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The Effect of Dual-Language and Transitional-Bilingual Education

Instructional Models on Spanish Proficiency for English Language Learners

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Abstract

The effects of “transitional bilingual” and “dual language” educational models on proficiency in students’ home language (Spanish) were examined in a study of English language learners in the first and second grades in a large urban elementary school. In each grade, students were taught with either a transitional-bilingual model or a dual-language one, with a Spanish proficiency assessment administered on a pre/post basis. ANOVA results showed that both models produced significant increases in multiple dimensions of Spanish proficiency (alphabet/sight words, reading, writing, listening, and verbal expression). However, second-grade students in dual-language classrooms (who had longer exposure to the instructional model relative to first graders) scored significantly higher in verbal expression skills. In light of research linking proficiency in the home language with achievement in English language skills and content learning, dual-language instruction appears to be more effective than transitional-bilingual education, although the advantage is limited to the facilitation of home-language verbal expression associated with the dual-language model.

As the population of English Language Learners (ELLs) in the nation's schools has skyrocketed, vigorous debate has broken out concerning appropriate educational services for these students (Goldenberg, 2008; Haas, 2005; Harper & DeJong, 2004; Just, 2009). A large portion of this debate has to do with the role of the home language in the classroom (Cummins, 2001; Kibler & Roman, 2013; Solano-Flores, 2008; Tulenko, Vaverchak, & Woodruff, 2013).

Some educators and researchers advocate for *dual language* (DL) programs in which both the home language and English serve as instructional languages on permanent basis, with no attempt made to diminish the use of the home language over time. Dual language models come in two forms: "one-way" models in which only ELLs are enrolled and the home language is used for instructional purposes, with English taught as a second language (e.g., Gomez, Freeman & Freeman, 2005); and "two-way" models that combine ELLs and native English speakers in the classroom and use both languages for instruction (e.g., Cazabon, Nicoladis, & Lambert, 1998).

Other educators and researchers support *transitional bilingual education* (TBE). In these programs, both the home language and English are used as instructional languages on a temporary basis, with the goal of diminishing classroom use of the home language and establishing an English-only environment as quickly as possible. Unlike the DL approach, the TBE model serves only ELLs and does not include native English speakers, so interaction between ELLs and native English speakers is limited.

A great deal of this research investigates the outcomes of the DL and TBE approaches for learning English (Hernandez, 2001; Lopez & Tashakkori, 2006; Murphy, 2010; Mora, Wink, & Wink, 2001)) and learning in the content areas with English as the instructional language (Brown, 2008; Foulger & Jimenez-Silva, 2007; Watkins & Lindahl, 2010; Weisman & Hansen,

2007). Less common but increasing is literature that examines the impact of DL and TBE on students' home-language skills. To the extent that home-language skills are predictive of learning English and content, home language proficiency is important in working toward successful outcomes in school.

In this article I present the results of a research project that compares a two-way DL model and a TBE model in terms of their effectiveness in developing students' home language skills. The article begins with a review of the literatures on the role of the home language on school outcomes and of the academic results of DL and TBE approaches. I then present the methods and results of the study that compares the two approaches in home-language facilitation. The article concludes with a discussion about appropriate use of home-language skills in schools.

Role of the Home Language

The literature in ESL is replete with examples of the importance of home-language skills in a variety of learning outcomes. To begin with, home-language skills are associated with academic content learning, such that students with strong home-language skills show higher academic achievement relative to students with weaker skills (Calderon & Minaya-Rowe, 2003; Cloud, Genesee, & Hamayan, 2000; DeJong, 2004). Similarly, research has shown that ELLs with a strong foundation in their home language more easily transfer academic concepts to the second language (Collier, 1992; Crawford, 1995; Cummins, 1996; Dolson & Mayer, 1992; Freeman & Freeman, 1993; Krashen, 1996; Ramirez, Yuen, Ramey, & Pasta, 1991).

Research has also shown that home-language skills predict second-language learning; students with a strong home-language foundation generally score higher on tests of English proficiency (Calderon & Carreon, 2000; Collier, 1992; Cummins, 1981; Dolson & Mayer, 1992; Ramirez, et al., 1991). Cummins and Schecter (2003) found that students who have well-

developed literacy skills in their home language acquired the second language more successfully than those students with weaker literacy skills in the home language.

