



## **Word Games: Content Area Teachers' Use of Vocabulary Strategies to Build Diverse Students' Reading Competencies**

Francine Falk-Ross and Brian Evans  
Pace University

### **ABSTRACT**

Five content area teachers participated in this year-long qualitative research study focused on developing a language-building approach to support literacy activities for marginalized students. A mixed methods design evaluated the impact of the professional development program with the teachers. Data included structured interviews with the teachers, classroom observations (including videotapes), anecdotal notes, and students' standardized test results before and after the applications of the new content area literacy approaches, which revealed notable changes in students' reading comprehension, vocabulary use, and discourse participation, and a significant difference in the students' achievement following the interventions. Implications for teachers include increased use of language modeling to meet students' specific literacy needs.

### **AUTHOR BIOGRAPHIES**

Francine Falk-Ross is a professor and coordinator of Literacy Education and Childhood programs at Pace University in New York, where she teaches courses on literacy topics to preservice and practicing teachers, including a class in middle grades reading methods. She can be contacted at: [ffalkross@pace.edu](mailto:ffalkross@pace.edu)

Brian Evans is an associate professor and chair of the School of Education for the Manhattan campus, where he teaches math education courses infusing literacy strategies. He teaches preservice and practicing teachers at the graduate level. He can be contacted at: [bevans@pace.edu](mailto:bevans@pace.edu)

Students' learning in the classroom is tied to the instructional language routines that are set by the teacher and used by peers to question and respond to new information (Cazden, 2001). These instructional language patterns provide a context that influences learning and literacy development (Gutierrez, 1995; Hynde, 1999; Lemke, 1989). Research focused on the importance of holistic views of language learning and use emphasizes the role that language plays in social interactions and literacy, especially at the middle grade levels, where personal communication and social interaction are foundations for building learning in positive learning environments (National Middle School Association, NMSA, 2010). The Common Core Learning Standards (CCLS, 2010) developed by New York State and infused into state mandates for achievement address the needs of English language learners and detail standards for English language arts and literacy for content area instruction, including science. For middle school students specifically, they highlight competencies for speaking/collaborative discussion



(Standard 1, ELA), language/vocabulary development (Standards 4 and 6, ELA), and use of scientific academic language (Standard 6, Literacy in Science).

Middle level students need preparation for cooperative learning through appropriate dialoguing, led and guided by teachers. In fact, the need for more talk, the vocabulary for talking, and the nature of language in the classroom requires careful learning in order to support critical questions that extend middle-level students' thinking (Falk-Ross, 2007; Santman, 2005). Therefore, students with language difficulties or language differences are at a disadvantage in classrooms where language participation is valued and used for evaluative purposes (Wells, 1999). As a result, collaborative support between teachers and students, and among students for the purpose of development of students' language needs, has gained attention.

The purpose of this university-initiated professional development research study was to document the effects of supporting teachers' efforts focused toward the inter-relationships and intersections between language and literacy as they impact students' reading instruction in classrooms and remedial settings in middle schools. The study was intended to replicate the collaborative nature of action research with sharing of information among stakeholders within a school (Holly, Arhar, & Kasten, 2009) even though action research is technically inquiry by the teachers for themselves in the absence of outsiders (Mertler, 2012; Mills, 2014; Stringer, 2008). Our underlying concern was that students at the middle level are immersed in mostly content area classes with expectations for considerable reading responsibilities. This research project investigating teachers' pedagogic discourse in the classroom focuses on the qualitative and quantitative results of implementing a language-building vocabulary program to support literacy activities for marginalized (i.e., ESL and reading disabled) students. In short, content area (i.e., science and English language arts) teachers were supported and studied in their development of language/literacy knowledge through resources (informational texts) and strategy modeling. Inquiry questions that drove the study were: What new information is gained about language support for literacy activities through interactive sharing of knowledge and strategies? What language strategies are chosen by teachers to integrate into word identification, vocabulary, and reading comprehension activities? Does the use of increased language interaction for vocabulary create a significant change in students' reading competencies?

### **Theoretical Framework**

Three areas of research development impacted this study: the role of language (i.e., discourse), aligned with CCLS Standard 1 within content area instruction; content area teachers' use of literacy strategies in classroom instruction, aligned with CCLS 4; and the impact of academic vocabulary knowledge, aligned with CCLS 6 on diverse students' school achievement. A first frame of thinking represented in research literature that supports this study is that as the student population within schools becomes increasingly more diverse, in general, literacy instruction requires creative and substantive approaches to teaching for middle graders. Critical and careful readings of government initiatives and assessments (e.g., U.S. Department of Education, 2002), national standards (e.g., CCLS, 2010; International Reading Association, 2010; International Reading Association/National Middle School Association, 2005) and educational statistics (Perie & Moran, 2005) mandate that we consider students'



