LA IMPORTANCIA DE LAS DIFICULTADES DE LECTURA Y LA FAMILIA: FACTORES QUE INFLUYEN EN LA DECISIÓN DE LOS PROFESORES SOBRE LA REPETICIÓN DE CURSO DE LOS ALUMNOS DE PRIMER GRADO EN COSTA RICA

THE IMPORTANCE OF READING DIFFICULTIES AND FAMILY IN TEACHERS' DECISIONS TO RETAIN CHILDREN: A CASE STUDY IN COSTA RICA

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Resumen
La repetición de curso es la solución que muchos países utilizan para alumnos con dificultades de lectura en el primer año de la enseñanza primaria. En el año 2002, el 14,9% de los alumnos de primer grado repitieron en Costa Rica. Este estudio describe la relación que se establece entre habilidades de lenguaje y lectura y repetición de curso en Costa Rica, analizada mediante entrevistas a profesores y evaluaciones de alumnos. Se encontró una relación alta y negativa entre rendimiento en lectura y repetición. Los alumnos identificados como futuros repetidores al terminar primer grado tenían puntuaciones significativamente más bajas que los restantes en habilidades de lenguaje. Los profesores señalan como factores importantes dificultades de lectura y una falta de apoyo de la familia. Por ello, parece necesario introducir políticas educativas de prevención de la repetición de curso basadas en la intervención temprana desde educación infantil para mejorar las habilidades de lenguaje y lectura y en la participación activa de los padres y madres.

Abstract
Grade retention in many countries is the *de facto* remediation policy for children who have academic difficulties in first grade. For example, 14.9 percent of first graders repeated in Costa Rica in 2002. This study describes the relationships among emergent literacy skills, reading skills, and retention in Costa Rica through teacher interviews and student assessments. A strong, negative relationship was found between reading scores and repetition. In addition, the children who were identified as future repeaters at the end of first grade were significantly lower on a subset of emergent literacy skills. When teachers identified specific children as future repeaters and gave their reasons for that judgment, the vast majority cited reading difficulties and perceived lack of family support as important factors. Policy alternatives, including preschool interventions designed to improve emergent literacy skills and parental involvement and thereby prevent repetition, are discussed.

1. Grade retention and dropout

The causes of retention and dropout at all grade levels are complex and multifaceted in many different national contexts. Strong predictors of repetition and dropout are family-level factors such as parental education, student-level factors such as achievement, school-level factors such as location (i.e., urban vs. rural), and teacher-level factors, such as their expectations of students (Barnes, 1999). The potentially detrimental effects of retention in grade have been studied (Heubert & Hauser, 1999; Jimerson, 1999). A meta-analysis of 63 studies found that, "on average, retained children were worse off than their promoted counterparts on both personal adjustment and academic outcomes" (Holmes, 1989, p. 27). Holmes reported that studies that matched students on achievement, gender, and/or socioeconomic status showed larger negative effects than studies with less careful controls.

Repetition has a direct effect on dropout rates, controlling for sex, race/ethnicity, social background, cognitive ability, and other variables (Rumberger, 1995; Roderick, 1994). As Grissom and Shepard (1989) wrote in a meta-analysis, "retained students experience a greater risk for dropping out that cannot be explained by their poor achievement" (p. 34). This body of research indicates that one of the factors associated with the complex phenomena of repetition and dropout is academic difficulties, as measured by standardized tests or grades, in longitudinal studies of children beginning in first grade, the first year of elementary school (Alexander, Entwisle, & Horsey, 1997; Ensminger & Slusarcick, 1992). Specifically, some research indicates that students who have not learned how to read and write well in the early elementary grades are more likely to repeat grades and drop out of high school (Slavin, 1994).

2. The National Context: Costa Rica

2.1. The Status of Education

Costa Rica is a country that has traditionally considered itself a leader in education, especially in Central America, believing that its school system is the basis for the country's democracy, peace, and stability (Escalante, 2001; Biesanz, Zubris Biesanz, & Hiltunen Biesanz, 1987). There is growing concern, however, over secondary school completion rates, which, for example, were reported to be 30% for adults aged 20-25 years in 1997 (Task Force on Education Equity and Economic Competitiveness in the Americas, 2001). Another issue of concern is high repetition rates: 14.9% of Costa Rican children repeated first grade in 2002 (Ministerio de Educación Pública, 2003). There are different ways of calculating repetition rates that often offer higher rates of repetition than official statistics (Wolf, Schiefelbein, & Schiefelbein 2002), while the authors acknowledge these discrepancies, they chose to use the official rates as an estimate.

