

Academic Language in Early Childhood Classrooms

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Exposing young children to academic language may facilitate later academic success. This article presents methods for identifying and teaching academic language across the school day in pre-K–3 classrooms.

Academic language is the talk primarily used and valued in classrooms in the United States. Current trends in education are encouraging teachers to teach, use, and evaluate academic language. Indeed, the introduction of the Common Core State Standards has placed increased emphasis on using academic language across the grade levels (Neuman & Wright, 2013; van Lier & Walqui, 2012) and provided specific goals focused on academic language. There is plenty of support for the need to develop academic language beginning in the first few years of school.

Research shows that academic language is tied to success in literacy and the content areas in elementary school and beyond (Schleppegrell, 2004, 2012; Townsend, Filippini, Collins, & Biancarosa, 2012). Additionally, children who are proficient in academic language may have a better understanding of content area textbooks (Schleppegrell, 2004), which may facilitate long-term academic achievement (Townsend et al., 2012). Many of the individual features of academic language have been associated with later academic achievement, including decontextualized talk (Dickinson & Smith, 1991), complex syntax (Share & Leikin, 2004), and academic vocabulary (Dickinson & Porche, 2011).

Children enter school with varying degrees of familiarity with academic language based on their experiences at home (Heath, 1982; Michaels, 1981). Children who hear more academic language are likely to use and understand it, which may help them experience greater success in school.

Not all children will have experience with academic language prior to school entry (Schleppegrell, 2012). Some children become familiar with academic language through shared book reading experiences

at home (Leseman, Scheele, Mayo, & Messer, 2007). However, families engage with their children in different ways, and many children may have early language experiences different from those they will experience in school.

In particular, children who are English learners may have greater variability in their experiences with English academic language. Although English learners may be proficient in conversational English, their understanding and use of academic language may be less developed, thus inhibiting their ability to describe complex ideas or concepts (Cummings, 1980; Westby & Hwa-Froelich, 2010).

Children with less experience with academic language outside of school may benefit from explicit and direct instruction of academic language in school, especially in the early years. Being explicit includes helping children identify when academic language is used, when it is valued, and how to develop it in their reading, writing, and speaking.

All children are capable of learning academic language with the right support. Fostering academic language in early childhood classrooms (pre-K–3)

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may help all children achieve greater degrees of academic success. Here, we discuss the components of academic language, provide strategies for identifying academic language, and discuss ideas for using and promoting academic language in early childhood classrooms.

What Is Academic Language?

Nagy and Townsend (2012) defined academic language as “the specialized language, both oral and written, of academic settings that facilitates communication and thinking about disciplinary content” (p. 92). It is characterized by the inclusion of sophisticated or academic vocabulary, including precise terms not commonly found in casual conversation; extensive use of complex syntax and embedded clauses; specific discourse functions; and decontextualized talk.

Whereas casual conversation may involve interaction between two or more people in a shared space, academic language assumes that the speaker and listener (or reader and writer) do not interact directly (Schleppegrell, 2001). Therefore, academic language contains decontextualized talk, which relies on language rather than gesture or context to develop meaning. Although much emphasis is placed on academic vocabulary, academic language also includes complex syntax and specialized discourse functions.

Academic Vocabulary

Academic vocabulary is defined by the Common Core as “words that appear in a variety of content areas and have different meanings in different academic contexts” (Conley, 2014, p. 9). It may be specific to a domain such as math, science, or English language arts, or it may be general and used across multiple disciplines. Academic vocabulary also includes symbols found in textbooks and printed materials.

Selecting academic vocabulary to teach may be a complicated process. Frequently, teachers are encouraged to select Tier 2 words for instruction (Beck & McKeown, 2007; Kucan, 2012). Tier 2 words are specific, domain-general, and not commonly used in

conversation, such as *analysis*, *specific*, and *percent*. These words tend to appear frequently in written text and are therefore linked to reading comprehension. They appear across a variety of academic domains, but the meaning of the term may vary depending on the context (Baumann & Graves, 2010).