individual literacy and learning needs that stem from cultural and linguistic diversity. More specifically, educators need to focus on the academic (i.e., word meaning) and social vocabulary (i.e., word use) that students develop, contributing to their reading comprehension and writing competencies. Enhancing oral vocabulary instruction in classroom experiences and activities has been shown to be beneficial for developing the academic and content-rich vocabulary for later learning (Neuman & Roskos, 2012). This is especially important for the increasing number of schools in which language difference is a factor in learning (Brown, 2007; Garcia, Jensen, & Cuellar, 2006). Yet, in the hustle to keep students' achievement high and programs of instruction viable, this foundational element is often not given the attention it deserves (Nystrand, 2006) and talking is not always a part of reading and learning activities (Alvermann, 1995). And yet, issues focused on the role of language for literacy instruction gain importance as educators communicate, teach, evaluate, and socialize in classrooms (Adger, Snow, & Christian, 2002; Falk-Ross, 2007; Richgels, 2004). With this in mind and the CCLS as a base for guiding educators' teaching, it becomes important to consider the literacy factors, specifically oral vocabulary knowledge and the resulting reading comprehension, that impact achievement in content area classrooms with a specific look at the roles that language plays (i.e., through discourse routines, syntactic elements, and semantics for word use) in students' vocabulary and deeper concept development (Burns & Helman, 2009; Fecho & Botzakis, 2007).

A second major framework for conducting this study is that teachers are likely to use new knowledge and strategies that build on their everyday existing practices and through classroom observations (Danielson, 2012). This practice is one form of educational professional development, which is meant to support teachers at all levels "to improve the quality of classroom instruction; enable individuals to grow professionally; [and] introduce practitioners to the practical applications of research-validated strategies" (NYC Department of Education, 2013). The use of professional development activities through modeling experiences are important to introduce and support new attention to literacy instruction in content area classrooms (e.g., Gillan & McFerrin, 2002; McKenna & Robinson, 1990; Sturtevant & Linek, 2007), and especially in science instruction (Fang, 2006; Smart & Marshall, 2013). To meet states' teaching/learning standards' mandates, and to develop appropriate lessons, teachers require more information on the processes and strategies for integrating literacy activities into content area instruction (Alvermann, 2002; Flanigan & Greenwood, 2007; Unrau, 2007).

A third frame for our thinking as the study was developed is that content area learning is embedded in vocabulary-rich instruction, which may be an obstacle to students marginalized by cultural or linguistic difference (Ogle, 2010; Proctor, Dalton, & Grisham, 2007) or disabilities (Tam, Heward, & Heng, 2006). Instructional activities using language-based activities are effective for developing academic language for specific content area learning (Thier & Daviss, 2002). Teachers who receive professional development in classroom environments to understand the specific needs of struggling readers can be better equipped to provide effective content area instruction. It has been found that teachers who interacted with struggling readers in urban settings changed their perceptions about these students (Falk-Ross & Wolfe, 2004). Studies of teachers working with second language learners have shown that they learn to improve their instruction through reflective practice and classroom observations (Farrell, 2011; Lewis,



Maerten-Rivera, Adamson, & Lee, 2011). Giving teachers these opportunities for interaction shaped their beliefs about urban student learning. Continuing to find ways to assist teachers in their efforts to support marginalized students is consistent with a theme of working for the public good to provide greater access comprehension and, thereby, access to print resources for learning.

### **Methodology**

The year-long professional development research study was situated in a semi-urban city. In recent years the spillover effect, following a conventional pattern of concentric migration, has greatly increased the number of English Language Learners (ELLs) within the district, particularly students of Hispanic decent. According to the district's Report Card, the percentage of Hispanic students enrolled in the District was 94% of the total population of over 13,500 students. The current percentage of ELL students enrolled in the district is almost 47%, or nearly 6,000 students. The low-income rate is 76%, double that of the state figure of 34.9%. Students' scores on the state tests were below 50% in reading and mathematics.

Participants included five middle level content areas teachers' (i.e., science and English language arts) 7<sup>th</sup> grade classrooms, and their students. The students' English language proficiency was mixed, all of whom were bilingual in English and Spanish; however, not all were bi-literate. None of the teachers were fluent in Spanish, and all were European-Americans. The focus of the study was on the teachers' integration of new strategy use following professional development, and although parent consent and student assent forms were collected for all students, the classroom teachers' interactions were of prime concern.

The university researchers (i.e., the authors of this article) are Literacy program coordinator and department chair, respectively, and as such directed the study and collected all data. As active participants in funded university-school partnership projects nationally for an average span of 15 years, the researchers were qualified to direct this professional development action research study, and the teachers were satisfied with the researchers' qualifications. The first author served as a coach in each classroom for the purpose entering classroom discussions to model new language and literacy-building strategies for the teachers as they transitioned into using these strategies themselves.

