

Effect of a Performing Arts Program on the Oral Language Skills of Young English Learners

Christa Mulker Greenfader

Liane Brouillette

George Farkas

University of California, Irvine, USA

ABSTRACT

Although English oral language proficiency in the primary grades is critical to the literacy development of English learners (ELs), we know little about how to foster these skills. This study examined a yearlong K-2 drama and creative movement intervention. A randomized experimental design ($N = 5,240$) was used to address two research questions: (1) Did participating ELs perform better on oral language assessments than those who did not receive the intervention? (2) Was the impact of the program moderated by students' baseline English-language skills? Student speaking and listening skills were measured using the California English Language Development Test. The treatment group ($N = 902$) outperformed controls ($N = 4,338$) on speaking assessments. ELs with the most limited English speaking abilities at baseline benefited most from the program.

In recent decades, the number of children born to immigrants in the United States has grown rapidly (Matthews & Jang, 2007), and many of these families primarily speak a language other than English. Nearly 10% of the U.S. student population now comes from non-English-speaking homes (U.S. Department of Education, 2013). During the 2010–2011 school year, an estimated 10% (4.7 million) of elementary and secondary students were served by language assistance programs (Aud et al., 2013). In California, English learners (ELs)—the term that the California Department of Education (CDE) uses to describe students who come from homes where a language other than English is spoken—constitute over 20% of public school enrollment (National Clearinghouse for English Language Acquisition, 2011).

Oral language proficiency in early childhood has been shown to be critical for both monolingual (Snow, Porche, Tabors, & Harris, 2007) and bilingual literacy development (Roberts & Neal, 2004; Uccelli & Pérez, 2007). A child's English oral language skills in the early elementary years are critical to his or her future English reading comprehension and academic success (August & Shanahan, 2006; Hoff, 2013; Snow & Dickinson, 1991). Yet, research shows that ELs trail their monolingual English-speaking peers in English-language competencies both at kindergarten entry and throughout schooling (Lee & Burkam, 2002; National Center for Education Statistics, 2012). Further, many ELs come from low-income families, adding an additional risk factor for early English-language and vocabulary development (Hart & Risley, 1995; Kieffer, 2010). To facilitate the transition of ELs to English-speaking classrooms, teachers need explicit research-based instructional strategies for the oral language practice necessary to help these students thrive.

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The present study contributes to the growing body of literature on effective teaching strategies for bolstering the oral English skills of young ELs. We examine the effectiveness of performing arts activities that pair language and vocabulary with movement, gesture, and expression, drawing on grounded cognition literature and social theories of language acquisition to explain how such activities contribute to language development. Using a randomized experimental design, we seek to determine whether ELs who received a yearlong drama and creative movement intervention performed better on measures of oral language than ELs who did not receive the intervention.

Theoretical Framework

The primary rationale that guided our work was succinctly described in the *Report of the National Literacy Panel on Language-Minority Children and Youth* (August & Shanahan, 2006). In the Executive Summary, August and Shanahan assert,

Instruction in the key components of reading is necessary—but not sufficient—for teaching language-minority students to read and write proficiently in English. *Oral proficiency in English is critical as well—but student performance suggests that it is often overlooked in instruction* [emphasis added]. (p. 4)

For young ELs, the quality and volume of oral language use promoted by teachers is critical (Peisner-Feinberg et al., 2001). There appears to be a consensus among researchers of bilingual students that ELs need frequent opportunities to engage in structured academic talk with teachers and peers who know English well and can provide accurate feedback (Fillmore & Snow, 2000; Francis, Rivera, Lesaux, Kieffer, & Rivera, 2006; Gersten et al., 2007). Other researchers suggest that creative drama activities, in which nonverbal communication is used in combination with verbal interactions, can be an effective way for classroom teachers to encourage oral language use (Podlozny, 2000).

Given the importance of oral language for ELs (August & Shanahan, 2006; Hoff, 2013; Snow & Dickinson, 1991)

coupled with August and Shanahan’s observation that oral language practice and instruction is often missing in classrooms, we chose to examine the Teaching Artist Project (TAP), a professional development program for classroom teachers that focused on fostering rich verbal interactions, pairing speech with movement, gesture, and expression. We draw on two bodies of literature to frame our discussion: grounded cognition and social theories of language acquisition. Summarized in linear process terms (see Figure 1), we propose that by promoting classroom oral language practice through the use of (1) movement, gesture, and expression and (2) social interaction, ELs will be more engaged, as shown in prior research (Hinga, Brouillette, & Farkas, 2012), and exhibit improved English comprehension; this will boost oral language skills as measured by the California English Language Development Test (CELDT).

A more theoretical model of our study, which borrows from Affolter, Bischofberger, and Stockman’s (2000) study, is presented in Figure 2. In their work on language development and disorders, these authors deviate from traditional views, noting that researchers should not attempt to separate perception from cognition. Rather, Affolter et al. suggest that perception needs to be conceptualized more broadly and should include not only visual and auditory processes but also tactual-kinesthetic. They present a framework that links perception to cognition or, more specifically, language learning to nonverbal physical interaction processes. In this view, nonverbal interactions are pivotal in normal language acquisition because they provide natural contexts, foster conceptual knowledge that in turn promotes semantic understanding of words and sentences, and impact working memory, as multisensory events offer multiple modalities for the storage and retrieval of information. For students being taught in a language other than their home language, such as those in the present study, nonverbal interactions also tap into the students’ conceptual knowledge, facilitating comprehension and language development. Further, according to Affolter and colleagues, active participation in social contexts is pivotal for pragmatic learning, which is

FIGURE 1
Logic Model Illustrating the Theoretical Rationale Guiding the Present Study

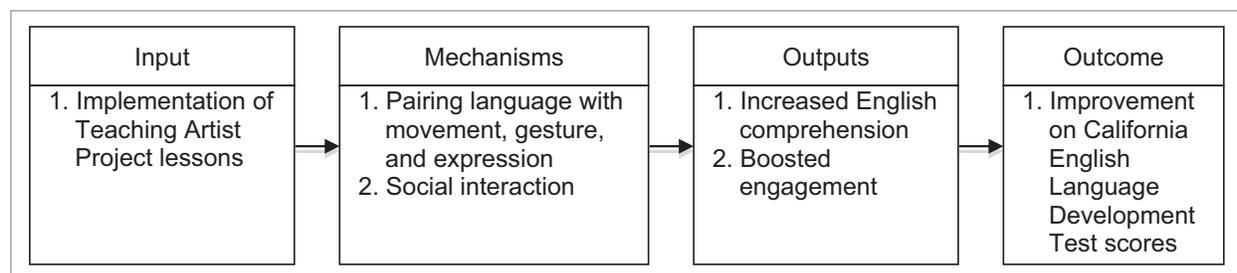
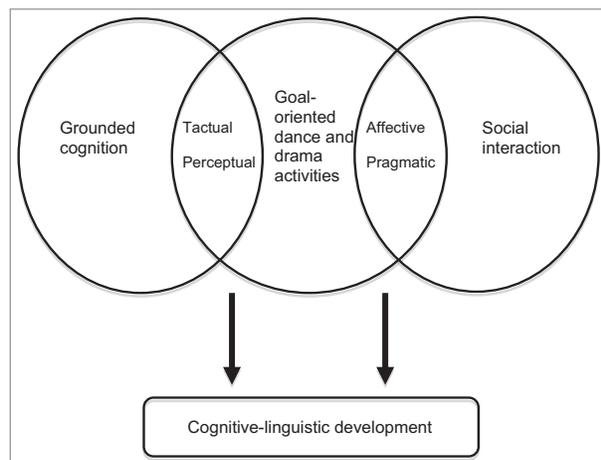


FIGURE 2
Interactive Model Illustrating the Theoretical Framework of the Present Study



likely to be especially beneficial for students with different language backgrounds.

Figure 2 depicts the embedded and interactive nature of the potential impact that grounded cognition and social interaction have on cognitive-linguistic development. At the heart of our model are the goal-oriented drama and dance activities that the TAP curriculum offers. Such activities afford the opportunity for perceptual (auditory, visual, and kinesthetic) and tactual processes within the sphere of grounded cognition, as well as pragmatic and affective learning within the social interaction sphere. The hypothesized outcome of the interplay between these dimensions, facilitated by the drama and dance activities, is enhanced cognitive-linguistic development.