Silverman and Hartranft (2015) recommended that teachers select words that are useful for comprehending texts in a variety of content areas, teach words that children do not already know but will need to know for school, and teach words that will create a depth and breadth of vocabulary. Teachers may wish to refer to word rating systems for selecting Tier 2 words, such as Words Worth Teaching (Biemiller, 2010), the Academic Vocabulary List (Gardner & Davies, 2013), or Word Zone (Hiebert, 2005). Townsend and Kiernan (2015) recently developed a tool that can identify academic words from digital texts (see the More to Explore sidebar for additional information about this tool).

Words considered Tier 3 are domain-specific and may be associated with academic disciplines (e.g., *hypotenuse*, *conifer*, *hypothesis*). These may aid in reading informational texts and building semantic knowledge that will support content area literacy. For example, the word *hypothesis* would be highly useful for reading, writing, and engaging in discourse about the scientific method.

Additionally, words that are specialized and essential to understanding a text should be taught. Otherwise, children’s comprehension of that text will be greatly hampered. For example, if children do not know the words *vegetarian* and *predator*, they will likely have difficulty comprehending *Linus the Vegetarian T. Rex* (Neubecker, 2013). Additionally, children should be taught words that will help them understand the structure of books—particularly informational texts—such as *table of contents*, *figure*, and *glossary*.

The context in which the words appear is also important. For example, conjunctions such as *and* may carry different meanings depending on the discipline. In mathematics, *and* can imply an addition sequence, such as in “6 and 4 are 10.” Although

PAUSE AND PONDER

- How often do you point out or “translate” complex syntax to your students?
- How do you teach academic vocabulary and provide child-friendly definitions?
- How do you discuss the differences and similarities between academic language and casual conversation with your students? How might you incorporate these discussions into your instructional routine?
- What spaces and materials in your classroom could you use to promote academic language?

children may understand *and* in common conversation, they may not understand that it means addition in mathematics. Teaching children how word meanings can change based on the context or discipline may help them better attend to the nuances of academic language.

Complex Syntax

Academic language is different from conversational language in organization and structure (Schleppegrell, 2004), which is conveyed through the use of complex syntax. *Syntax* refers to the manner in which sentences are constructed from particular grammatical categories (noun, verb, etc.). Some examples of features of complex syntax are provided in Table 1. Syntax is deemed complex when it includes embedded clauses and phrases that clarify meaning. Sentences with complex syntax contain higher densities of information and are longer than simple sentences. These factors may make academic language challenging for students.

One way to identify complex syntax in texts is to look for embedded clauses (Snow, 2010). Embedded clauses expand meaning by inserting additional information and may include words like *that*, *as*, *when*, *who*, or *which*. These clauses may be marked by commas; for example, “My grandmother, who is 91, has never used a computer.”

One method for determining the complexity of a sentence is to calculate its mean length of utterance (MLU). This may be done by selecting a body of text, then counting the number of words in each sentence and dividing this by the total number of sentences (utterances). For example, in a passage containing 140 words in a total of 20 sentences, the MLU would be 7 (140 ÷ 20), indicating that the average sentence contained seven words. Typically, a larger MLU would indicate more complex syntax. Children between the

ages of 3 and 8 produce sentences that have an MLU of three to five words (Rice et al., 2010). Teachers may wish to use an MLU that is just above the MLU of the children they are teaching. For example, if children are producing six words per utterance, the teacher may wish to select a text with an MLU of 7 or 8.

Discourse Functions and Registers

Academic language is a register that contains specific lexical and grammatical features of language that may differ based on setting and purpose (Schleppegrell, 2001). These include narrative, discussion, questioning, explanation, and argument. Each features language norms, decontextualized language, and specialized discourse patterns (Peets & Bialystok, 2011; Schleppegrell, 2013), as well as specific phrasing and discourse markers (e.g., *consequently*, *is similar to*, *for example*, *in conclusion*; Snow, 2014).