A mixed methods design was chosen to evaluate the impact of the program with the teachers. A mixed method approach combined qualitative and quantitative data for the "purposes of breadth and depth of understanding and corroboration," (Creswell & Plano Clark, 2011, p. 4). In this study, quantitative results were obtained through standardized test results of the students of the teachers to indicate the impact that the professional development had on students' achievement and to inform future program development. Qualitative analysis of focus group discussions, teachers' anecdotal notes, researchers' observations, and a structured survey were analyzed through coding to uncover trends in thought and achievement (Strauss & Corbin, 2007).

Initially, informal surveys were administered prior to the delivery of professional development resources and modeling (i.e., pre-intervention) to teachers to learn more about their knowledge of language and literacy-related approaches to discourse in the classroom. These data were gathered in order to address their needs for meeting the CCLS 1 for ways to strengthen their approaches to building and using collaborative



discussion in their classrooms. Open questions, which were focused on an inquiry question each teacher wished to pursue related to vocabulary and language in the classroom, were gathered informally at the beginning of the study to guide individual class investigation. Classroom observations were conducted in each class for 50 minutes each, twice per month. The observational process included completion of field notes focused on a summary of activities in the classroom and videotapes of the class as back-up records.

Teacher focus group meetings were held twice per month, and individual follow-up meetings were conducted if a teacher was not able to attend the weekly focus group meeting. Focus group meetings were documented through agenda handouts, field notes by the researcher, audiotapes of each meeting, and journal entries by the teachers. The time during these focus group meetings between the teachers and the researchers was divided up into periods for discussion of the reading, chosen by the researcher, and discussion of the teachers' next steps in applications in their classroom in order to increase language knowledge through research readings on topics focused on language diversity, word identification (linguistics) and comprehension (questioning) strategies, and to share effective approaches to discussion in classrooms. Thus, these focus meetings targeted the CCLS anchor standards 1 (for language and diversity), and CCLS anchor standards 4 and 6, targeting vocabulary development.

Specifically, additional reading resources for professional development, which are focused on these standards, were introduced at each focus group meeting (i.e., one reading resources at each meeting) with a specific target area of study. These resources included excerpts from texts on language and literacy (Freedman & Johnson, 2004), vocabulary development (Echevarria, Vogt, & Short, 2004), and writing (Strong, 2006) for middle graders. Research journal articles focused on language transitions from Spanish to English (e.g., Falk-Ross & Carrier, 2005) and classroom talk (e.g., Ketch, 2005) provided an evidence base. Several literacy strategy workbooks (Johns & Berglund, 2006; Lively, Snow, & August, 2003; Walker & Davidson, 2004; Wood & Taylor, 2006) were purchased for teachers with their input from a small university grant written for that purpose.

As a follow-up to these focus group meetings, in-class modeling of the strategies by the lead researcher occurred once per week for one full class for each teacher. As the classroom teacher began the class, the researcher was present at the front of the room to indicate to the students that the lesson would be co-taught. The researcher stepped in after approximately 10 minutes and taught the whole class using the new strategy, and then the researcher and classroom teacher split up the class into two smaller groups and assisted students in complementary hands-on activities.

Qualitative methods for evaluation and interpretation were used to further understand trends in teachers' focus group discussions and their reflective field notes, and student-teacher interactions for literacy instruction. Transcriptions taken during observation by the lead researcher of classroom teachers' and students' comments were analyzed for major themes in vocabulary and comprehension instruction using open and then axial coding to develop the *constant comparative method* involving multiple readings (Strauss & Corbin, 2007) and to provide a determination of grounded patterns in the content. Coding included reliability checks by two highly trained professional reading teachers and one of the participant teachers, indicating just over 95% agreement

concerning the structured interview questions. The area of concern was the ordering of the questions, and the more direct questions regarding second language learners were moved to the beginning of the survey. Quantitative analysis of the Illinois Standards Achievement Test (ISAT) scores, which measures individual student achievement relative to the Illinois Learning Standards, was used to gauge changes in students' reading achievement. In order to determine if there were differences between student scores on the pre- and post-tests on the ISAT, data were analyzed using paired samples *t*-tests.

## Results

In general, qualitative data revealed changes in teachers' perceptions and practices related to language-into-literacy strategies for their struggling middle-grader English language learners. These changes occurred in the teachers' understandings of new scripts for language development through professional development and modeling activities. Quantitative changes in students' achievement in reading comprehension also occurred following restructuring of instructional practice using literacy strategies focused on vocabulary development.