Many ELLs, however, are not developmentally ready to benefit from having most or all of their content instruction in English. Accordingly, Krashen (1999) advocates instruction that uses students' primary language so that they can acquire content knowledge at the same time that they are learning English. After all, it is easier to learn to read in a language that the learner understands (Fillmore, 1991, 2000). Research has demonstrated that it takes five to seven years for ELLs to acquire the English language skills necessary to fully understand and participate in a classroom in which instruction occurs in English (Corson, 1993; Cummins, 2012; Cummins & Danesi, 1990; Lopez & Tashakkori, 2006; Tarasawa, 2007/2008). In such a classroom, while ELLs are working to acquire English, native English-speakers are not remaining stagnant; rather, they are progressing in their acquisition of academic content knowledge (Thomas & Collier, 2002). As a result, ELLs too often fall behind. How, then, can schools support home-language development while promoting both content learning and second-language acquisition? The two most common approaches, dual language and transitional bilingual, are discussed in the following sections.

Dual language programs. Gomez, Freeman, and Freeman (2005) examined a 50-50 Spanish-English program that was divided by academic subject rather than by time (a one-way DL approach). In other words, half of the subjects were taught in one language and half were taught in the other. Those subjects and activities that were not designated with a specific language of instruction were taught in the language of the day, which alternated. Data were collected from state tests in reading and math for grades three and five. In reading tests administered to third graders, results revealed that among the Spanish-dominant students, 88%

met the state standard, whereas 91% of English-dominant students met the standard. For the third-grade math test, 86% percent of Spanish-dominant students and 95% of the English-dominant students met the standard. For the fifth graders taking the math test, 90% of both Spanish-dominant students and English-dominant students met the standard. Similar results obtained for reading tests given to fifth graders. However, as the researchers point out, by fifth grade DL students have already developed high levels of bilingualism. The authors further note that Spanish-dominant students scored well on the math exam even though instruction was given in English. In general the results suggest that dual-language programs are similarly effective across academic subjects.

Cazabon, Nicoladis and Lambert (1998) examined student attitudes and academic achievement among students in a two-way DL program in Cambridge, Massachusetts, called the Amigos Program, which had been instituted in 1986. The longitudinal study tested the hypothesis that as both Spanish-dominant and English-dominant students spent more time in the program, their perceptions of bilingualism, as well as their academic achievement, would improve. In math achievement, results showed that across all grades the Spanish-speaking students in the program scored as well or better than the Spanish-speaking control group. In reading, the English-speaking students in the program scored significantly lower than the English-speaking control group in Grades 4-6, and as well or better than the Spanish-speaking control group in all grades. The results also showed that Spanish-dominant students in the program maintained their Spanish proficiency in their academic work, and the English-dominant in the program students had achieved a meaningful degree of proficiency in Spanish.

DeJong (2004) examined the development of proficiency in the second language (Spanish) in a study that compared a one-way DL approach (called developmental bilingual

education) to a two-way DL program. The main difference between the programs, in addition to the amount of time that each language was used, was that only in the two-way DL program did ELLs interact with native English speakers. Both programs pulled from the same group of Spanish-speaking ELLs, so there were no significant differences in home language proficiency between the two groups. Native Spanish-speaking ELLs in both programs were tracked over a period of six years with regard to their scores on assessments of oral language, reading, and writing in English. Overall, the results indicated that ELLs entering school in Kindergarten required, regardless of program type, about four years to develop English-language skills necessary for effective academic learning in that language. When comparing the two approaches, however, a significant difference in favor of the two-way DL students was found in reading and writing, beginning in the second grade. A possible explanation for the success of this approach might be the fact that these students engaged in academic learning in English alongside native English speakers, while students in the one-way group worked only with ELLs. As a result, two-way DL students had greater access to literacy early on, since they participated orally in educational activities in the content areas even before they began to do so through reading and writing.

Transitional bilingual education. TBE programs have been implemented in many parts of the nation as a means for students to learn English through their home language (Cummins & Corson, 1997; Cummins, 2001). TBE uses both languages in the classroom during a transitional period, to support learners whose home language is not English. As the students gain mastery in English, the primary language is gradually phased out, until the student is mainstreamed into English-only classes. The main difference between this approach and ESL-immersion is the transitional use of the home language in the classroom.