Language-Rich Early Childhood Classrooms

All of this points to the need for language-rich early childhood classrooms, where quality conversations and embedded linguistic support have been linked to vocabulary growth (Beck & McKeown, 2007; Wasik & Hindman, 2011), acquisition of complex syntax (Huttenlocher, Haight, Bryk, Seltzer, & Lyons, 1991; Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002), and future reading achievement (Burchinal et al., 2008; Curby, Rimm-Kaufman, & Ponitz, 2009; Dickinson & Porche, 2011). In fact, the early childhood years represent a “critical period” for vocabulary learning (Farkas & Beron, 2004). Teachers in early childhood classrooms play a crucial role in strategically supporting children’s language development.

In spite of years of research identifying markers of language-rich classrooms, the teacher-child

Table 1
Features of Complex Syntax

Term and definition	Example
<i>noun phrase</i> : A phrase with a noun at its head	Those six leatherback turtles...
<i>attributive clause</i> : A clause that classifies objects and is nonreversible; changing the order of the clause would change the meaning	A square is a rectangle.
<i>identifying clause</i> : A clause that defines a technical term by creating a bridge to a less technical term	Informational books are books that give facts about real life.
<i>nominalization</i> : A verb changed into a noun	The destruction of the rainforest... (<i>destroy</i> becomes <i>destruction</i>)

interactions related to language learning are still relatively rare in classrooms serving young children (Dickinson & Brady, 2006; Dickinson, Darrow, & Tinubu, 2008; Neuman & Dwyer, 2009). In order for children to become proficient speakers and comprehenders of academic language, they must first experience it. Academic language may be taught through content areas such as math, English language arts, science, and social studies (Nagy & Townsend, 2012). These content areas may involve different settings and materials that promote the use and instruction of academic language, with each setting potentially contributing in different ways. We hope to help teachers best use each setting to foster their students' academic language development.

Understanding Academic Language in the Classroom

Our Recent Study

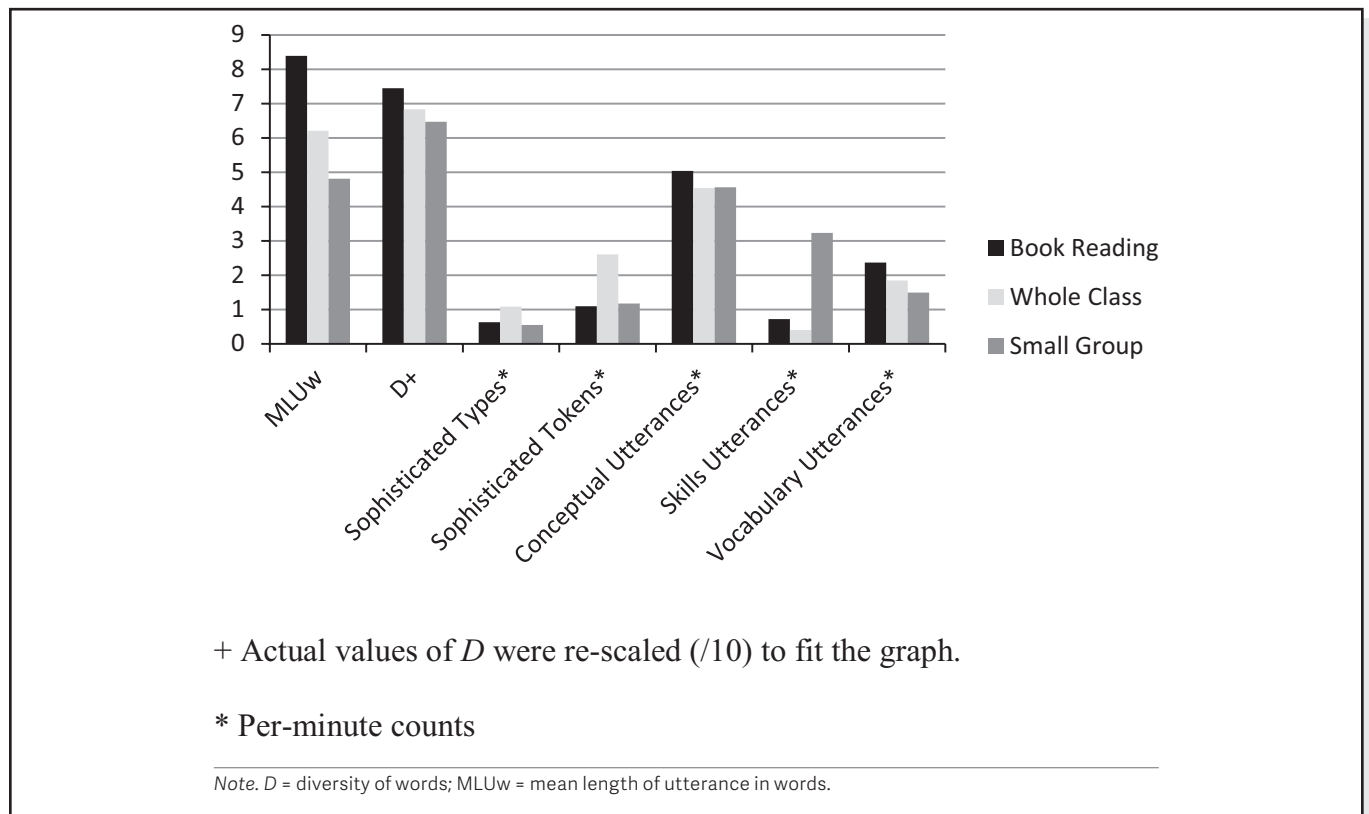
In a recent study, we collected and analyzed data from 52 Head Start prekindergarten classrooms