ELs, Early Literacy, and Oral Language

English learner is the term used by the CDE to describe students who come from homes where a language other than English is spoken and who have not been designated as English proficient. The amount of English exposure and the level of language skills vary within this population; however, all ELs have not had sufficient English-language exposure and practice to perform on par with students from native English-speaking homes (August & Shanahan, 2006). This is evidenced by a significant gap, at kindergarten entry, between ELs and non-ELs in key language skills such as vocabulary, syntactic knowledge, and phonological awareness (Hoff, 2013).

Given that ELs experience limited home English exposure compared with monolingual English speakers, a language gap at school entry is not surprising. What is alarming is that English-language and reading gaps between ELs and monolingual ELs persist throughout

schooling (Lee & Burkam, 2002; National Center for Education Statistics, 2012), despite the fact that ELs often acquire vocabulary at a faster rate than non-ELs (Mancilla-Martinez & Lesaux, 2011; Snow & Kim, 2007). Early English-language skills are important not only to future English literacy but also to academic success and improved social dispositions (Spira, Bracken, & Fischel, 2005). In light of the adoption by many U.S. states of the Common Core State Standards, which emphasize vocabulary and complex thinking, requiring sophisticated English-language skills in both language and content areas, it is critical to prepare ELs with the necessary language tools.

Research suggests that oral language and phonological awareness are key emergent English literacy skills (Lonigan, Farver, Nakamoto, & Eppe, 2013). These skills serve as predictors of future reading abilities for both ELs and monolingual English speakers, as both sets of learners follow relatively similar trajectories for reading acquisition and development (Mancilla-Martinez & Lesaux, 2011; Snow & Kim, 2007). Although both phonological awareness and oral language are critical early literacy skills, English reading comprehension depends most strongly on English oral language (August & Shanahan, 2006; Roth, Speece, & Cooper, 2002). Oral language includes semantic knowledge (receptive and expressive vocabulary), syntactic knowledge (structural and grammatical rules), conceptual knowledge (topic understanding), and narrative discourse (story construction and/or recall; Storch & Whitehurst, 2002).

Early development of oral English plays a vital role in the future English reading comprehension of all students, but research on cross-linguistic transfer indicates that it is especially important for the English literacy of ELs. Interdependence theory asserts that skills in a learner's native language (L1) will transfer and support learning in a new language (L2; Cummins, 1979, 1991). Yet, although research consistently demonstrates this transfer in the case of phonological awareness (Melby-Lervåg & Lervåg, 2011), there is less evidence that oral language skills transfer from the L1 to the L2 (Lonigan et al., 2013; Melby-Lervåg & Lervåg, 2011; Páez & Rinaldi, 2006), suggesting the importance of oral language instruction in the L2. In a study looking at the predictive power of kindergarten emergent literacy skills in regard to first-grade reading, Yesil-Dagli (2011) found that English oral language played a larger role for ELs than for monolingual English speakers. Whereas phonological awareness ranked as a higher predictive factor for non-ELs, English vocabulary ranked higher for ELs. This highlights the importance that early English oral language has specifically for the English literacy development of ELs.

Although it is clear that oral language is critical for ELs, how to foster such skills in ELs is less apparent. Snow and Kim (2007) note that although ELs and non-ELs acquire language in a similar manner, there is a key

difference: ELs have less background English vocabulary from which to infer the meanings of new words. Consequently, what works for the vocabulary acquisition of monolingual English-speaking learners may not work for ELs. Snow and Kim cite English reading instruction to demonstrate this difference. A key reading strategy for deciphering new words is to draw on prior knowledge of familiar English vocabulary in a sentence or passage. However, ELs may not have the requisite level of comprehension.

Exposure to vocabulary in multiple contexts and from multiple sources may therefore be more beneficial for ELs (Hoff, 2013; Snow & Kim, 2007). Further, these contexts must be meaningful for ELs; they must reflect the students' conceptual knowledge and experiences, enabling them to understand and relate to the task at hand despite limited English skills. Hoff states, "bilingual children have experiences in another language that build their understandings of the world but are not reflected in their English language vocabularies" (p. 9). One way to access this conceptual knowledge is to incorporate movement, gesture, and expression in language instruction and practice (Mages, 2006, 2008). Such activities allow ELs to draw on their conceptual knowledge to decipher new words, comprehend narratives, and express their responses. Research on multimodal learning supports this, indicating "significant cognitive and social benefits that arise from the engaging, interactive and meaningful learning" (Moses, 2013, p. 74).

Movement, Gesture, Expression, and L2 Learning

Research on multimodal resources and learning has shown that incorporating movement, gesture, and expression into early elementary classrooms benefits the language comprehension and memory of ELs (Gersten & Geva, 2003; Hardison & Sonchaeng, 2005; Kress, 2009; Moses, 2013; Perego & Boyle, 2008; Rieg & Paquette, 2009; Silverman, 2007). Kress presents a useful framework in his social semiotic theory of multimodality. In his research on science learning, Kress describes classrooms as semiotic spaces where meaning making occurs across modes from visual and written to spoken and gesture. Although his focus is on science language as writing and image, his theory can be applied to oral language and comprehension. Kress states, "the world of meaning is multimodal" (p. 19), suggesting that learning occurs when meaning making is paired with sign making.

In a study examining math vocabulary instruction, Church, Ayman-Nolley, and Mahootian (2004) found that both ELs and non-ELs performed better on English comprehension assessments when gesture was included in vocabulary instruction. The authors conjecture that because gesture involves communicating concepts

through universal representations, knowledge of the English language is not a requisite to understanding the new vocabulary; ELs can utilize cues from motions and expression to aid their comprehension. Moses (2013) draws similar conclusions from her work on how the practice of viewing assists young bilingual students to construct meaning with expository texts. Moses defines *viewing* as "when students used what they were viewing (print-based text excluded) to assist in the construction of meaning" (p. 73); this includes gestures and supporting visuals, among other tools. Through three case studies of bilingual first graders, Moses determined that the use of viewing aided their construction of meaning. She further suggested that such literacy practices benefit all students, regardless of English-proficiency level.

In an attempt to establish a causal link between drama (i.e., gesture and expression) and language acquisition (i.e., oral storytelling and aural story comprehension), Mages (2006) suggests that the embodiment of gesture and expression in drama activities leads to language comprehension. She argues that dramatization provides a tangible context for decontextualized language:

In a drama children can use their bodies and voices to dramatise the characters' actions. In this way they can touch, see, and experience the meaning of the words in the text. As the children continue to dramatise stories, their drama experiences may support a stronger more direct pathway from the decontextualized language to the imagination and comprehension. (p. 335)

Although Mages (2006) does not differentiate between ELs and non-ELs, such activities might be especially beneficial for ELs, enabling them to draw on their conceptual knowledge to project themselves into the narrative, solidifying comprehension. Yet, while research supports Mages's identification of gesture and expression as the means by which drama activities impact language comprehension, the cognitive mechanism is not spelled out. Grounded cognition theories provide a useful framework for explaining how dramatic action supports understanding.

Grounded Cognition

Grounded cognition theories encompass a wide range of views. However, they are unified in rejecting "the standard view that amodal symbols represent knowledge in semantic memory" (Barsalou, 2008, p. 618). Essentially, grounded cognition theories recognize that semantic memory is connected to perception, action, and/or introspection. In a review of grounded cognition research, Barsalou cites evidence that shows motor simulation (movement), affective simulation (emotion or expression), and gesture to be situated experiences that underlie the cognitive process of language comprehension. Glenberg (2010, 2011) builds on these theories in his work on embodiment and the simulation theory of language

comprehension. Glenberg (2010) posits that “the sensory, action, and emotion systems of our bodies provide that grounding: words, phrases, and mathematical and logical symbols all become meaningful through how we perceive and interact with the objects and situations those symbols denote” (p. 587). The very learning of words relies on experiences of the senses, of actions and emotions.