### New Knowledge Gained through Professional Development

Informal knowledge survey. Comparisons of the responses to an informal survey of teachers' knowledge of language differences between English and Spanish was enlightening. Focus group meetings. The informal survey at the beginning of the study indicated teachers were initially unfamiliar with differences in the students' first and second languages. One misunderstanding that teachers had was not realizing that there were syntactic structure differences between the two languages, which could confuse vocabulary usage. For example, in English, it would be appropriate to construct the sentence, "Eva is very intelligent," but not, "Is very intelligent Eva"; however, in Spanish, both *Eva es muy inteligente* (Eva is very intelligent) and *Es muy inteligente Eva* (literally, Is very intelligent Eva) are acceptable. Teachers were not familiar with the differences in phonemic features between the languages. For example, because there is no difference between the Spanish /v/ and /b/ sounds, students may replace the word *berry* or *very*), and since there is no initial 'sh' consonant in Spanish, students might use or 'hear' the word *chop* to replace *shop* in a sentence. Specifically, out of a possible 60 points on the survey, the average score for the teachers was 32.4 points, with the weakest areas being knowledge of phonemic (i.e., sound) differences between languages and understanding of word cognates (i.e., similarities in word appearance such as the word *once*, pronounced /wʌn(t)s/ in English and means "one time," and pronounced /on.se/ in Spanish which means "eleven." These misconceptions/misunderstandings were explained throughout the professional development study, and all teachers scored the full points when the study ended.

Informal field observations. Initially (i.e., prior to the beginning of the study), through the use of informal field observations, using classroom observational notes and videotapes (the combination of the two for overlap and consistency of information), teachers' strategy use for language and vocabulary development in reading and content area reading activities revealed teacher-driven approaches for practice and applications. Specifically, early focus group meetings uncovered traditional discourse routines (such as teacher initiation-student response-teacher evaluation, or IRE, Cazden, 2001) to be used



in context area vocabulary review rather than student-centered and expanded forms that allow students opportunities to develop personal connections and social contexts specific to their background knowledge. As part of the study, professional development opportunities followed and consisted of focus group meetings during which readings of research and practical strategies were introduced and modeling of those strategies by the researcher of differentiated content-area vocabulary instruction in the classroom. Teachers were asked to use these new strategies in their classrooms, and this a focus of classroom observations. Analysis of classroom observations revealed that following models from the researcher in the teachers' classrooms of research-based strategies integrated into content area instruction for reading, teachers became interested in vocabulary strategies that clearly combined language and literacy elements. All teachers increased the use of visuals and graphic organizers to display new learning. Specifically, the themes that described the teachers' choices were that the strategies they used needed to be *flexible* (i.e., fit the classroom needs by being useful in several ways such as choosing words that were good examples of high frequency or multiple-meaning words, and be central to the text-based instruction), *concise* (i.e., not involve more than a few steps to complete), and *age/grade appropriate* (i.e., academic words that were not simplified for lower level or less mature readers).

Focused on students' behaviors, Analysis of classroom observations revealed that for second language learners and struggling readers, increased language interaction through use of the new strategies which provided experiences with language use (i.e., children were immersed in collaborative discussions on topics they did not consider at home in English). A second theme gleaned from the data was that the new strategies provided a forum for development of background knowledge for content area topics; for example, when the class discussed levers, the students learned vocabulary words focused on crowbars and common tools for building and sports, and learned action vocabulary words (i.e., verbs) for developing/refining content-area reading and writing competencies.

A third theme developed from the data in this area of findings was that the use of new language-based literacy strategies provided safe outlets for students to experiment with new ideas in small and large group discourse opportunities. The strategies encouraged students to formulate questions and responses in reading and writing with the teacher and class mates in a low stakes forum. Field notes also revealed the initial use of traditional IRE discourse routines to be used in context area vocabulary review with changes to more student-centered and expanded forms, such as those in Figure 1, which allowed students opportunities to develop personal connections and social contexts specific to their background knowledge.

### **Language Interaction Strategies for Vocabulary Development**

Teachers chose from a series of language/literacy strategies to integrate word identification, vocabulary, and reading comprehension into classroom activities. For example, one instructional format that was a combination of language and literacy applications was Language Experience Approach (Stauffer, 1970). For this activity, the teacher had the students retell an experience and wrote the sentences that the students articulated on the board for the class to follow. Although this strategy is most frequently used for younger students, the struggling readers in this class were exposed to spellings,



context, and use of vocabulary words, and were encouraged to revise the sentences with more detail.

An example of one teacher's attempts to integrate the elements of a Language Experience Approach with the qualities for instruction that were chosen following professional development follows in Figure 1. For this class, the teacher, Ms. Randolph, intended to develop a deeper understanding of the concept of the central terms of *work* and *force* through several overlapping but simple activities in the classroom. She used a multimodal approach including visual, discourse, and personal problem solving elements in content area instruction follows. The students in this science class had been struggling with comprehension as seen in their homework assignments. A video on this topic from BrainPop ([www.brainpop.com](http://www.brainpop.com)), an animated educational website for students, was viewed, followed by small group development of a negotiated definition of *work*, and then a class discussion to evaluate and revise understandings.