located in the southeastern part of the United States (Dickinson, Hofer, Barnes, & Grifenhagen, 2014). We were interested in identifying features, settings, and materials used in these settings that might promote academic registers related to later academic success (Townsend et al., 2012).

Teachers were videotaped in the fall of the preschool year in three instructional settings: book reading, whole-group content lessons, and small-group content lessons. Videos were transcribed and analyzed using tools from the Child Language Data Exchange System (MacWhinney, 2000).

We analyzed teachers' language for structural components such as sophisticated (academic) vocabulary, complex syntax as measured by the MLU in words, diversity of words (Malvern & Richards, 2002), and word count as measured in types (number of different words used) and tokens (total occurrences of words). We examined the content of teachers' talk to determine the number of utterances that were concept-focused, skill-focused, or vocabulary-focused. Findings from this study are summarized in Figure 1.

Figure 1
Study Results Summary: Average Teacher Language Use by Instructional Setting



Book Reading. Book reading was performed as a whole-class activity in which the teacher read aloud a storybook and engaged children in conversations before, during, and after reading. Teachers selected the text, primarily reading narrative or predictable texts. Teachers used rich language in this setting and demonstrated use of the academic register. In book reading, teachers talked most about vocabulary words, used a wider variety of words, and produced the longest utterances.

The type of text teachers read was related to the amount of academic language they used. Teachers who read narrative texts such as *The Lion and the Little Red Bird* (Kleven, 1996) used longer utterances with more complex syntax and talked about vocabulary more frequently than teachers who read predictable books. Teachers who read predictable books such as *The Terrible Tiger* (Cowley, 1987) used more skill-focused and concept-focused talk than teachers who read narrative books. The text also contributed to the total amount of academic language children encountered. Narrative texts had more different words (types), more total words (tokens), more academic vocabulary, and a greater diversity of words than predictable texts.

Whole-Group Content Lessons. This instruction contained thematic content related to science, social studies, or socioemotional skills such as self-regulation. Whole-group content lessons were characterized by the most frequent use of academic vocabulary. Teachers' language in this setting included more different and total amounts of academic vocabulary than other instructional settings. Teachers talked most and used diverse vocabulary words in this setting.