2.2. The Direct Costs of Repetition in Primary Schools

This rate of repetition as a remediation policy has its direct costs to the Costa Rican educational system. An estimate of the direct cost of grade retention in primary school in 2002 was calculated based on the total number of students repeating in the primary grades in conjunction with the average cost per student of primary education for that year, using official data as reported by the Costa Rican Ministry of Education in a personal communication on October 3, 2003 (see Tables 1 and 2 for the calculations). The cost of repetition in the educational system was $24 million dollars in 2002, which represents 6.9% of the total primary education budget for that year. Wolf, Schiefelbein, and Schiefelbein (2002) estimate primary repetition in Latin America as a whole to be at 16% in 1997 and to have cost $4.6 billion that same year, which they argue is too high.

[Insert Tables 1 and 2 about here.]

3. Understanding the Relationships among Repetition, Reading Difficulties, and Emergent Literacy Skills in First Grade

Therefore, there are costs of repetition to the Costa Rican educational system and there has been little consideration of possible alternative methods of remediation. Students who have not learned how to read and write well in the early elementary grades are more likely to repeat grades and drop out of high school (Slavin, 1994). Presumably one major factor in repetition and eventual dropout in Costa Rican schools, while clearly not the only one, is not reading at grade level. Research in emergent literacy skills in Spanish and other languages indicates that there are fundamental skills that are developed prior to and in conjunction with reading. Some of these emergent literacy skills are letter knowledge, phonological awareness (the ability to manipulate the sounds in oral language), concepts about print (the ability to manipulate books), reading self-concept, and vocabulary knowledge (Bravo, 1995; Bravo, Villalón, & Orellana, 2001; Chan & Siegel, 2001; Defior, 1996a, 1996b; González, 1996; Jiménez, 1996; McCardle, Scarborough, & Catts, 2001; Siok & Fletcher, 2001). Therefore, there is a constellation of skills, attitudes, and habits that are important for later reading skill in young children, as shown by work done in several languages and countries. Not having developed certain necessary emergent literacy skills is one of the precursors to reading difficulties, a relationship found among English-speaking children and confirmed with Spanish-speaking, Latin American children (Bravo, 1995; Snow, Burns, & Griffin, 1998). This constellation of emergent literacy skills ought to be the focus of balanced literacy instruction prior to formal literacy instruction; the skills should not be focused on as unrelated but rather should be connected through the use of developmentally appropriate practice with meaningful content (Morrow, Gambrell, & Pressley, 2003). A series of emergent literacy interventions have been tested in the Costa Rican context and have been determined effective in improving emergent literacy skills and

presumably later reading skills, thereby reducing first grade repetition rates (Rolla San Francisco, Arias, Villers, Badilla, & Snow, 2005).

3.1. Policy Alternatives to Repetition

A fundamental question arises, then: is repetition the most effective way to provide remediation to children who are struggling academically? Research previously described would indicate that the answer is no, even though practitioners appear to believe otherwise. Parents, teachers, and administrators alike applaud repetition as an effective way of allowing a child another chance to develop lacking academic skills in Latin America (Cardenal, 1998; McGinn, Reimers, Loera, Soto and López., 1992).

3.2. Early Prevention of Later Reading Difficulties and Repetition

Previous research in Latin America suggests that preschool interventions have an impact on educational progress, specifically in first grade promotion. Myers (1995) describes six studies done in Latin America which found positive results for children who had attended specific preschool interventions, in that their promotion rates were higher than that of a comparison group's. Little research has been done in the Latin American context, however, on the associations among emergent literacy skills, reading skills, and retention in first grade. This paper seeks to examine some of the factors associated with repetition and consider policy alternatives to repetition.

4. Research Questions

This study, therefore, seeks to answer the following research questions:

- How do Costa Rican teachers identify first grade repeaters?

- How do students expected to repeat compare to students not expected to repeat on emergent literacy and reading skills?

- What associations are there among repetition, reading skills, and emergent literacy skills?

5. Methodology

5.1. Teacher Interviews

This study was conducted in public, first grade classrooms in the outskirts of San José, Costa Rica. The communities surrounding those schools were low-income. 14 first grade teachers who taught in 16 classrooms (two teachers taught both morning and afternoon shifts of first grade in the same school) were given structured interviews by trained research assistants in September of 2003. In Costa Rica, the academic year runs from February to December; therefore the teachers were interviewed 8 months into the academic year. They were asked open-ended questions to clarify on what basis they decided which children were going to repeat. They were then provided with a class list and asked to identify the children they would recommend for retention and to give an explanation for that decision for each child. Trained research assistants (RAs) administered the interview questions and coded the teachers' responses. The coded responses were then grouped by the first author into different emerging categories, as described in the results section.