*Figure 1: Ms. Randolph's Development of the concepts Work and Force*

- Teachers: Okay, we are going to add to our learning journals today, but we are going to do it after we talk a little bit more about the *terms* work and force. This will be for our vocabulary page. There's a lot of words again in this chapter that we need to know to understand out simple machines. So it will be different from how we did vocabulary from last chapter. So it won't be like memorizing a word and definition. Watch this video with explanations and then we will divide into groups [to talk more about these].
2. (BrainPop video excerpt is shown.)
  3. Teacher: Now in your groups, when I asked you what you guys were watching, you used the words *work* and *force* a lot. That's what you should have gotten from this video. Now the next thing I want you to do in your groups is take out your notebooks and work on writing up definitions together. Team leaders make sure everybody shares their definitions and then in five minutes I want a group definition of *work*. I do not want a textbook definition.  
Okay, team leaders, did everybody share?
  4. Team Leaders: (nod yes)
  5. Teacher: All right...so what is the definition your group came up with?
  6. Linda: (reading her group's definition): A force used to move an object.
  7. Teacher: Okay, Luis. (Writes this definition on the white board). And Maria?
  8. Maria: (reads aloud her group's definition). Force that exerts on an object that can cause it to move.
  9. Teacher: Okay, Maria. (writes this on the board). Now Andrea.
  10. Andrea: (reading aloud): Force you use to exert an object.
  11. Teacher: (writes the third definition on the board). From your definitions, it seems that it's going to be about force and moving an object. If you definition doesn't address, or talk about, force and movement, take a minute to rethink your definition.  
So let's go ahead and look at the top of page 106. I'm going to read a little bit of the section titled, "What is work" to you aloud and you read along. AFTER A HEAVY SNOW STORM A NEIGHBOR'S CAR GETS



STUCK IN A SNOW DRIFT. HE SHOVELS SOME SNOW AWAY FROM THE CAR AND TRIED TO PUSH IT BACKWARDS. THE SPINNING TIRES WHINE AS THE DRIVER ATTEMPTS TO MOVE. ALTHOUGH YOU TRY AS HARD AS YOU CAN THE CAR WON'T BUDGE. AFTER 10 MINUTES OF STRNUOUS PUSHING, YOU ARE NEARLY EXHAUSTED. UNFORTUNATELY THE CAR IS STILL LODGED IN THE SNOW. DID YOU DO ANY WORK?

12. Marcos: No, no.  
13. Maria: Yes, you're pushing the car!  
14. Teacher: Who says it's work? (some students' hands are up) Who says "no, it was not work?" (some hands up). Okay, tell me why it was work or not!  
15. Linda: Because work is when you push or pull something.  
16. David: Shoveling snow is when you have to pick it up.  
17. Teacher: Okay! Good answers. But you might be surprised to discover that in scientific terms you didn't do any work at all on the car.  
18. Marcos: Why not?  
19. Teacher: Because it didn't move...in order for it to be work there has to be movement as a result of the force! All right, if you push a child on a swing, for example, you are doing work on a child. If you pull your book out of your book bag, you do work on the book. Okay (understand)?  
20. Luis: If you list a bag of groceries out of a shopping cart, you do the work on the bag of groceries.  
22. Linda: Cool.

The important element in this transcript of the lesson was that the teacher used language through discourse within small groups and written follow-up on the board to encourage and support reading for high-frequency word recognition and topic comprehension. This lesson allowed students to share their own experiences with peers and with the teacher, and the content remained text-based, which was one of the elements that teachers preferred for their strategy selections. This seventh-grade lesson was age appropriate and used authentic examples to help students connect with the content material.

Another literacy/learning strategies that was effective for the group of teachers in supporting language and literacy was using Writing/Discussion Frames in which first words are used as prompts to initiate early drafts of writing assignments. This strategy developed students' use of key words typical of specific genres of text, in this case persuasive writing, and assisted in reading comprehension in subsequent literacy activities. Second, the introduction to Anticipation Guides (Smith, 1978) was used by the teachers to motivate students to activate prior knowledge for the purpose of defending their ideas. For this strategy, statements about the content of the informational text or narrative passage are introduced prior to the students' actual reading, requiring students to activate their prior knowledge of related content or experiences (i.e., schema scripts) to prepare for the reading. In some cases, students may be asked to select whether they agree or disagree with the statement; in other instances, the teacher may set up a mock debate for students to argue and defend their reasoning.