According to Glenberg’s (2010) embodiment framework of language comprehension, “sentences are understood by simulating sentence content using neural systems ordinarily used for perception, action, and emotion” (p. 589). Movements, thoughts, and emotions are integral to language development. Glenberg (2011) notes, “oral language makes exquisite use of emotional information expressed in tone, prosody, facial gesture, and full-body gestures to help convey the message” (p. 8).

In their discussion of gesture development, Capone and McGregor (2004) likewise highlight the connection between gesture and language. They examine the relationship between these two cognitive processes from birth to school age, noting the prevalence of symbolic play and the use of gesture in young toddlers’ communications. Although there is a shift at around age 2, when speech becomes the preferred means of communication, “gesture continues to scaffold performance on more complex cognitive tasks, including comprehension of language or to clarify their own spoken messages” (p. 179). The authors suggest that for school-age children, gesture also facilitates the transition to concept acquisition. Capone and McGregor call for more interventions that explore the relationship between the two.

The simulation theory of language comprehension expands the embodiment framework to include situational learning, where “language is understood by simulating the situation described by the language, that is, by driving the brain into states that are analogous to the perceptual, action, and emotional states that arise during perception of and acting in the real situation” (Glenberg, 2011, p. 6). Simulation theory suggests that drama could help ELs in important ways with language learning. Drama activities not only incorporate gesture and expression but also create make-believe situations in which young language learners can act out vocabulary or narratives in both familiar and different contexts.

A growing body of both cognitive and neuroscientific work suggests how activities based on grounded cognition theories may aid language development, facilitating not only vocabulary learning but also retention (Glenberg, 2011). Given that grounded cognition theories address the link between physical and cognitive processes, they provide a useful lens for the present study, which explores arts activities that incorporate movement, gesture, and expression (physical processes)

to promote the oral language development (cognitive processes) of ELs.

Social Theories of Language Acquisition

Schwartz, Bransford, and Sears (2005) have argued that effective learning at all ages requires a balance between (1) well-learned routines that provide efficiency and (2) opportunities for innovation that involve play and social interaction, allowing new insights to emerge. As the *Standards for the English Language Arts* state, “We learn language not simply for the sake of learning language; we learn it to make sense of the world around us and to communicate our understandings with others” (International Reading Association & National Council of Teachers of English, 1996, p. 14).

Multimodal research also indicates that social interaction appears to be instrumental in comprehension (Moses, 2013). Moses notes, “Dialogue that arises from cooperative inquiry is the most effective means of knowledge construction (Beach and Myers, 2001; Gutierrez, Baquedano-Lopez & Tejada, 1999)” (p. 75). Moses posits that multimodal literacy practices promote collaborative learning and meaning construction and that participating in dialogic inquiry with peers fosters motivation and engagement that both boosts construction of meaning and promotes positive “educational identities for young bilinguals” (p. 88). Additionally, Kress’s (2009) social semiotic theory of multimodality emphasizes the importance of social influences when he considers classroom interactions as the context in which students are able to make sense of symbols and language.

The social pragmatic view of language acquisition suggests imitative learning as one social mechanism. Tomasello (1992) describes imitative learning as “the child’s acquisition of a novel behavior in both its appropriate form (sound) and function (using the sound/symbol in the appropriate communicative contexts)” (p. 72). According to Tomasello, intersubjective participation is key. Without this type of interaction, the learner is most likely only mimicking the other person without fully comprehending or learning language; however, in the case of intersubjective participation, the student is able to take on the point of view of the other person, enabling comprehension and learning. With intersubjectivity, the student understands not only what the other person is doing but also why he or she is doing it. Tomasello notes, “When children do not have such an understanding, their language acquisition suffers as a direct result” (p. 73).

One strand of research on second-language acquisition also acknowledges the social nature of language learning (Firth & Wagner, 1997). Such social second-language acquisition views emphasize the social and contextual influences of language learning, challenging the traditional

notion that language is a mental construct and redefining it as a social construct in which learning happens through social participation (Larsen-Freeman, 2007). This perspective resonates with Vygotsky's (1978) conception of learning and his theory of the zone of proximal development, which he described as "*the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers*" (p. 86). For Vygotsky, learning is initiated and realized through social interaction, be it with adults or peers. Such social interaction provides a context for joint construction of meaning. Walqui (2006) perceives this joint construction as collective scaffolding, which, as she notes, includes (1) the learner collaborating and constructing learning with others and (2) higher level learners assisting lower level learners, with both having opportunities to learn.

Performing arts activities such as drama and dance treat language and expressive communication as social. Participants take cues from and react to other participants, constructing and conveying meaning. Thus, students with lower language abilities can jointly construct language and meaning, thereby performing at a higher level than otherwise would be possible. Students with greater language abilities can help model and mediate the interaction for the students who have lower language abilities, thereby facilitating comprehension.

Present Study

Large correlational studies have shown the benefits of arts integration for ELs (Catterall, 2009), and small-scale quantitative investigations have indicated a causal relationship between arts lessons and language development (Deasy, 2002). However, we found no examples of rigorously tested large-scale, experimental investigations that proved arts integration to be effective. The present study was designed to investigate the effect of integrated drama, creative movement, and literacy lessons on the English oral language development of ELs. Specifically, we examined the impact of TAP, a yearlong, K–2 drama and dance intervention that pairs movement, gesture, and expression with early English literacy lessons, on the English language skills of ELs, as measured by the CELDT.

Qualitative analyses of interview and focus group data have indicated that TAP benefited all students' language skills and comprehension, with particular benefits evident for ELs (Brouillette, 2011, 2012a, 2012b). Other prior research has shown increased engagement for students who participated in TAP (Hinga et al., 2012). Preliminary quantitative analyses on a smaller implementation of this program have suggested that it

was effective in boosting the oral language skills of young ELs (Greenfader & Brouillette, 2013).

This study builds on these results by examining a larger sample, using data from the 2010–2011 and 2011–2012 school years. Two specific research questions guided this study:

1. Do K–2 ELs who participated in TAP perform better on oral language assessments than those who did not receive the intervention?
2. Is the impact of TAP moderated by baseline English-language skills of K–2 ELs?

The objective of the first question was to replicate the previous findings using a larger data set and more rigorous analyses. The second question asked whether there were differential program effects on ELs with varying levels of baseline English-language skills. That is, which, if any, EL students benefited from the program?

Method

Intervention

TAP is a two-year arts and literacy program that provides K–2 teachers with professional development with the goal of enabling them to use movement, gesture, and expression to stimulate engaging English verbal interactions in the classroom and to boost English vocabulary comprehension and usage. The first year of TAP consists of 28 weekly 50-minute lessons (14 drama and 14 creative movement/dance) cotaught by the classroom teacher and a teaching artist. Each of the lessons contains key English-language development activities and concepts, which can be built on by the teacher during the week. In the second year of the program, the classroom teachers implement the lessons on their own.

This study focuses on the first year of TAP, as it was the experimental year in which students were randomly assigned (by school) to the intervention, and weekly visits from trained teaching artists ensured that the treatment was consistently administered. There were eight teaching artists across the two disciplines (drama and dance), who implemented the lessons in all of the treatment schools for both of the school years. The school district hired local performing artists to serve as teaching artists based on interviews, experience, and teaching a sample lesson. They received three days of training by the district TAP coordinator when hired, and all used the same curriculum for the in-class lessons. The consistency in the curriculum, teaching artists, and training that they received helped ensure fidelity of implementation. Additionally, the teaching artists received ongoing observations and coaching from the district's resource teachers. According to the reports filed by the teaching artists, there was also consistency in

the quality of classroom teacher participation during the TAP lessons. For the 2010–2011 and 2011–2012 school years, the teaching artists indicated that 99% and 91%, respectively, of the teachers’ participation was either good, very good, or excellent.

Professional Development

A key objective of TAP was to provide K–2 classroom teachers with performing arts tools and strategies to foster English oral language development that they could use on their own, without the assistance of the teaching artist. Demographics of the participating K–2 teachers in the 2011–2012 school year are shown in Table 1. Just over half of the teachers had no prior drama experience, with *experience* defined as including any past involvement at any level (according to teacher reports); 39% had no prior dance experience.