The theoretical framework for TBE is based on the relationship between the home and target languages. Researchers have demonstrated that transfer of skills, knowledge, and processes across languages occurs (Cummins, 1981, 1991; Krashen, 1996), so development of literacy skills in the first language is thought to enhance academic skills in the second language (Collier, 1995; Mora, Wink, & Wink, 2001; Ramirez, Yuen, Ramey, & Pasta, 1991).

Paul and Jarvis (1992) looked at the effectiveness of New York City's policy in supporting the use of children's primary language for some part of daily instruction in half-day pre-Kindergarten classes. Twenty-three classrooms in eight community school districts were randomly selected from those identified as serving mainly non-English speaking students. Of the 23 participating classrooms, 13 were bilingual (12 Spanish and one Mandarin Chinese) and the remaining ten were monolingual (English). To measure student achievement, the study used assessments that provided norm-referenced or equivalent percentile ranks according to age. The pretest/post-test results, using ANOVA analyses and controlling for differences on the pretest, showed a statistically significant difference between the two groups, with students in the transitional bilingual classes demonstrating greater gains than children in the monolingual classes.

A similar study compared the performance of second-language learners in different treatment models with respect to the amount of instruction delivered in Spanish, students' home language (Ramirez, Pasta, Yuen, Ramey, & Billings, 1991). The three models were immersion (English-only), early-exit (transitional bilingual), and late-exit (students continuing to study in both languages throughout their school years). At the conclusion of a two-year period covering grades K-1, test scores in English reading and math were comparable across the three programs. By the end of the third grade, however, the scores of students in the immersion program had

decreased relative to national norms. The scores of students in early-exit (TBE) group increased in English reading but decreased slightly on English math (relative to national norms). Students in the late-exit bilingual program, however, were keeping pace with national norms in both English reading and math: “The growth patterns are surprisingly consistent across content areas.... Over and over again, those students who began their schooling with substantial amounts of instruction in their primary language and were exposed to the gradual introduction of English for instruction realized the greatest growth in skills” (Ramirez et al., p. 639). These findings demonstrate that students who continue their bilingual education, over time, achieve greater success in both English and math relative to students in English-only immersion classrooms.

Although the literatures on DL and TBE are considerable, it remains unclear the extent to which one approach outperforms the other in developing students’ home language skills. A study on this point has potential to determine which approach best leverages students’ home language skills to facilitate second-language and content learning – a crucial endeavor in light of research demonstrating that home language proficiency is associated with second-language and content learning (Cummins, 1981, 1991; Collier, 1992; DeJong, 2004). In what follows I present the methods of the study, followed by results and discussion.

Methods

Research has supported the use of the home language to bolster academic content learning and acquisition of English for second language learners (Calderon & Minaya-Rowe, 2003; Cloud, Genesee, & Hamayan, 2000). Accordingly, this study compared the effectiveness of two models that use the home language as a foundation to assist learners in English acquisition and to improve academic performance: TBE and two-way DL. As both models are based on the premise that supporting the foundational principles of the home language enables

the transfer of concepts to the second language, the study asked: How do these two program models compare in effectiveness in developing home language (Spanish) literacy skills? The study was conducted at two different grade levels (Grade One and Grade Two), to examine the extent to which longer exposure to a particular instructional model is associated with differences in home-language literacy skills.

Setting and Participants

The study took place at an elementary school in a densely populated and highly diverse city in the northeastern United States. The school serves about 1,400 students, roughly 85% Hispanic and 15% Asian. English is not the home language in 92% percent of students' homes. New immigrants comprise 14.8% of the school's enrollment, primarily from Mexico (4.6%), Ecuador (2.9%) and the Dominican Republic (2.7%). Approximately 91% of the students live in poverty (defined as qualifying for the free lunch program), compared to a 74% average in the city's schools.

The study's participants ($n=94$) consisted of first- and second-grade English language learners (ELLs) – students whose home language is Spanish and who had not yet passed the state's English proficiency assessment. All students had been continuously enrolled at the school for at least two years in either TBE or 50/50 DL classrooms. The second-grade sample involved in the study consisted of one TBE class ($n=21$; 10 boys and 11 girls) and two DL classes ($n=35$; 17 boys and 18 girls). The first-grade sample also contained one TBE class ($n=15$; 10 boys and 5 girls) and two DL classes ($n=23$; 15 boys and 8 girls).