### Achievement Changes in Reading Competencies

Initially, prior to the beginning of this study, there was a lag in standardized test scores behind those of national and state-wide averages for these beginning seventh-grade students that varied among the classrooms' however, all were below average. Following professional development focused on vocabulary development through language-into-literacy as the intervention in this study, a positive change occurred in the students' reading competencies (which includes but is not limited to vocabulary) scores. Specifically, a statistically significant difference was found on student reading scores on the state achievement tests using a paired-samples *t*-test, and the effect size was found to be moderate using Cohen's *d*. Post-test scores were significantly higher than pre-test scores (see Table 1), which means there was an increase in reading competencies.

Table 1  
*Paired Samples t-Test Results for State Tests*

Assessment	Mean	SD	<i>t</i> -value	<i>d</i> -value
Pre-test	209.62	19.182	-4.709*	0.49
Post-test	218.99	18.682		

$N = 74, df = 73$

\*  $p < 0.001$

### Discussion and Implications

When the results are aligned with the original inquiry questions, a clearer picture of the knowledge gleaned from the data is revealed and implications emerge. In response to the question, "What new information is gained about language support for literacy activities through interactive sharing of knowledge and strategies?," it appears that teachers need explicit instruction in discourse strategies for vocabulary development and literacy instruction within content area instruction. The changes that occurred in classroom discourse and students' achievement indicate that when they were able to choose resources and have them explained in focus group meetings, their instructional practice was more focused on students' needs for vocabulary instruction. In addition, teachers need clear models for language interaction during content area instruction. The lead researcher's coaching was an important step for the teachers in learning to integrate their new knowledge. After learning about language differences between cultures, teachers changed their talking format, and therefore, teachers need to share language interventions that work with specific local populations with one another in small groups, a theory that aligns with CCLS 1.

In response to the second inquiry question, "What language strategies are chosen by reading teachers to integrate into word identification, vocabulary, and reading comprehension activities?," teachers chose instructional formats that were a combination of language and literacy applications that were simple enough to add or modify existing activities in the classroom. For example, the use of writing frames were used prior to the usual writing activities; however, the teachers realized that the students' initial difficulties with writing were due, at least in part, to their lack of vocabulary to self-start a descriptive paragraph or essay. Another example is the addition of Anticipation Guides to activate prior knowledge for activities that the teachers already used. The teachers



found this addition to boost engagement in the activity and participation in discussions. Teachers, in general, make these decisions based on reflection about students' needs (Miller & Veatch, 2010), a reflection which seemed to be heightened by this study's emphasis on discussion within focus group meetings and aligns with the teachers' instructional alignment with CCLS 4 for vocabulary development.

In response to the third inquiry question, "Does the use of increased language create a significant change in students' reading confusions?," the changes in students' interaction following modifications in discourse format increased language interaction provides experiences with language use and background knowledge for content area topics. Specific attention to language during reading activities is not the usual approach for teachers of middle graders because there is an assumption that the emphasis is on reading to learn, not so much on learning to read through language-into-literacy modes. Allowing for increased time for language and vocabulary instruction and practice using words was found by the classroom teachers to be very supportive for second language learners and struggling readers. For middle level students, increased language interaction provides safe outlets to experiment with new ideas in small and large group discourse opportunities. Specifically, word cognates (such as *Apollo*, which in English is the name of a space mission; however, in Spanish, taken apart, means 'a chicken') are confusions that may not be understood without open questioning and interactive discussion during lessons involving reading, as emphasized by the CCLS 1 for discourse and CCLS 6 for academic vocabulary.

Results for this study are further supported by the research of August, Carlo, Dressler, and Snow (2005) focusing on the important role of vocabulary development for marginalized students, in this case second language learners. Educational implications focus on continuing to pinpoint teachers' specific knowledge of the language-into-literacy needs of all students and assist them in finding and applying interactive strategies for enriching struggling students' prior vocabulary, especially for those students also struggling with second language learning. Teachers can take a few extra minutes to introduce literacy activities through extended discussion and to intersperse within a literacy lesson frames for language use to set the students up for success. This study provided ideas for teachers to use in their classrooms that meet the CCLS goals to develop students' interaction through language, which leads to successes in literacy development.

Results also point to the need for teachers to share their understandings with one another to refine their knowledge of school-specific literacy challenges. The results from the analysis of the ISAT scores indicate that increased language interaction for vocabulary created a significant change in students' reading competencies. Teachers can develop strategies that build on the ones they already know by supporting one another in grade level meetings, such as common planning time, and inservice opportunities.

In addition, teacher educators in content area instruction can use this study's finding to collaborate with school-based teachers to develop and provide videos and print-based models of case/class studies situated within content area activities to preservice and practicing teachers. They also can provide explicit instruction in discourse strategies for vocabulary development and literacy instruction within content area instruction. When students struggle with school literacy activities, teachers struggle



alongside them as they search for solutions. Taking time to build students' language can help teachers support their students' strengths.