The classroom teachers participated in two paid, day-long seminars (one at the beginning of the fall term and the other at the beginning of the spring term), in which they learned how to use elements of theater and dance as part of language instruction. These workshops were led by the district TAP coordinator and resource teachers in preparation for the weekly visits of the teaching artist. During the weekly TAP classes, the visiting teaching artist would follow a preestablished curriculum but also provide the teachers with ideas and resources for incorporating movement, gesture, and expression into language arts and other content areas. The classroom teacher participated in the lessons with the students, learning the activities as the teaching artist modeled them. Occasionally, the teaching artist would pause during a lesson to offer suggestions to

the classroom teacher or to ask the teacher to lead one of the activities. The teachers also received support from the district TAP coordinator, as well as the visual and performing arts resource teachers, with whom they met two or three times a year (additional meetings by request). To support colleagues and facilitate grade-level planning discussions, a veteran teacher was appointed as the TAP mentor for each grade level at the participating schools.

TAP Lessons

The lessons generally included the following segments: warm-up, vocabulary, modeling, guided practice, and debriefing. However, as the semester progressed, the teaching artist would adjust to the needs of the students in a specific class. For example, there might be more than one guided practice segment, allowing the students to practice previously learned skills. Approximately 10 minutes of the lessons were spent in peer-to-peer interactions. For example, after the teaching artist read a short story to the class, he or she might divide the students into small groups and ask them to dramatize the story, perhaps encouraging them to insert imaginative ideas, such as creating a different ending or involving a new character.

Each semester ended with a performance, to which parents and/or other classes were often invited. As the performance neared, more time was spent on perfecting skills, and less time was spent on modeling new skills. All lessons paired movement, gesture, and expression with English oral language practice.

Language Skills

The principal language skills targeted in the TAP lessons were voice projection, vocabulary, dialoguing or narrative discourse, story construction, and story recall. Grammar rules and verb tenses were not included in TAP lessons. The language skills were patterned on the speaking and listening strategies/applications included in the K–2 California English-language development, English language arts, and drama standards. TAP primarily focused on the beginning, early intermediate, and intermediate levels.

At the beginning level, the comprehension strategies/applications include “Respond to simple directions and questions by using physical actions and other means of nonverbal communication (e.g., matching objects, pointing to an answer, drawing pictures)” (CDE, 1999a, p. 17). Early TAP lessons focus on students acting out responses to questions, feelings, and moods. In the first kindergarten dance lesson, students identify the parts of their bodies that can move (head, eyebrows, mouth, hands, etc.) and move those body parts to a song like “Hokey Pokey.” Later, the teaching artists focus on a California dance standard for kindergarten, which suggests that students should “create movements that reflect a variety of personal experiences (e.g., recall feeling happy, sad, angry, excited)” (CDE,

TABLE 1
Descriptive Statistics of K–2 Classroom Teachers Who Received Instruction in the Teaching Artist Project (N = 59)

Teacher attribute	Percentage of teachers	Respondents N
Teaching experience:		58
• 1–10 years	33.90	
• 11–20 years	40.70	
• 21+ years	23.80	
Highest level of education:		56
• Bachelor’s degree	28.80	
• Master’s degree	66.10	
Speaks a second language	28.60	56
No past drama involvement	54.20	54
No past dance involvement	39.00	56

Note. Teacher data are for the 2011–2012 school year.

1999b, standard 2.1). The teaching artist mimes various feelings and moods, which the students try to identify. This becomes a recurring theme. The teaching artist will say, “Show me ‘happy,’” or, “Show me ‘angry.’” All of the students then mime that feeling. By first grade, feelings like jealousy and confusion are added. This activity also helps young students in identifying and naming their emotions.

At the intermediate level, students are expected to “listen attentively to stories and information and identify important details and concepts by using both verbal and nonverbal responses” (California Department of Education, 1999a, p. 19). Later in the semester, the teaching artist would read stories such as *Jack and Jill* and *Little Miss Muffet*, stopping to discuss the characters and what they are doing. After talking about how students might use voice, facial expression, and body movement to portray the characters, the students would be divided into small groups to collaborate, and a few volunteers would be asked to act out the story. The whole class participated in the discussion of what movements an actor might use to create imaginary characters, or to pantomime specific story points. Although such activities certainly fostered English vocabulary development, students also practiced such language skills as narrative discourse, story construction, and story recall as they paired language with gesture in their dramatic interpretations, injecting their own additions to the narrative. Further, the teaching artist would work with the students on vocal dynamics, projecting their voices clearly whether they spoke quietly or loudly, to convey different characters and moods.

TAP lessons also align with the more recent Common Core State Standards for the English Language Arts. The grades K–2 Speaking and Listening Standards require students to “participate in collaborative conversations with diverse partners...with peers and adults in small and larger groups” (National Governors Association Center for Best Practices & Council of Chief State School Officers [NGA Center & CCSSO], 2010, p. 23). This standard posits that students should be able to successfully dialogue with others, building on other students’ talk. TAP lessons facilitate verbal interactions between students by incorporating activities in which students practice conversing with one another in English. Kindergartners are expected to “speak audibly and express thoughts, feelings, and ideas clearly” (NGA Center & CCSSO, 2010, p. 23). This coincides with the vocal projection skill that TAP emphasizes in simple warm-up activities, as when the students say their name loudly, clearly, and with expression. Second graders are expected to tell a story (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010), an activity that draws on language skills such as narrative discourse, story construction, and story re-

call—all of which they practice when creating and enacting dramatic presentations during TAP lessons.

In some schools, ELs made up over 90% of the students in the classroom. However, there were always variations in how much English these students understood. So, even at the beginning of kindergarten, it was possible to play theater games in which the teaching artist mimed swinging a baseball bat or dribbling a basketball, and the students guessed what activity was represented. Then, small groups of students would be given a picture of an activity, which they would be asked to mime, while the rest of the class would guess what the activity was. During such activities, beginning ELs could respond to a picture by miming an action like kicking a soccer ball, while more advanced students could verbally explain what those actions represented.

TAP lesson plans and videos of teaching artists in classrooms are available online (drama: sites.uci.edu/class/theatre-grades; dance: sites.uci.edu/class/dance-lessons-grades).

Participants

School Level

Although ELs are the unit of analysis for this study, the TAP intervention was implemented at the school level. The first wave of TAP was implemented in 2007–2010 and included 15 Title I schools in San Diego. After receiving funding to include 15 additional schools, a second wave of TAP began in the 2010–2011 school year; this is the wave that the present study examines. Second-wave TAP schools were chosen from a list of San Diego Title I schools (excluding the schools that participated in the first wave) using a table of random numbers. Each randomly selected school was approached by project representatives, who spoke with the principal and arranged to discuss the project at a teachers meeting.

For the 2010–2011 TAP cohort, five schools were randomly selected, and all but one of those schools accepted the offer to participate in TAP. Five more schools were randomly chosen to participate in the 2011–2012 cohort, all of which accepted the offer to participate in TAP. Although the TAP schools were randomly selected, to maintain fidelity of implementation, the program required the selected schools to have 100% participation by classroom teachers. Table 2 displays descriptive data for each of the nine treatment schools.

Students from the schools that were not randomly selected to receive TAP in either wave comprise the control group. The school in the first cohort that declined the offer to participate in TAP was excluded from the control group.

Student Level

The analyses in this study focus on student-level outcomes. All students in the sample are designated as

TABLE 2
Characteristics of Treatment Schools

Characteristic	Cohort 1 (2010–2011)				Cohort 2 (2011–2012)				
	A	B	C	D	E	F	G	H	I
Percentage of English learners	33	76	35	50	43	30	33	56	41
Percentage of students receiving free or reduced-price lunch	67	100	72	80	71	69	70	100	69
Race (in percentages):									
• African American	15	1	11	6	12	5	26	20	10
• Asian	7		7	2	19	11	43	4	34
• Hispanic	49	98	60	77	45	51	24	69	34
• White	19	1	21	10	16	24		5	9
• Other	9		1	6	9	7	6	1	13
Average API	850	696	881	739	811	795	847	737	816

Note. API = the school’s Academic Performance Index at the beginning of the treatment year. Data are from the California Department of Education and the Standardized Testing and Reporting Program student answer document. All information is baseline data. The student demographic percentages may not sum to 100 because of responses of other, multiple, declined to state, or nonresponse.