Students in both groups were given a curriculum involving a balanced literacy approach drawing on the Reader/Writers workshop model for both Spanish and English instruction

(Caulkins, 2013). Teachers working in both the TBE and DL classrooms participated in a professional development program based on the Reader/Writers workshop model.

Data Collection

The study employed the EL SOL (El Sistema de la Observacion de la Lecto-Escritura), an assessment instrument that measures literacy skills in Spanish, the home language of the ELLs who participated in this study (New York City Department of Education, 2013). The El Sol is administered on a one-to-one basis by each student's teacher. It is typically given twice per year in the early elementary grades: midyear (this study's pretest) and end of the year (the posttest). Using 6-point scales (1=low, 6=high), the El Sol employs multiple items to assess several literacy skills ("strands"), five of which were used in this study: alphabet/sight words, reading, writing, listening, and verbal expression.

In the *Alphabet/Sight Words* strand, students are asked to say the names of letters that are on an alphabet sheet and to read some basic Spanish "sight vocabulary" words. The *Reading* strand tests the student's ability to read and understand a written story. In the *Writing* strand, the student is given a drawing and are asked to complete a writing assignment in response; this assessment tests the student's ability to express meaning through written language using the standard conventions of written Spanish. In the *Listening Comprehension* strand, the student is asked to listen to a spoken passage and answer questions about it. Finally, in the *Verbal Expression* strand, the teacher reads a book aloud to the student and then asks the student to discuss the book's characters and plot.

Data Analysis

Using SPSS (version 21), a series of two-way ANOVA procedures were conducted. In each model, the independent variable was the experimental condition in which participants were

taught (TBE or DL). The dependent variables were the five strands of the EL SOL; for each strand, the pretest score was subtracted from the posttest (a calculation of the magnitude of change from midyear to the end of the school year). Results were analyzed separately for students in Grade One and Grade Two, to determine the extent to which longer exposure to an instructional approach is associated with differences in EL SOL results. The dependent variables were all normally distributed, and all ANOVA models had satisfactory equality of error variance (as indicated by Levene's tests). Table 1 (Grade One) and Table 2 (Grade Two) present means and standards deviations for students' pretest and posttest results for the five assessment strands on the EL SOL that were employed in this study (alphabet, reading, writing, listening, verbal).

Results

Grade One

For each of the five outcome variables on the EL SOL administered in Grade One, a consistent pattern emerged, with one small exception. For each variable there was a significant multivariate effect and a significant within-subjects effect (indicating that students improved pretest to posttest), but no significant between-subject effect (indicating that the groups did not differ on the outcome variable). For one variable in the Grade One sample (*verbal expression*), the within-subjects effect was non-significant.

Alphabet/Sight Words. For the Alphabet/Sight Words strand, a significant multivariate effect was observed (Wilks' lambda= .269, $p<.000$). The within-subjects effect was significant ($F=143.982$, $p<.000$), which shows that students as a group performed better on the posttest than the pretest. However, the between-subjects effect for class was not significant ($F=.1.284$, $p=.262$), revealing that the groups did not differ in pretest-posttest differential for the Alphabet/Sight Words variable.

Reading. For the Reading strand, a significant multivariate effect was observed (Wilks' $\lambda = .238, p < .000$). The test of within-subjects effects was significant ($F = 172.91, p < .000$), indicating that the students as a group improved on the posttest. But the test of between-subjects effects produced no statistical significance ($F = 1.106, p = .298$), indicating that group assignment has no significant effect on the dependent variable.

Writing. The pattern continued for the Writing strand, on which a significant multivariate effect was observed (Wilks' $\lambda = .368, p < .000$) and the within-subjects effect was significant ($F = 92.661, p < .000$). However, the test of between-subjects effects was not significant ($F = .2708, p = .106$), revealing that group assignment has no significant effect on the Writing strand outcomes.

Listening. For the Listening strand, a significant multivariate effect was observed (Wilks' $\lambda = .895, p < .01$), and the test of within-subject effects was significant ($F = 6.340, p < .015$) for year. But, in keeping with the pattern, the test of between-subjects effects revealed there was no statistical significance ($F = .015, p = .903$), indicating that the grouping variable made no significant contribution to the dependent variable.

Verbal Expression. Finally, for the Verbal Expression strand in Grade One, a significant multivariate effect was obtained (Wilks' $\lambda = .992, p < .01$). But no significant within-subjects effect was found ($F = 1.539, p = .220$), revealing that as a group students did not improve from pretest to posttest. Accordingly, the test of between-subject effects was not significant ($F = .166, p = .686$).