Small-Group Content Lessons. Teachers were trained to work with groups of three to six children engaging in activities focused on science, social studies, uses of print, and numeracy skills. In our study, this setting featured the least academic language used by the teacher, in terms of talking about vocabulary and concepts, use of sophisticated words, and complex syntax. Teachers used shorter utterances containing less diverse vocabulary in this setting. More amounts of skill-focused talk were used in small-group content lessons than other instructional settings.

Promoting Academic Language in the Classroom

Our research indicates that teachers talk differently in different instructional settings. Each setting has

affordances and limitations for supporting academic language. When planning instruction, consider the strengths and affordances of the instructional setting and the available materials. In this section, we provide some suggestions for encouraging academic language using settings and materials common to early childhood classrooms.

Focusing on Language During Book Reading. Large bodies of research indicate that children who are read to more frequently have larger vocabularies and demonstrate better reading comprehension over time (cf. Hargrave & Sénéchal, 2000; Mol, Bus, & de Jong, 2009; Wasik & Bond, 2001). A more nuanced view of book reading can examine which components of the interaction can be helpful for enhancing children's academic language understanding and use in terms of lexical diversity and syntactical comprehension.

Purcell-Gates (1988) found that "well-read-to" kindergartners and second graders produced more participles, attribute adjectives, adverbs, literacy words and phrases, direct quotes, sound effects, and formulaic openings in their readings of wordless picture books than children who had been read to less. This indicates a greater understanding and use of a written register that is typical of academic language in both vocabulary and syntax. Using books to point out specific features of academic language such as descriptive language (adjectives and adverbs) and formulaic openings ("Once upon a time") may help children better understand how academic language is different from casual conversation. Suggestions for teaching academic vocabulary through book reading may be found in Snell, Hindman, and Wasik (2015).

Selecting high-quality texts may help children develop stronger understandings of academic language. Children benefit from hearing vocabulary terms presented in well-formed sentences, which may be found in children's books. The text may serve as a rich model for complex syntax that the child may not otherwise hear. Price, Van Kleeck, and Huberty (2009) found that the MLUs of texts read aloud to young children were nearly double the length of adults' utterances, indicating more complex syntax and embedded clauses.

Once an embedded clause has been identified in the text using the guidelines presented here, the teacher may wish to "translate" the complex syntax into child-friendly language. For example, the following sentence from the picture book *Chicks and Salsa* (Reynolds, 2005) involves multiple embedded

clauses that clarify meaning: “As everyone knows, when a passion for southwestern cuisine takes hold of farm animals, and so many sumptuous, spicy, savory scents collide in the barnyard air, it can only lead to one thing... Fiesta!” (n.p.). Here, the teacher may wish to help students identify how the pieces fit together by translating the complex syntax into more simple utterances: “The farm animals loved the southwestern food because it smelled delicious. They were so excited, they had a party!” Teachers may also wish to model similar complex syntax with translations in other settings for reinforcement.

It may also be helpful to explain how the language of books (academic language) differs from casual conversation. The teacher may explain that the reader cannot directly ask the author a question, so the author must provide enough information for the reader to independently understand the story. Authors often use descriptive language such as adverbs and adjectives to paint vivid pictures and may include clauses to describe events, people, and ideas in ways that cannot be achieved by single words. Children can work on “translating” or code-switching from one register to another. Consider having students translate a published text into child-friendly language to share with a younger child or translate their personal writing into academic texts to share with classmates or older students. Conversations about differences in language use may also be accomplished during author’s chair.

Building Language During Content Instruction. In our study, whole-group content instruction was an ideal setting for teachers to engage in conceptually rich conversations that contained sophisticated and diverse vocabulary. These lessons may serve to introduce children to content and tap into their existing funds of knowledge. This setting may also be ideal for the integration of informational texts.