ELs—that is, students who do not have proficient English-language skills, as determined by the CDE. The California EL designation process is initiated by information from a parental home language survey upon a student’s entrance into school. If the parent indicates that the student’s primary language is other than English, the student must take the CELDT. Students who do not attain an “English proficient” score on the CELDT are labeled as ELs and must take the CELDT annually until redesignated as English proficient—as determined by the CELDT, the California Standards Test in English language arts, teacher evaluation, and parental consultation (Edwards, Leichty, & Wilson, 2008). The CELDT assessment is given annually at the beginning of the school year. All students in our sample have at least two consecutive years of CELDT data, with the first year serving as baseline and the second as an outcome measure in our analyses.

To generate the analysis sample, we combined data from the 2010–2011 and 2011–2012 cohorts. We conducted an a priori power analysis with conventional assumptions (80% power; two-tailed test; Cronbach’s $\alpha = .05$) and an expected effect size of .10. The results indicate that to achieve 80% power, the size of one group should be at least 982 and the other at least 3,926. These sizes are comparable to our actual group sizes. The analysis sample consists of 902 K–2 ELs in TAP schools and 4,338 K–2 ELs in control schools. The students are fairly evenly distributed across grade levels: 38% are kindergartners, 31% are in first grade, and 31% are second graders. Descriptive statistics for the students who received the TAP treatment, as well as for the control

students, are displayed in Table 3, which also includes significance tests for treatment–control group differences. Just over half of the sample is male, with no significant difference between the treatment and control groups. The majority of the EL students are Hispanic (77% of the treatment group, 84% of the control group), which is representative of overall state demographics, with nearly 85% of ELs Spanish-speaking (Batalova & McHugh, 2010).

There is a significantly higher percentage of Hispanic students in the control group than in the treatment group ($p < .001$), and there is a significantly higher percentage of Asian students in TAP schools ($p < .001$). Nearly 40% of the students have one or more parent who graduated high school (37% of the treatment group, 39% of the control group), with no significant difference between the two groups. There is a higher percentage of students with a parent who completed some college or beyond in the treatment group (31%) compared with the control group (20%) and a smaller percentage of students with a parent who did not graduate high school in the treatment group (32%) compared with the control group (41%). Both of these differences are significant at the $p < .001$ level. Baseline CELDT scores for students in the treatment group are higher than those of the comparison condition students. On overall scores, the mean for the treatment group is 439.81, whereas the mean for the control group is 431.74, a difference significant at the $p < .001$ level. Speaking scores are also significantly different ($p < .001$); the mean for the treatment group is 453.58, and the mean for the control group is 443.47. Treatment students have

TABLE 3
Descriptive Statistics by Assignment to Condition

Student characteristic	TAP			Control		
	N	Mean/percentage of sample	Standard deviation	N	Mean/percentage of sample	Standard deviation
Male	480	51.25		2,395	51.77	
<i>Race</i>						
Hispanic	480	77.29		2,395	84.22	***
Asian	480	17.50		2,395	11.23	***
African American	480	2.70		2,395	3.63	
White	480	1.46		2,395	0.67	
Other	480	1.04		2,395	0.25	*
<i>Parent education</i>						
Did not graduate high school	480	32.29		2,395	40.67	***
Graduated high school	480	36.67		2,395	39.00	
Completed some college or above	480	31.04		2,395	20.33	***
<i>Grade</i>						
Kindergarten	902	38.91		4,338	37.74	
First	902	30.60		4,338	31.60	
Second	902	30.49		4,338	30.66	
<i>Baseline CELDT scores</i>						
Overall	902	439.81	53.42	4,338	431.74	60.30***
Speaking	902	453.58	66.05	4,338	443.47	75.76***
Listening	902	440.46	61.52	4,338	433.24	67.46**
Reading	902	410.13	72.60	4,338	403.59	72.71*
Writing	902	420.86	51.94	4,338	418.23	54.37

Note. CELDT = California English Language Development Test; TAP = Teaching Artist Project. *t*-tests for differences in means were conducted for continuous variables and chi-square tests for categorical variables. CELDT scores are unstandardized. CELDT ranges differ by grade level but, when combined, are as follows: overall: 184–635, speaking: 140–630, listening: 220–570, reading: 220–650, and writing: 220–690. *p* level of TAP/control difference: **p* < .05. ***p* < .01. ****p* < .001.

a mean of 440.46 on the listening subtest, whereas the control students have a mean of 433.24, significantly different at the $p < .01$ level. The mean reading score for treatment students is 410.13, but it is 403.59 for control students, significantly different at the $p < .05$ level. There are no significant differences on writing scores; the mean for treatment students is 420.86 and for the control group 418.23. The ranges for these subtests vary by grade and are as follows: listening: 220–570 (K–2); speaking: 140–630 (K–2); reading: 220–570 (K–1) and 280–650 (2); writing: 220–600 (K–1) and 220–690 (2); and overall 184–598 (K–1) and 215–635 (2).

The randomization of the assignment of schools to TAP attempted to ensure that the students in each of these conditions were equal in expectation to one another

(Murnane & Willett, 2011). However, perhaps because a relatively small number of schools was assigned to TAP given the size of the district, when we examined differences between the treatment and control group, we found significant differences in race, parent education, and baseline test scores between these two groups of ELs. We adjust for these differences in the analyses.

Measures

TAP

The key independent variable in this analysis is a dummy indicator of whether the student received the treatment (i.e., participated in TAP). As indicated previously, the schools that were not randomly assigned to TAP comprised

the control group and did not receive any alternative program. Rather, they conducted business-as-usual instruction. Although this study did not specifically investigate the business-as-usual practices at the control schools, state and district practices suggest a potential picture of what business as usual entailed. Consistent with current practice in most California primary classrooms, few control schools offered any arts curriculum. According to a study carried out by SRI International, 90% of California elementary schools fail to provide a standards-aligned course of study across all four arts disciplines; California K–5 students who receive arts education typically have a limited, less substantial experience than their peers across the country (Woodworth, Gallagher, & Guha, 2007).

Regarding how ELs are instructed, the school district's language acquisition office adopted a structured English immersion framework for supporting ELs in all grades. This policy translated into lots of English used in classrooms of ELs and using an ESL methodology to teach English, which differed from how English is taught in mainstream classrooms (Baker, 1999).

CELDT

To determine TAP's impact on the early literacy skills of ELs, we used scores from the CELDT as outcome variables. The CELDT has been reviewed (CTB/McGraw-Hill, 2009) and determined to be a reliable and valid measure of English-language proficiency. The reliability coefficients, as measured by Cronbach's α , range between .73 and .92 (CTB/McGraw-Hill, 2009).

The CELDT is based on the California English-language development standards and used to (1) identify students who are not proficient in English, (2) determine the level of English proficiency of those students, and (3) assess their progress in English skills (CDE, 2013). All California-designated ELs are required to take the CELDT annually each fall until they are reclassified as language proficient. Kindergartners and first graders are administered the entire test (all subtests) on a one-on-one basis by a test examiner who is proficient in speaking English and has completed formal CELDT training. Second graders and beyond receive parts of the test on an individual basis and parts in a group setting. There are five levels of proficiency determined by a student's scores: beginning, early intermediate, intermediate, early advanced, and advanced. The corresponding score ranges for these levels differ by grade and subcategory.

The CELDT includes four subcategories that evaluate the speaking, listening, reading, and writing skills of ELs. From these individual assessments, an overall score is determined. For grades K and 1, the overall score consists of 45% listening, 45% speaking, 5% reading, and 5% writing. For second grade and higher, all subtests are averaged to comprise the overall score. The speaking subtest is administered individually to ELs in all grade levels and assesses

how well students can express thoughts and answer questions. The test examiner asks students to name objects and their uses, respond to questions, and tell stories based on pictures. In the speaking assessment for grades K and 1, students are shown a picture and asked to describe what they see. They are primarily scored on the richness of description (i.e., amount and usage of vocabulary). The listening subtest measures how well students comprehend information heard in English. Kindergartners and first graders answer the examiner orally on an individual basis, whereas students in grades 2–12 take the test primarily in groups. Students are asked to demonstrate whether they understand stories read to them, follow directions read aloud, listen to multiple statements on different topics, and indicate a picture that matches one of the subjects presented. In grades K–2, students are also asked to say words that rhyme with other words.