Grade Two

In the Grade Two sample the pattern continued, with significant model characteristics and significant within-subjects effects, but no significant between-subjects effects. However, one exception emerged in between-subjects analyses; for the Verbal Expression strand of the EL SOL, a group difference was found.

Alphabet/Sight Words. On the Alphabet/Sight Words strand, a significant multivariate effect was observed (Wilks' lambda= .298, $p<.000$). The within-subjects effect was significant ($F=84.990$, $p<.000$). The between subjects effect for class was not significant ($F=1.678$, $p=.203$). There was a significant gain in scores in the combined groups, but when comparing the gains between the two groups, there was no significant difference.

Reading. On the Reading strand, a significant multivariate effect was observed (Wilks' lambda= .615, $p<.000$). The test of within-subjects effects was significant ($F=22.525$, $p<.000$). The test of between-subjects effects revealed no statistical significance ($F=.443$, $p=.510$).

Writing. The pattern held for the Writing strand, for which a significant multivariate effect was observed (Wilks' lambda=.668, $p<.000$) and a significant within-subjects effect was obtained ($F=17.919$, $p<.000$). But the test of between-subjects effects was not significant ($F=.993$, $p=.326$).

Listening. For the Listening strand, no tests produced significant results. There was no significant multivariate effect (Wilks' lambda=.984, $p=.448$), no significant within-subject effect ($F=.589$, $p=.448$), and no significant between-subjects effect ($F=3.767$, $p=.060$).

Verbal Expression. It is the Verbal Expression strand that produced meaningful differences that point up how TBE and DL produce different results. To begin with, a significant

multivariate effect was observed (Wilks' lambda=.773, $p<.003$), and the within-subjects effect was significant ($F=10.562$, $p<.003$). Unlike all other variables in this study, however, the test of between-subject effects was significant ($F=35.330$, $p<.000$). For the Verbal Expression variable in Grade Two, students in the DL group improved between pretest and posttest more than did students in the TBE group.

Discussion

A large and burgeoning body of research demonstrates the importance of home-language skills in ELL students' academic outcomes. Among ELLs, proficiency in the home language is associated with both second language learning (Calderon & Carreon, 2000; Collier, 1992; Cummins, 1981; Dolson & Mayer, 1992; Ramirez, et al., 1991) and achievement in content areas such as math and social studies (Calderon & Minaya-Rowe, 2003; Cloud, Genesee, & Hamayan, 2000; DeJong, 2004). Hence, a central goal for educators who work with ELLs is to foster home-language proficiency in addition to the English skills often emphasized in schools. But which method of teaching ELLs is favorable for developing home-language skills – the transitional bilingual model or the two-way dual-language one?

The only variable in this study that showed a significant group difference was *verbal expression* in the Grade Two sample, in favor of the DL model. While the improvement in verbal performance likely was influenced by a maturation effect (the result of growing older), the same effect should also have influenced TBE students, who improved less in the same time period. Thus, although the literature reviewed above suggests that both models have promise for enhancing students' overall literacy development, it appears that the DL approach – which treats education in and through the home language as more than a mere transitional strategy – had the added benefit boosting students' home-language verbal expression skills.

At the same time, the DL advantage in verbal expression was found only among the second graders; among the first graders, no differences between DL and TBE were obtained. This pattern suggests that a key antecedent of the DL advantage in verbal expression is the amount of time students are exposed to a particular instructional model. It took an additional year for the effects of DL to become evident. Apparently, the advantages of the DL approach accumulate slowly, and that students taught in this model may not show advantages initially but may do so increasingly over time. This is consistent with previous research demonstrating the need for a long-term outlook in efforts to equip ELLs with strong oral and literacy skills in their home language (Collier, 1992; Cummins, 1981; Krashen, 1999; Olson & Land, 2007; Ramirez et al., 1991; Thomas & Collier, 1997).

The present study showed an advantage, if modest, for DL instruction. Findings as such take on increased urgency in the context of U.S. public schools, where key long-term goals include the development of competency in English, student retention, academic success, and readiness for college and/or careers for all students. Clearly, these goals can be supported by emphasizing ELLs' home languages.