#### References

- Adger, C. T., Snow, C. E., & Christian, D. (2002). *What teachers need to know about language*. McHenry, IL: Delta Systems.
- Alvermann, D. E. (2002). Effective literacy instruction for adolescents. *Journal of Literacy Research*, 34(2), 189-208.



- Alvermann, D. E. (1995, April). *Talking is something we're pretty deprived of at school: Middle school students speak out*. Paper presented at the annual conference of the American Educational Research Association, San Francisco, CA.
- August, D., Carlo, M., Dressler, C., & Snow, C. E. (2005). The critical role of vocabulary development for English language learners. *Learning Disabilities Research & Practice, 20*(1), 50-57.
- Brown, C. L. (2007). Supporting English language learners in content reading. *Reading Improvement, 44*(1), 32-39.
- Cazden, C. (2001). *Classroom discourse*, (2nd ed.). Portsmouth, NH: Heinemann.
- Common Core Learning Standards Initiative. (2010). *Common Core Learning Standards*. Washington, DC: National Governors Association Center for Best Practices and Council of Chief State School Officers.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage Publications, Inc.
- Danielson, C. (2012). Observing classroom practice, *Educational Leadership, 70*(3)32-37.
- Echevarria, J., Vogt, M. E., & Short, D. J. (2004). Making content comprehensible for English learners. *The SIOP Model Chapter 6: Interaction* (pp. 98-115). Boston, MA: Pearson/Allyn Bacon.
- Falk-Ross, F. C. (2007). Language factors in literacy achievement of young adolescents. In S. Mertens, V. Anfara & M. Caskey (Eds.), *The young adolescent and the middle school, Handbook of research in middle level education* (Vol. 6, pp.73-89). Westerville, OH: National Middle School Association.
- Falk-Ross, F. C., & Carrier, K. (2005). Transitions from Spanish to English: Supporting students' language and literacy constructions in the classroom. *Illinois Reading Council Journal, 33*(4), 9-20.
- Falk-Ross, F. C., & Wolfe, R. (2004). Preparing teachers for working in diverse settings: Effects of early immersion in clinical experiences. In S. Lenski & W. L. Black (Eds.), *Transforming teacher education through partnerships: Mellen Studies in Education* (Vol. 8, pp. 342-354). New York, NY: Edward Mellen Press.
- Fang, Z. (2006). The language demands of science reading in middle school. *International Journal of Science Education, 28*(5), 491-520.



- Farrell, T. S.C. (2011). "Keeping SCORE": Reflective practice through classroom observations, *RELC Journal: A Journal of Language Teaching and Research*, 42(3), 265-272.
- Fecho, B., & Botzakis, S. (2007). Feasts of becoming: Imagining a literacy classroom based on dialogic beliefs. *Journal of Adolescent & Adult Literacy*, 50(7), 548-558.
- Flanigan, K., & Greenwood, S. C. (2007). Effective content vocabulary instruction in the middle: Matching students, purposes, words, and strategies. *Journal of Adolescent & Adult Literacy*, 51(3), 226-238.
- Freedman, L. & Johnson, H. (2004). Inquiry, literacy, and learning in the middle grades. *Chapter 5: Collecting and conversing: The importance of talk* (pp. 87-115). Norwood, MA: Christopher-Gordon Publishers.
- Garcia, E. E., Jensen, B., & Cuellar, D. (2006). Early academic achievement of Hispanics in the United States: Implications for teacher preparation. *New Educator*, 2(2), 123-147.
- Gillan, B., & McFerrin, K. (2002). Faculty development. Norfolk, VA: Association for the Advancement of Computing in Education.
- Gutierrez, K. (1995). Unpackaging academic discourse. *Discourse Processes*, 19(1), 21-37.
- Holly, M. L., Arhar, J. M., & Kasten, W. C. (2009). *Action research for teachers: Traveling the yellow brink road*. Boston, MA: Allyn Bacon Pearson.
- Hynde, C. (1999). Instructional considerations in middle and secondary schools. In J. Guthrie & D. Alvermann (Eds.), *Engaged reading: Processes, practices, and policy implications* (pp.81-104). New York, NY: Teachers College Press.
- International Reading Association. (2010). *Standards for reading professionals*. Newark, DE: Author.
- International Reading Association/National Middle School Association. (2005). *Standards for middle and secondary school coaches*. Newark, NJ: Author.
- Johns, J. L., & Berglund, R.L. (2006). *Strategies for content area learning*. Dubuque, IA: Kendall/Hunt Publishing Company.
- Ketch, A. (2005). Conversation: The comprehension connection. *The Reading Teacher*, 59(1), 8-13.
- Lemke, J. (1989). *Using language in the classroom*. Oxford, UK: Oxford University Press.