For kindergartners and first graders, the reading subtest focuses on print knowledge, in that the students are asked to identify parts of a book, name letters and their sounds, and read simple words and sentences. For students in grades 2–12, the reading subtest is administered in groups and includes vocabulary knowledge in addition to reading comprehension; students are asked to choose words to complete sentences, and show knowledge of rules about how words are formed. For the writing subtest, kindergartners and first graders are asked to copy letters and words, write simple words based on a story read to them, and identify basic punctuation and capitalization needed in a short sentence. In grades 2–12, the writing subtest is administered in groups, and students must write sentences, create a short composition, and demonstrate grammatical knowledge.

The listening and speaking subtests align with key components of oral language as defined by Storch and Whitehurst (2002). The listening subtest assesses semantic knowledge and conceptual knowledge; the speaking subtest captures structural language (semantic and syntactic knowledge) and narrative discourse. Although these two subtests are the most relevant to our research questions, we used all of the CELDT scores to ascertain students' baseline language abilities and to assess the potential impact of the treatment on any of these English-language skills.

Covariates

To increase estimate precision and to adjust for the departures from randomization, we utilize a full set of covariates, including gender, race, socioeconomic status (measured by parent education), grade of the student, year the treatment was implemented, and prior achievement. For students in the 2010–2011 cohort, prior achievement is captured by their fall 2010 CELDT scores; for the students in the 2011–2012 cohort, fall 2011 CELDT scores serve as their baseline achievement. For the purposes of our analyses, all covariates are centered at their mean.

Missing Data

As with most large-scale data sets, our sample contains missing data. In the case of missing CELDT scores, we dropped those students to ensure that all students had both a baseline and an outcome score. Such missing CELDT scores could have been due to reclassification or entering or exiting the district—two very different scenarios to disentangle—and dropping these students did not significantly alter our sample.

Demographic data (e.g., gender, race, parent education) was only collected at the launch of the experiment; therefore, we were missing such data for any students who entered the school district after the first year of TAP implementation. The percentage of missing demographic data for the control group was 45%, and for the treatment group, it was 47%. Although these percentages may seem high, there is no reason to believe that the student demographics changed significantly from one year to the next, suggesting that nonrandomly missing data are not biasing the estimates. Further, to adjust for these missing data, we used multiple imputation to generate values representative of the overall properties of the sample, using the `augment` command in Stata to generate weights derived from probabilities of response. Data were imputed 20 times using the “`mi impute`” command in Stata. For continuous variables (outcome and baseline CELDT scores), we used predictive mean matching; for dummy variables (treatment, English proficiency, and covariates except for baseline achievement), we used logistic imputation.

Procedure

To determine whether K-2 ELs who participated in TAP performed better on English oral language assessments than their peers in the control group (research question 1), we ran two ordinary least squares regression models predicting CELDT scores. Although we were primarily interested in the speaking and listening subtest scores (as measures of oral language), we ran these series of models five times, using all five CELDT subtest scores—speaking, listening, reading, writing, and overall—as different outcome variables to observe potential impacts on any English-language skill. We considered the likelihood that students within the same schools are more similar to one another than they are to students from different schools. To handle such clustering within schools, we employed the `cluster` command in Stata to achieve correct standard errors.

In the first model, we included the full set of covariates mentioned previously, with prior achievement measured by the baseline CELDT score of the corresponding CELDT outcome variable (e.g., if the dependent variable was speaking, then the prior achievement was the previous year’s speaking score). In the second model, we included the full set of covariates and the four baseline CELDT scores as a composite measurement of the student’s prior

English-language skills. Effect sizes were computed for outcome CELDT measures that showed a significant association with the TAP intervention. The formula used to compute effect sizes was Cohen’s *d*, which indicates the standardized difference between means of different groups (Cohen, 1977).

To ascertain whether TAP worked differently for K-2 ELs with varying levels of English-language skills (research question 2), we created five different interaction terms between the dummy treatment variable and each of the five CELDT subcategory baseline scores. We began with a simple ordinary least squares regression model that included the treatment dummy, the baseline score, and the interaction between the treatment and baseline CELDT as predictors. If the interaction was significant in this initial model, we ran a similar set of regressions as those earlier predicting TAP participation on CELDT, but that included the interaction term.

Results

Research Question 1

Table 4 displays the series of regression models predicting the speaking scores of K-2 ELs in the treatment and control groups. In model 1, TAP students showed marginally significant gains on speaking assessments over the control students ($\beta = 0.06, p = .052$). Similarly, when we ran regressions that included the four baseline CELDT scores (model 2), we found marginally significant results ($\beta = 0.06, p = .056$).

The effect size measuring the impact of TAP on K-2 ELs’ speaking skills was .06, as measured by Cohen’s *d*. According to Cohen’s (1977) scale of effect size magnitudes, this is interpreted as less than a small effect; however, when considering effect sizes in behavioral and social sciences research, which are oftentimes below Cohen’s thresholds (Hill, Bloom, Black, & Lipsey, 2008; Valentine & Cooper, 2003), this effect should not be disregarded. Further, because the TAP intervention was a low-intensity treatment (28 sessions of 50 minutes each, involving the entire class), it is not surprising that the effect size was low by Cohen’s criteria.

In their report reviewing 20 studies that examined the impact of technology interventions for struggling K-12 readers, Cheung and Slavin (2012) indicated that the average effect size of low-intensity interventions (less than 75 minutes per week) was .08, whereas high-intensity interventions (over 75 minutes per week) averaged an effect size of .19. Although not exactly similar to the treatment in the current study, these findings illustrate comparable results for a low-intensity intervention for struggling elementary-age readers. Finally, as pointed out by Rosenthal and Hetland (2000), it has been shown that even effect sizes of nearly zero can save 34 lives per 1,000,

TABLE 4
Impact of the Teaching Artist Project (TAP) on the Speaking Skills of English Learners in Grades K–2 (*N* = 5,240)

	Model 1			Model 2		
	B	Standard error	<i>p</i>	B	Standard error	<i>p</i>
Participated in TAP	0.06†	0.03	.052	0.06†	0.03	.056
<i>Baseline subtest scores</i>						
Speaking	0.81***	0.02	.000	0.74***	0.03	.000
Listening				0.07**	0.02	.001
Reading				0.05***	0.01	.000
Writing				0.02	0.02	.213
Intercept	–0.35			–0.32		
<i>R</i> ²	0.73			0.73		
Adjusted <i>R</i> ²	0.73			0.73		

Note. Scores are standardized. Both models include adjustments for clustering within schools. Covariates (centered at their mean): baseline achievement (measured by prior speaking score on the California English Language Development Test), gender, race, parent education, year TAP was implemented, and grade. Model 2 includes baseline listening, speaking, reading, and writing scores.
 †*p* < .10. ***p* < .01. ****p* < .001.

as in the aspirin component of the Physicians’ Health Study (Steering Committee of the Physicians’ Health Study Research Group, 1988). Therefore, the practical value of an effect of any size must be considered in relation to the importance of the outcome compared with the cost (in effort and dollars) of the intervention required to produce it. We repeated a similar series of models with the CELDT listening subtest as the dependent variable; however, we did not find significance between the TAP intervention and the listening scores for participating ELs. As expected, we did not find any significant or marginally significant impacts of TAP on the reading, writing, or overall CELDT scores of K–2 ELs.