5.2. Student Assessments

The to-be-retained children and an equal number of children who were not going to repeat, randomly selected but matched by gender, were individually assessed with a battery of standardized literacy and emergent literacy assessments. Therefore, if two boys and a girl were going to repeat from one classroom, then two boys and a girl from that same classroom were randomly chosen to do the same assessments as a comparison group. 53 children were identified as potential repeaters, and an additional 53 children were randomly selected from the same classrooms, matched on gender. A total of 105 children were assessed, because one of the children identified as a future repeater dropped out of school due to health reasons.

5.2.1. Assessments

The first grade children were assessed by trained research assistants on a variety of tests normed in or adapted to Spanish.

Reading (Decoding). Children took the Woodcock Letter-Word Identification Subtest, a test which consists of identifying some letters and reading isolated words, or decoding (Woodcock, 1991). The Spanish version of the Woodcock was normed on a sample of native Spanish speakers from several Latin American countries and the United States, including Costa Rica, on this subtest and on all of the other subtests utilized in these assessments. Clearly, decoding is an essential skill for reading.

Reading Comprehension. Children took the Woodcock Passage Comprehension Subtest, a test which consists of reading short texts in which they were asked to provide a word or words that were missing from the text (Woodcock, 1991). Reading comprehension is the ultimate goal of literacy instruction and is fundamental for academic progress (Snow, 2002).

Vocabulary. Children's expressive vocabulary was assessed using the *Test de Vocabulario sobre Dibujos Woodcock* (Woodcock, 1991). In a meta-analysis of English speakers, vocabulary was shown to be a moderately strong predictor of reading comprehension (Swanson, Trainin, Necoechea, & Hammill, 2003).

Concepts about Print. Children's ability to manipulate books (identify the title, identify text, identify that reading goes from left to right) was assessed using the Spanish-language version of Clay's Concepts about Print Test (Escamilla, Andrade, Basurto, & Ruiz, 1996). In a meta-analysis of English speakers, concepts of print were found to be moderately associated with later reading difficulties (Scarborough, 1998).

Letter Identification. Children's ability to identify upper and lower case letters of the alphabet was evaluated using the Spanish-language adaptation of Clay's Letter Identification task (Escamilla et al., 1996). Letter identification was identified as the best

predictor of reading in low-income, Spanish-speaking Chilean children (Villalón, Bravo, Orellana, & Rolla San Francisco, 2003).

<u>Phonological Awareness</u>. Children's ability to manipulate oral language, specifically phonological awareness, was tested by asking them to

1. identify the initial sounds in words

2. separate a word into its requisite sounds

3. blend the constituent sounds to make a word.

These skills were tested using the Spanish Phonological Test (Wagner, Torgesen, & Rashotte, No Date). Phonological awareness has been shown to be a strong predictor of later reading in both English- and Spanish-speaking children (Ehri et al., 2001; Villalón et al., 2003).

<u>Reading Self-Concept</u>. The children's attitudes towards reading were assessed using a translation and adaptation of the Reading Self-Concept Scale (Chapman & Tunmer, 1995). In this study, reading self-concept was shown to be associated with reading skill in English-speaking children. Cronbach's alpha of this adapted scale on a sample of 273 Costa Rican children from kindergarten, first, and second grade was .76.

6. Results

6.1. Teacher Interviews

Of the 14 teachers interviewed, 10 mentioned reading difficulties in general as the primary reason for retaining first grade children (see Table 3). Seven teachers mentioned difficulty with mathematics, and four mentioned perceived lack of family support. Two teachers identified the lack of emergent literacy skills as an important factor, while two additional teachers mentioned traditional reading readiness skills, such as fine motor skills. When asked to explain the reasons why specific children were going to be retained, 11 teachers said that perceived lack of family support was an important factor, and 9 cited reading and/or writing difficulties. Six teachers mentioned learning difficulties as an issue, and

three teachers mentioned emergent literacy skills, with an additional two mentioning traditional reading readiness skills. Overall, of the 53 students who were identified as future repeaters, 24 (45%) were identified as having reading difficulties, while 25 students (47%) were identified as having a lack of family support. Of all of the students, 41 or 77% were described as having either reading difficulties and/or lack of family support as the major factor or factors in the decision to retain them.

[Insert Table 3 about here.]

When teachers cited perceived lack of family support, in the specific cases of three students, they mentioned illiterate parents as the reason, possibly identifying a link borne out by research between children's poor literacy skills with low educational levels of the parents. By and large, however, in the case of 22 out of 25 students, teachers cited lack of interest and/or abandonment by the parents as their explanation of lack of family support. It is possible that when teachers cited parental support, they saw it as a distal cause that led to the poorer academic performance that was in turn the proximal cause of retention.