Informational and Content Area Texts. Science, social studies, and math texts contain large amounts of domain-specific academic vocabulary. These texts may be particularly challenging for young children as they have high proportions of nouns (Vande Kopple, 1994). This means that children will need larger funds of academic vocabulary in order to understand these texts.

For example, the following sentence from an informational text on insects includes six nouns: “All bugs and spiders have a hard casing on the outside of their bodies called an exoskeleton” (Llewellyn, 2005, p. 6). More than one-third of the words in the sentence are nouns (35%), with one

being a domain-specific academic vocabulary term (*exoskeleton*). Some terms may be synonyms for already-known words (*bugs, casing*), but others may represent new concepts (*exoskeleton*). Children unfamiliar with any of these terms, especially the domain-specific academic term, may struggle to comprehend the academic content.

Helping children understand how words are related to each other and represent concepts can be useful. Neuman, Newman, and Dwyer (2011) found that teaching academic vocabulary in the context of semantically related categories (e.g., healthy foods, wild animals) produced strong linguistic and conceptual learning. In the example from *The Best Book of Bugs* (Llewellyn, 2005), children are learning about the parts of bugs’ bodies used for protection. Linking each term to the overarching concept of protection may help children understand the relationship between the words and their definitions. Including other informational texts discussing the concept of protection may further enrich children’s understanding of the words and concepts. For additional ideas about teaching and selecting vocabulary from informational texts as well their importance, please see Wright (2014).

Scientific Language. Science textbooks include many ideas within a single clause (Schleppegrell, 2001). These texts frequently include expanded noun phrases (e.g., “the sponge that absorbed the water”) rather than nonspecific pronouns (e.g., *it, you*). An expanded noun phrase uses more than one word to form the subject, such as “igneous rock” or “the third method.” Young children may be unaware that these longer subjects must be processed as chunks rather than individual words. One way to help children conceptualize this is by linking longer subjects to students’ names. A teacher may model this through the following instructional talk:

We have two students named Lena in this class: Lena Abbott and Lena Luis. In order for us to know which Lena we’re talking about, we need to use her full name, such as Lena Abbott. We do the same thing in science. Here we have two types of rocks. If we just say *rock*, we won’t know which one we’re talking about. Instead, we need to use a more specific name, like *igneous rock* or *sedimentary rock*. Using the full name and giving more information lets us know exactly which rock we’re talking about.

Mathematical Language. The language of mathematics may also contain complex syntax and embedded clauses. Embedded clauses help create precision in mathematical language, but they

are not commonly found in casual conversation. Therefore, children may not understand the meaning of text due to a lack of familiarity with the structure. For example, an attributive clause helps define a term—"a square is a rectangle"—but children must understand that they cannot reverse the order of the nouns in an attributive clause because this will change the meaning: "All squares are rectangles, but not all rectangles are squares." This type of language is commonly found in mathematics textbooks; hence, it is important to help children identify how these types of clauses work.

Using Small-Group Instruction. In our study, small-group lessons were typically skills-based (e.g., rote counting, letter identification) and featured less academic language. The small-group setting may lend itself to skills instruction that allows a teacher to closely monitor children's learning on discrete tasks.

However, this space also provides the opportunity for high student engagement, extended teacher-student and peer conversations, and hands-on exploration of content and materials. The teacher can engage children in extended conversations through which she models complex language and recasts and expands children's contributions to enrich vocabulary and enhance syntax. This teacher does so skillfully during a scientific exploration of objects that sink or float:

Teacher: Do you predict the Styrofoam will sink or float?

Shahim: It will float! It's too light to sink.

Teacher: Do the rest of you agree with Shahim? Why do you think so?

Alice: It's going to float because it's light, just light like the leaf. Also, it's airy.

Teacher: OK, Alice's hypothesis is the Styrofoam will float because it is as light as the leaf. She's also noticed it's not very dense.