Research Question 2

The results from our initial model of regressions, which included the treatment (TAP) dummy variable, the baseline CELDT score, and the interaction term, showed that the only significant interaction was between baseline speaking skills and TAP. Subsequently, we proceeded to run the two regression models for speaking. Table 5 displays the results of our analyses. Model 1 displays the results of the simple ordinary least squares regression with the treatment dummy, the baseline score, and the interaction between the treatment and baseline CELDT as predictors; the interaction is significant ($\beta = -0.07, p < .01$), indicating that the treatment effect on speaking skills is moderated by an EL’s prior achievement in speaking. The interaction maintains marginal significance in models 2 and 3, which include the full set of covariates and school clustering ($\beta = -0.07, p < .10$, and $\beta = -0.08, p < .10$,

respectively). Similar results are obtained in models 1–3 if the interaction is regressed nonlinearly, interacting treatment with a quadratic function of prior achievement.

To better understand the patterns of this interaction, we used the estimated coefficients from model 3 to graph the predicted differences between treatment and control students. We chose baseline speaking scores within each level (beginning, early intermediate, intermediate, early advanced, and advanced), as well as the minimum, mean, and maximum of our sample, as plot points. Figure 3 shows that K–2 ELs who had the most minimal speaking skills, as measured by the CELDT speaking subtest, benefited the most from TAP (0.40 of a standard deviation for students with the minimum baseline score and 0.33 for students within the beginning level over control group peers). EL students who had baseline speaking skills close to the mean of the sample still benefited from TAP but not as much (0.07 of a standard deviation above control students). Interestingly, students at the upper end of the baseline speaking scores do not appear to have improved their speaking skills as a result of TAP. For ELs with advanced or maximum speaking scores, the control group performed slightly higher (0.07 and 0.13 of a standard deviation, respectively), suggesting that EL students with higher speaking abilities did not rely as heavily on TAP strategies as did K–2 ELs with lesser speaking skills.

Discussion

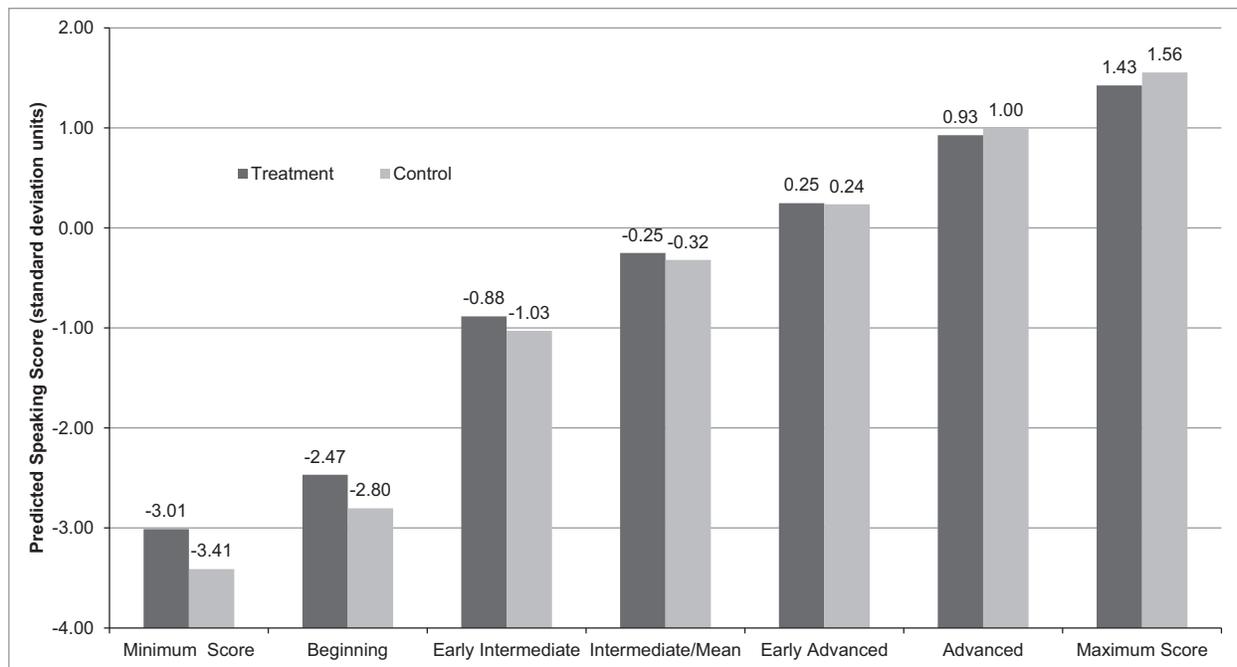
Our analyses produced two important findings: (1) The K–2 ELs who participated in TAP performed better on

TABLE 5
Interaction Between the Teaching Artist Project (TAP) and the Baseline Speaking Score on Speaking Skills of English Learners in Grades K–2 (*N* = 5,240)

	Model 1: Simple interaction model			Model 2: With covariates and clustering adjustments			Model 3: With all baseline subtests		
	<i>B</i>	Standard error	<i>p</i>	<i>B</i>	Standard error	<i>p</i>	<i>B</i>	Standard error	<i>p</i>
Participated in TAP	0.06**	0.02	.005	0.07*	0.03	.036	0.07*	0.03	.036
Baseline speaking score	0.83***	0.01	.000	0.82***	0.02	.000	0.75***	0.03	.000
Interaction between TAP participation and baseline speaking score	-0.07**	0.02	.004	-0.07†	0.04	.091	-0.08†	0.04	.077
Intercept	-0.04			-0.35			-0.32		
<i>R</i> ²	0.65			0.73			0.74		
Adjusted <i>R</i> ²	0.65			0.73			0.73		

Note. Scores are standardized. Models 2 and 3 include adjustments for clustering within schools. Covariates (centered at their mean) in models 2 and 3: baseline achievement (measured by prior speaking score on the California English Language Development Test), gender, race, parent education, year TAP was implemented, and grade. Model 3 includes baseline listening, speaking, reading, and writing scores.
†*p* < .10. **p* < .05. ***p* < .01. ****p* < .001.

FIGURE 3
TAP’s Impact on the Speaking of K-2 English Learners Based on Prior Speaking Skills



Note. Predicted scores are determined from coefficient estimates in the third model of Table 5. Differences are shown by treatment and control groups. “Minimum” “Mean,” and “Maximum” represent the minimum, mean, and maximum baseline speaking scores on the California English Language Development Test (CELDT) of the analysis sample. “Beginning,” “Early Intermediate,” “Intermediate,” “Early Advanced,” and “Advanced” represent baseline CELDT speaking scores within each of these levels. The mean of the sample is within the intermediate level.

the CELDT speaking assessment than those students who did not receive the treatment (research question 1), and (2) those ELs who had the most limited English speaking skills benefited most from TAP (research

question 2). These results indicate that net of demographic and school factors, TAP helped K–2 EL students develop English oral language skills. The findings from this study corroborate previous work linking drama

and movement activities to literacy development (Hetland & Winner, 2004; Mages, 2008) and the language acquisition and comprehension of young ELs (Hardison & Sonchaeng, 2005; Peregoy & Boyle, 2008; Rieg & Paquette, 2009).

Further, TAP was found to be most effective for those students who are oftentimes most difficult to reach: those students who began the program with the weakest English-language skills. One explanation for this is given by the compensatory hypothesis (Sameroff & Chandler, 1975), which predicts that students who are at greatest risk, in our case for English-language development, will derive the most benefits from a targeted intervention. Although this may or may not be the case with the current study, the social theories portion of our theoretical framework suggests that the lowest English performers showed the highest gains because they were the learners who received the most guided interaction with more English-proficient students and adults. This also might explain why the students with the highest English skills did not derive the same benefits as their lower performing peers. Given that a portion of the TAP practice occurred within peer-peer interactions, the ELs with higher English abilities (albeit not considered fully proficient) received less guided interaction. Instead, they served as models for the ELs with lower skills. Perhaps these students might have benefited from peer-peer interactions with students with greater English skills than they, such as native English speakers; however, given the school demographics (i.e., high percentages of ELs, as shown in Table 2), these students likely did not have such models.

Although the effect size of TAP's impact on the speaking skills of ELs was modest, it is important to consider it in terms of the magnitude of the resources needed to implement the project. TAP was a relatively low-cost intervention that was conducted at multiple schools and served nearly 1,000 ELs (excluding the number of native English-speaking students it served). It is a program that can be implemented in classrooms with students with varying levels of English abilities, without having to separate the students. Finally, it has a minimal impact on scheduling and other curricular activities because it is a low-dosage (50 minutes per week) intervention and consists of elements that can be used in conjunction with other subjects.

