>
<td>Acted as a precursor to why-questions.</td>
</tr>
<tr>
<td>6. Feedback Elaboration TS</td>
<td>Emphasized English grammar &amp; team work</td>
<td>Emphasized English grammar &amp; team work</td>
</tr>
<tr>
<td>7. Feedback Elaboration TT</td>
<td>Stressed cognitive strategies: cause &amp; effect, visual imagery, opposite</td>
<td>Stressed cognitive strategies: Cause &amp; effect, visual imagery, semantic mapping</td>
</tr>
<tr>
<td>8. Feedback Elaboration Teacher Story</td>
<td>Offered additional contexts for featured vocabulary words</td>
<td>Offered additional opportunities for oral language practice</td>
</tr>
<tr>
<td>9. Classroom Management</td>
<td>Redirection to managing student participation</td>
<td>Limited redirection to absence of this talk move</td>
</tr>
</tbody>
</table>
Table 6

*Ms. Y’s Teacher Talk Moves at Time Point 1*
Table 7

Ms. Y’s Teacher Talk Moves at Time Point 2
Table 8

Ms. Y’s Teacher Talk Moves at Time Point 3
Table 9

*Event Sampling: Ms. Y’s Changes in Teacher Talk Moves*

<table>
<thead>
<tr>
<th>Student Activity &amp; Date</th>
<th>Teacher Talk Moves</th>
<th>Interaction Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survivors of the Apocalypse</td>
<td>Wordy Initiation</td>
<td>Absent Teacher-Student interaction</td>
</tr>
<tr>
<td>01/12/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pow-Wow Card Game</td>
<td>Detailed Initiation, Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>01/18/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Space Race Card Game*</td>
<td>Detailed Initiation with embedded Feedback Elaboration TS (Modeling), Additional Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>01/20/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instagram Insanity*</td>
<td>Initiation with student understanding check, Feedback Elaboration TS (Expanding student’s sentence)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>01/20/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concentration Game</td>
<td>Initiation with helpful suggestion, Feedback Elaboration TT (Corrective feedback)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>01/25/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Game</td>
<td>Initiation with helpful suggestion, Feedback Elaboration TT (English Grammar emphasis)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>02/01/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crossword Puzzle</td>
<td>Initiation with helpful suggestion, Feedback Elaboration TT (Corrective feedback)</td>
<td>Present Teacher-Student and Student-Student interaction</td>
</tr>
<tr>
<td>03/06/2017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Instagram Insanity and Space Race Card Game were in the same lesson.*
Table 10

Ms. X’s Teacher Talk Moves at Time Point 1
Table 11

Ms. X’s Teacher Talk Moves at Time Point 2
Table 12

*Ms. X’s Teacher Talk Moves at Time Point 3*

<table>
<thead>
<tr>
<th>Teacher Talk Moves</th>
<th>Number of Coded References</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Statement or Q</td>
<td>48</td>
</tr>
<tr>
<td>F. Elab (TT)</td>
<td>24</td>
</tr>
<tr>
<td>F. Elab (TS)</td>
<td>2</td>
</tr>
<tr>
<td>F. Elab (TTStory)</td>
<td>1</td>
</tr>
<tr>
<td>F. Revoicing</td>
<td>2</td>
</tr>
<tr>
<td>F. Repeating (TT)</td>
<td>2</td>
</tr>
<tr>
<td>I. Reasoning</td>
<td>3</td>
</tr>
</tbody>
</table>

![Diagram showing the number of coded references for each teacher talk move at Time Point 3](chart.png)
Table 13