Shift away from using small groups as a time to drill math facts or phonics skills. Instead, use this time to model and practice talking about how children solved a problem or telling oral stories about children's shared experiences in preparation for writing.

Practicing Decontextualized Language During Sharing Time. One setting that may promote the use of academic language is sharing time (or show-and-tell). Using oral narratives, rather than reading or writing,

may be helpful in building academic language for young children who are still mastering decoding and encoding. Sharing time encourages children to tell a narrative in sequential order, use decontextualized language and precise terminology, and adjust their language based on the knowledge level of the audience. The following exchange between a teacher and a student shows how a teacher may scaffold a child's use of academic language during sharing time (Michaels & Collins, 1984):

Mindy: When I was in day camp we made these um candles

Teacher: You *made* them?

Mindy: and uh I-I tried it with different colors with both of them but one just came out this one just came out blue and I don't know what this color is

Teacher: That's neat-o. Tell the kids how you do it from the very start. Pretend we don't know a thing about candles, OK? What did you do first? What did you use? (p. 431)

Here, the teacher uses explicit prompts to focus the child's attention on the audience and guides the child to consider what the audience does or does not know. She encourages the child to tell the story sequentially, which may necessitate the use of ordinal words (*first, second, finally*). She encourages the use of precise vocabulary by asking the child about the materials used. This opens the door for the child to name parts of the candle (*wick, wax*) and to talk about the tools and actions used (*mold, trim*). When necessary, the teacher can expand or recast the child's speech to include this precise vocabulary.

Language Lessons. An additional strategy for fostering academic language in early childhood classrooms is to have explicit instruction focused on language awareness. This goes beyond vocabulary instruction to teaching about the types of discussions, words, syntax, and conversational norms appropriate to various social and academic contexts. In a science lab, the teacher can explicitly provide sentence starters for "talking like a scientist" (e.g., "My hypothesis is..." when presenting a science experiment). In a writing minilesson, the teacher can introduce the concept of "power words"—complex, precise vocabulary that makes writing more clear and interesting. While introducing norms for discussing books in literature circles, the teacher can contrast social language to academic language (e.g., citing evidence from the text; introduce the

sentence frame “I know because on page XX, the author wrote...”).

All young children can benefit from more “talk about talk.” Children who speak nonstandard dialects benefit from explicit instruction on code-switching between home and school language. The widely used Sheltered Instruction Observation Protocol (Echevarria, Vogt, & Short, 2004), guides teachers to include language objectives in all lessons for English learners. We suggest that this is good practice for the academic language development of all students. For example, a mathematics lesson on problem solving could also include a language objective such as “Students will explain to a peer their strategy for solving the subtraction problem.” In addition to teaching strategies for subtraction, the teacher could model explaining her problem-solving process step-by-step, then have students practice this with a peer.

Conclusion

Early childhood classrooms are full of opportunities to foster children’s academic language development. Teachers can begin by thinking about their day and choosing one or two activities ripe for high-quality interactions that incorporate academic language. When teachers can be strategic, there can be huge payoffs, both in terms of building a rich linguistic environment and setting students up for success as they face academic language demands.

TAKE ACTION!

1. Examine your classroom library to find examples of texts rich with academic vocabulary and complex syntax.
2. Identify several academic vocabulary terms you could teach, and create child-friendly definitions.
3. Find examples of complex syntax (see Table 1). Develop “translations” for the complex syntax.
4. Read the books with your class, defining academic vocabulary and translating complex syntax.
5. Model and provide sentence starters for the academic discourse for discussing the book. Then, have children practice with a partner through “turn and talk.”
6. Introduce other texts on related topics that use similar vocabulary and complex syntax to further build conceptual knowledge.

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- Reading Rockets' Academic Language podcast "Sounding Smart": <https://www.youtube.com/watch?v=8nwkQL4jXpQ&app=desktop>
- Sheltered Instruction Observation Protocol from the Center for Applied Linguistics: www.cal.org/siop/about/
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