We did not achieve significance when investigating the impact of TAP on the listening skills of K-2 EL participants. This result was not surprising considering that in typical classroom environments, the teacher's regular instruction provides students with plentiful opportunities to practice their English listening skills during school hours. ELs have far fewer chances to practice speaking English. TAP was designed to provide a way for students to go beyond just listening and to actively interact verbally.

Although we did not include analyses of teacher interview data in the present study, two teacher quotes may help explain why TAP was effective for boosting the English oral skills of ELs, reinforcing the logic models that we presented earlier. When asked why she thought TAP was beneficial to the EL students, a second-grade teacher remarked, "It's the kinesthetic piece. ELL students are hearing it. They're doing it. They are understanding it. It's huge. It's hearing it and doing it themselves. This is how people learn." Asked a similar question, another teacher noted, "The kids began to cooperate. They began to listen to each other. They worked together." Both teachers mentioned that the drama and creative movement activities engaged ELs and promoted their overall English-language comprehension.

Limitations

This study had several limitations. The first is the use of the CELDT as a measure of oral language. The CELDT is a state tool used for the identification and tracking of EL students, as well as for measuring proficiency. As such, it was not designed as a specific assessment of oral language, nor does it clearly capture all of the components of oral language (Roth et al., 2002; Storch & Whitehurst, 2002). Although the CELDT does not allow for a fine-grained analysis of oral language, it is useful for a broad analysis of semantic and conceptual knowledge, as well as narrative discourse, and has been determined to be a valid measure of English proficiency (CTB/McGraw-Hill, 2009). However, because of its potential lack of precision in assessing oral language, we believe that using the CELDT underestimates our results. Previous analyses of teacher interview and focus group data supports this, suggesting that ELs who participated in TAP activities showed large improvements in oral language skills (Brouillette, 2011, 2012a, 2012b). Taken in conjunction with these qualitative findings, the impact of TAP for ELs may be more robust than the current study suggests.

A second limitation was that our sample excluded any students who were reclassified as English proficient by the CDE between their baseline and final assessments. Because the CELDT is only administered to designated ELs, any students who were reclassified did not have a second wave of CELDT scores and were therefore eliminated from our analysis sample. To address this limitation, we created a variable that simulates the criteria that California uses to determine the English proficiency of students who take the CELDT: ELs must receive an overall CELDT score at the early advanced or advanced level, with no score below the intermediate level in listening and speaking (for grades K-12) and reading and writing (for grades 2-12; Edwards et al., 2008). We then ran a series of logistic regressions using our dummy variable that signified English proficiency. We did not find evidence suggesting that

participation in TAP was predictive of K–2 ELs achieving scores indicating English proficiency. Considering our findings that the students with low speaking skills benefited more from TAP than students with average or above-average speaking skills, this result is not surprising.

The final set of limitations pertains to the design of our study. First, the random assignment was done at the school level. As our analyses showed, there were characteristics of the individual schools that had an impact on the language outcomes of the ELs in our sample. To disentangle the school and program effects, the randomization would optimally occur at the classroom level. Although this was considered at the start of the study, the school district culture had long encouraged close cooperation among grade-level teachers, making it unrealistic to expect that teachers would not share teaching strategies with their grade-level teams. Therefore, the researchers decided that it made more sense for the random assignment to occur at the school level. Second, the students randomly assigned to the control group received no alternative treatment, conducting business as usual. Additionally, the treatment group received a combined intervention of drama, creative movement, and literacy lessons, and we were unable to disentangle these features. Both of these points make it difficult to determine what specifically it was about TAP that benefited the students. Finally, we did not collect any data on teacher follow-up—that is, outside of the TAP lessons, if, how, and to what extent teachers used the TAP extension activities and/or integrated TAP strategies in other curricular areas. This follow-up likely varied among teachers and also had an impact on the students' learning. In future studies, this would be valuable information to collect.

Future Research

Although results show that the TAP program fostered the oral language development of K–2 ELs, it was difficult to disentangle the effect of the arts and literacy lessons from the impact of the teaching artist visits. The students were stimulated by the presence of professional actors and dancers in their classrooms, and attendance routinely peaked on days when the teaching artists visited (Hinga et al., 2012). This heightened sense of engagement may have had an impact on learning. Future research might disentangle these two mechanisms by (1) focusing on the second year of TAP, when the classroom teacher implements the lessons; or (2) assigning students in the control condition to a different type of program and comparing the impact of the two interventions.

Continued work should seek to examine the longitudinal impact of participation in the TAP program, particularly as more data become available. Longitudinal analyses may shed more light on the differential impact of TAP on students with varying language abilities; for

example, the progress of those students who initially had the most limited speaking skills might be tracked. With the rollout of the Common Core State Standards, which emphasize English-language skills for all students, including ELs, it makes sense to study the English-language trajectories of young ELs who arrived at school with little prior exposure to English but were then given extensive coaching in oral skills through programs such as TAP.

Another prospective direction for research would be to expand the findings on pairing movement, gesture, and expression with oral language to other genres. We are currently beginning a project that will examine the impacts of incorporating dramatic movement into science teaching for students in grades 3–5. Similar research has shown success in this pairing (Varelas et al., 2010), and we seek to replicate it on a large-scale level.

Finally, future research on TAP might consider the specific mechanisms through which ELs improved their oral language skills. In our research, we draw on literature from both cognitive- and social-based schools of thought, and it would be particularly useful to understand what specifically about the TAP lessons worked for ELs and why. For example, was it the embodiment of the language (grounded cognition theories) or the receipt of cues and other immediate feedback (social theories) when acting out stories or thoughts that aided ELs most in their comprehension? Such answers would benefit other researchers and practitioners seeking effective instructional practices for the language development of ELs.

Implications

It has been well established that a student's English oral language skills in the early grades are critical to future reading comprehension (August & Shanahan, 2006; Hoff, 2013; Snow & Dickinson, 1991). With only 11 of the 50 states meeting adequate yearly progress targets for ELs under No Child Left Behind (Zehr, 2010) and the number of school-age ELs continuing to grow (National Clearinghouse for English Language Acquisition, 2011), a strong argument can be made that increasing the effectiveness of English oral language instruction for ELs in the early grades should be a national priority. The current study suggests that using performing arts activities that pair oral English with movement, gesture, and expression is one way to foster the English-language development of young ELs.

Interestingly, although we have treated TAP as an intervention for the purposes of this study, the TAP lessons deliver an enhanced version of the standards-based theater and dance curriculum that was available to all schools in the district before state-level budget cuts forced the elimination of much of the district's K–5 arts curriculum following the 2007 recession. Unfortunately, a survey by the

National Center for Education Statistics found that in 2009–2010, only 4% of U.S. elementary schools offered instruction that was designated as drama or theater, and just 3% offered instruction designated specifically as dance (Parsad & Spiegelman, 2011). Yet, for ELs, theater and dance may be the pivotal segment of the arts curriculum.

The evidence provided in this article suggests that after just one year, TAP had offered sufficient support to enable K–2 teachers to integrate arts-based strategies into their English language arts curriculum. These teachers have the potential to continue developing their abilities, implementing arts strategies and techniques across a variety of subjects, particularly in their work with EL students. Admittedly, not all will do so. Yet, the possibility of long-term integration of movement, gesture, expression, and verbal interaction into the curriculum potentially allows for magnified benefits. Perhaps the results of this study may encourage policymakers and practitioners to more often consider using drama and dance as tools for promoting the oral language skills of ELs.

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CHRISTA MULKER GREENFADER (corresponding author) is a doctoral student in educational policy and social context in the School of Education at the University of California, Irvine, USA; e-mail cmulker@uci.edu.

LIANE BROUILLETTE is an associate professor in the School of Education and a codirector of the Center for Learning in the Arts, Sciences, and Sustainability at the University of California, Irvine, USA; e-mail lbrouill@uci.edu.

GEORGE FARKAS is a professor and the director of the PhD program in the School of Education at the University of California, Irvine, USA; e-mail gfarkas@uci.edu.