*Event Sampling: Ms. X’s Consistency in Teacher Talk Moves*

<table>
<thead>
<tr>
<th>Student Activity &amp; Date</th>
<th>Teacher Talk Moves</th>
<th>Interaction Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Sentence</td>
<td>Concise Initiation, Feedback Repeating TS &amp; TT (Scaffolding)</td>
<td>Present Teacher-Student interaction and Student-Student Interaction</td>
</tr>
<tr>
<td>01/10/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Which Word Belongs?</td>
<td>Concise Initiation, Feedback Repeating TS (Class Discussion)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>01/12/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partner Pow-Wow *</td>
<td>Concise Initiation, Feedback Elaboration TS (Modeling)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>01/18/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Completion *</td>
<td>Concise Initiation Feedback Elaboration TS Feedback Repeating TS (Scaffolding)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>1/18/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Let’s Talk!</td>
<td>Concise Initiation Feedback Elaboration TT (Example/Non-example)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>1/25/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synonym Sharing</td>
<td>Concise Initiation (Impromptu Oral Student Discussion)</td>
<td>Present Student-Student Interaction</td>
</tr>
<tr>
<td>02/27/2017</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Quiz Partner</td>
<td>Concise Initiation Feedback Repeating TT (Student Progress Monitoring)</td>
<td>Present Teacher-Student and Student-Student Interaction</td>
</tr>
<tr>
<td>03/06/2017</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Partner Pow Wow and Sentence Completion were featured in the same lesson.*
Figure 1. CHAAOS Vocabulary Word Cloud/List

1. evaluate
2. major
3. contribute
4. rigid
5. evidence
6. infer
7. eliminate
8. perceive
9. negative
10. interpret
11. restrict
12. prejudice
13. preliminary
14. reveal
15. indicate
16. context
17. controversy
18. sustain
19. primary
20. precise
21. apply
22. negotiate
23. abandon
24. apprehensive
25. consequence
26. access
27. unique
28. target
29. conserve
30. stable
31. unify
32. significant
Appendix 1. Teacher Observation, Coaching, Fidelity, Reflection Tool Instrument

<table>
<thead>
<tr>
<th>Portion of Lesson</th>
<th>Elements of DEI to target</th>
<th>Frequency of targets (OTL)</th>
<th>S* Response to OTL (Y/N/#)</th>
<th>Inset rating: 1–3 (Great)</th>
<th>Reflect on strengths; surprise; changes suggested</th>
<th>Plan for next instruction: select one area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduced word</td>
<td>2. Use clear concise language; 3. Review student prior knowledge and skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher repetitions of word</td>
<td>2. Use clear concise language; 11. Deliberate at a steady pace</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student repetitions of word</td>
<td>4. Pose questions and require frequent responses; 6. Provide immediate corrective and affirmative feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Definitions</td>
<td>2. Use clear concise language; 3. Review student prior knowledge and skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student friendly definition</td>
<td>2. Use clear concise language; 3. Review student prior knowledge and skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student input on definition</td>
<td>3. Review student prior knowledge and skills; 9. Provide immediate corrective and affirmative feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Context</td>
<td>5. Provide step by step modeling; 7. Scaffold by controlling task difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portion of Lesson</td>
<td>Elements of DEI to target</td>
<td>Frequency of targets (OTL)</td>
<td>S* Response to OTL (Y/N/#)</td>
<td>Inset rating: 1–3 (Great)</td>
<td>Reflect on strengths; surprise; changes suggested</td>
<td>Plan for next instruction: select one area</td>
</tr>
<tr>
<td>Student input on context meaning</td>
<td>4. Pose questions and require frequent responses; 6. Provide immediate corrective and affirmative feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activities (sentence selection generation, main sentence-passage completion, use of context, word play)</td>
<td>2. Provide step by step demo and models</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model practice</td>
<td>3. Provide step by step demo and models</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guided practice</td>
<td>7. Scaffold by controlling task difficulty; 3. Provide range of examples and non-examples</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Independent practice</td>
<td>5. Monitor student performance closely; 9. Provide immediate corrective and affirmative feedback</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Support</td>
<td>7. Scaffold by controlling task difficulty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaffolding for student response</td>
<td>5. Monitor student performance closely</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrective feedback</td>
<td>11. Track pace; 12. Provide distributed and cumulative practice</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Motivation</td>
<td>10. Provide guided and supportive practice</td>
<td></td>
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</tr>
</tbody>
</table>

Numbers (2-11, 13) refer to specific elements of DEI mentioned in the CBAA03 Grant. Numbers are provided to facilitate reporting of fidelity components.