- Lewis, S., Maerten-Rivera, J., Adamson, K., & Lee, O. (2011). Urban third-grade teachers' practices and perceptions in science instruction with English language learners, *School Science and Mathematics, 111*(4), 156-163.
- Lively, T., Snow, C., & August, D. (2003). *Vocabulary improvement program for English language learners and their classmates – Grades 5 & 6*. Baltimore, MD: Brookes Publishing Company.
- McKenna, M. C., & Robinson, R. D. (1990). Content literacy: A definition and implication. *Journal of Reading, 34*, 184-186.
- Mertler, C.A. (2012). *Action research: Improving school and empowering educators*, (3rd ed.). London, UK: Sage.
- Miller, M., & Veatch, N. (2010). Teaching literacy in context: Choosing and using instructional strategies, *Reading Teacher, 64*(3), 154-165.
- Mills, G. E. (2014). *Action research: A guide for the teacher-researcher*, (5th ed.). Upper Saddle River, NJ: Pearson Education.
- National Middle School Association. (2010). *This we believe: Keys to educating young adolescents*. Westerville, OH: Author.
- New York City Department of Education. (2013). Professional development. Retrieved from <http://schools.nyc.gov/Offices/DHR/TeacherPrincipalSchoolProfessionals/ProfessionalDevelopment/default.htm>
- Nystrand, M. (2006). Research on the role of classroom discourse as it affects reading comprehension. *Research in the Teaching of English, 40*(4), 392-412.
- Neuman, S., & Roskos, K. (2012). More than teachable moments: Enhancing oral vocabulary instruction in your classroom, *The Reading Teacher, 66*(1), 63-67.
- Ogle, D., & Correa-Kovtun, A. (2010). Supporting English-language learners and struggling readers in content literacy with the “Partner Reading and Content, Too Routine.” *The Reading Teacher, 63*(7), 532-542.
- Perie, M., & Moran, R. (2005). *NAEP 2004 Trends in academic progress: Three decades of student performance in reading and mathematics* (NCES 2005-464). U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Washington, DC: Government Printing Office.



- Proctor, C. P., Dalton, B., & Grisham, D. (2007). Scaffolding English language learners and struggling readers in a universal literacy environment with embedded strategy instruction and vocabulary support. *Journal of Literacy Research, 39*(1), 71-93.
- Richgels, D. J. (2004, October). Theory and research into practice: Paying attention to language. *Reading Research Quarterly, 39*(4), 470-477.
- Santman, D. (2005). *Shades of meaning: Comprehension and interpretation in middle school*. Portsmouth, NH: Heinemann.
- Smart, J.B., & Marshall, J.C. (2013). Interactions between classroom discourse, teacher questioning, and student cognitive engagement in middle school science, *Journal of Science Teacher Education, 24*(2), 249-267.
- Smith, F. (1978). *Reading*. New York, NY: Teachers College Press
- Stauffer, R. (1970). *The language-experience approach to reading*. New York, NY: Harper & Row Publishers, Inc.
- Strauss, A., & Corbin, J. (2007). *Basics of qualitative research: Grounded theory procedures and techniques*, (3rd ed.). Newbury Park, CA: Sage.
- Stringer, E. (2008). *Action research in education*, (2nd ed.). Upper Saddle River, NJ: Pearson Education.
- Strong, W. (2006). *Write for insight: Empowering content area learning, grades 6-12*. Boston, MA: Pearson/Allyn Bacon.
- Sturtevant, E. G., & Linek, W. M. (2007). Secondary literacy coaching: A Macedonian perspective. *Journal of Adolescent and Adult Literacy, 51* (3), 240-250.
- Tam, K. Y., Heward, W. L., & Heng, M. A. (2006). A reading instruction intervention program for English-language learners who are struggling readers. *Journal of Special Education, 40*(2), 79-93.
- Thier, M., & Daviss, B. (2002). *The new science of literacy: Using language skills to develop students learning science*. Portsmouth, NH: Heinemann.
- Unrau, N. (2007). *Content area reading and writing: fostering literacies in middle and high school cultures*, (2nd ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.
- U.S. Department of Education. (2002). *No Child Left Behind Act*. Office of Elementary and Secondary Education. Washington, DC: Author.



Walker, D. & Davidson, T. (2004). *Literacy Centers for the Middle Grades*. Carlsbad, CA: Dominie Press, Inc.

Wells, G. (1999). *Dialogic inquiry: Towards a socio-cultural practice and theory of education*. Cambridge, UK: Cambridge University Press.

Wood, K.D., & Taylor, D.B., (2006). *Literacy Strategies across the subject areas*, (2nd ed.). Boston, MA: Pearson Allyn & Bacon.