Unfortunately, this emphasis is often lacking in schools that serve large ELL populations. In many U.S. schools, education for ELLs is focused narrowly on a trajectory of rapid English acquisition with the goal of placing students in English-only settings as quickly as possible. Hence the widespread use of TBE instructional approaches, which work to build students' English skills and reduce students' reliance on their home language. By contrast, DL programs teach English language skills while also developing and utilizing students' home language.

Dual language programs raise the status of the home language by using it as the medium of instruction in conjunction with English. Dual language instruction also works to alleviate the isolation of ELLs from their English-speaking peers by providing ELLs with skills for peer-to-peer conversations on a daily basis in an environment that values both languages and cultures. Moreover, in dual language classrooms, students in each language group serve as peer tutors for each other as they learn language and content area concepts together in both languages.

Limitations and Future Research

The instrument used for the outcome variables in this study, EL SOL (New York City Department of Education, 2013), is an informal tool with scoring based on teachers' judgments of a child's ability to perform specified tasks. As such, it is subjective. Teachers who vary in teaching experience, education, and other factors may differ in their assessments of students' language skills. Future research might well employ more objective home-language measures.

The study was also limited by its small sample size. A larger sample might have yielded more subscales of the EL SOL showing group differences. Future research might well replicate this study using larger samples. This research would add to the confidence that can be placed in the generalizability of the findings.

The length of the intervention is a limitation as well. That the second-graders showed group differences but the first-graders did not suggests that the impact of TBE and DL approaches take time to emerge. Future research might well focus on older learners, to determine the extent to which longer exposure to TBE or DL produces more effects or larger ones.

The results of this study contribute to the burgeoning evidence base showing the importance of the home language in student learning – and the family settings in which home

languages are acquired. Future research should continue to explore how the home language can support educational outcomes in school across a range of academic subjects.

Finally, research should compare DL and TBE assessment results in language proficiency and content knowledge among native English speakers. Native English speakers in DL programs who have mastered a second language have been found to outperform comparison groups that received instruction only in one language (Thomas & Collier, 2004). The implications of such a finding are important for our nation, as we move toward becoming a multilingual society that values and nurtures students who are proficient in a variety of languages.

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Table 1

Grade One Students' Pretest and Posttest Means and Standard Deviations, by Group

Group	Assessment Strand	<u>Pretest</u>		<u>Posttest</u>		Pre/Post Mean Difference
		Mean	SD	Mean	SD	
Transitional Bilingual						
	<i>Alphabet</i>	.65	.988	4.25	1.482	3.60
	<i>Reading</i>	.24	.539	3.43	1.434	3.19
	<i>Writing</i>	.00	.000	2.38	1.396	2.38
	<i>Listening</i>	1.62	.669	1.90	.301	.28
	<i>Verbal Expression</i>	1.71	.463	1.76	.436	.05
Dual Language						
	<i>Alphabet</i>	1.63	1.239	2.57	1.378	.94
	<i>Reading</i>	1.71	1.250	2.54	1.146	.83
	<i>Writing</i>	1.51	1.337	3.20	.901	1.69
	<i>Listening</i>	1.57	.979	1.91	.612	.34
	<i>Verbal Expression</i>	1.69	.963	1.91	.562	.22

Note: All assessment strands were scored using 6-point scales (1=low, 6=high).

Table 2

Grade Two Students' Pretest and Posttest Means and Standard Deviations, by Group

Group	Assessment Strand	<u>Pretest</u>		<u>Posttest</u>		Pre/Post Mean Difference
		Mean	SD	Mean	SD	
Transitional Bilingual						
	<i>Alphabet</i>	2.73	1.981	5.73	.594	3.00
	<i>Reading</i>	2.80	1.568	4.73	1.387	1.93
	<i>Writing</i>	2.87	1.187	4.27	1.223	1.40
	<i>Listening</i>	2.13	.640	2.20	.414	.07
	<i>Verbal Expression</i>	1.80	.414	2.13	.516	.33
Dual Language						
	<i>Alphabet</i>	2.26	1.214	4.52	1.410	2.26
	<i>Reading</i>	3.26	1.789	3.65	1.496	.39
	<i>Writing</i>	2.87	1.456	3.52	1.377	.65
	<i>Listening</i>	2.39	.583	2.52	.665	.13
	<i>Verbal Expression</i>	2.30	.635	2.87	.458	.57

Note: All assessment strands were scored using 6-point scales (1=low, 6=high).