In summary, then, the major factors in these teachers' decisions to retain students were reading skills, numeracy skills, and perceived lack of family support.

6.2. Student Assessments

The descriptive statistics from this study show clear differences on all measures between the children who were identified as going to repeat and those who were not (Table 4). The non-repeaters scored significantly higher than the repeaters on every assessment at the level of $p<.001$. In decoding, the non-repeaters scored, on average, 29 points, while the repeaters scored, on average, 5.5. The point-biserial correlation between reading scores and repetition was negative and strong ($r=-.79$, $p =.000$). According to the test's norms, the non-repeaters were reading at a grade equivalent of three months into the second grade

year, while the repeaters were reading at a grade equivalent of children who had not yet entered kindergarten. On reading comprehension, the non-repeaters were slightly behind grade level with an average score of 6.2, reading at a grade equivalent of four months into the first grade school year (they were 8 months into the first grade school year at the time of testing), while the repeaters, on average, scored 0, or below kindergarten level. It is not surprising to find that these students were not comprehending texts, given that they were not able to decode, or read isolated words. Figure 1 is a box plot providing a visual demonstration of the more homogeneous distribution of the repeaters' decoding scores in comparison to the non-repeaters' scores; there is little overlap between the two groups, and it is evident that the distribution of scores of the repeaters is minimal in comparison to the non-repeaters. The repeaters had a range of 13 points on the decoding test, while the non-repeaters had a range of 53 points.

[Insert Table 4 and Figure 1 about here.]

There were also important differences between the two groups on emergent literacy skills. For example, the non-repeaters were able to identify, on average, nearly 42 letters, while the repeaters were able to identify 14 letters on average, out of a total of 61. The non-repeaters were identifying enough letters to be decoding at a second grade level: the Spanish alphabet has 28 letters, which means that the students presumably were identifying about 21 letters in their upper- and lower-case forms, on average, enough to be able to decode some basic words. Overall, the non-repeaters had higher vocabulary, phonological awareness, reading self-concept, and concepts about print.

In order to examine the relationships between emergent literacy skills and reading, Spearman's rank order correlations were estimated between each emergent literacy skill assessed and decoding and subsequently reading comprehension (see Table 5).

Comprehension had a strong relationship with decoding (r=.85, p=.000), as might be expected. Letter identification (r=.80, p=.000), concepts about print (r=.65, p=.000), and phonological awareness (r=.65, p=.000) all were estimated to have strong relationships with reading comprehension. For decoding, the strongest Spearman's rank order correlation was found between decoding and letter identification (r=.93, p=.000), a finding that has been replicated in predictive studies of later reading skills in English and in Spanish (Scarborough, 1998; Villalón, Bravo. Orellana and San Francisco., 2003).

[Insert Table 5 about here.]

7. Discussion

These findings suggest that children with relatively low reading abilities were identified as future repeaters in first grade, and children with relatively high reading abilities were less likely to be identified. In conjunction with teachers' reports that reading ability was one of their main criteria in making the decision to retain a child in first grade, these results suggest that reading ability is an important factor in retention in grade. What was interesting was that when asked generally about factors in their decision to retain students, few teachers cited a perceived lack of family support (4); however, when discussing the decisions to retain specific children, 11 cited a perceived lack of family support as an important factor. Overall, teachers did not cite the lack of emergent literacy skills as often.

There is an association between home environments that support literacy and the development of emergent literacy and reading skills that has been supported in a growing body of research in the United States (Purcell-Gates, 2000). The teachers may have been implicitly acknowledging the relationship between a supportive family environment and the development of literacy skills. On the other hand, however, teachers cited the parents' lack of support as a factor and did not acknowledge the role their teaching (or lack thereof) may

have had in student failure. This finding, in which agents within the educational system do not acknowledge the role they play in student's academic failure and repetition, has also been found in the Honduran context (McGinn et al, 1992).

Emergent literacy skills of reading, namely letter knowledge, phonological awareness (the ability to manipulate the sounds in oral language), vocabulary, concepts about print, and reading self-concept, were found to be related to reading performance. These results provide insights into the relationships among reading, emergent literacy skills, and the likelihood of future repetition. The educational implications for the classroom are clear: emergent literacy skills do not appear to be salient for teachers and teachers probably need more training in what they consist of and how to develop them. In fact, two teachers cited fine motor skills, a traditional concept of reading readiness, as a factor in their decision to retain children. These skills have been discredited in research done with both Spanish- and English-speaking children (for a review, see Calero Guisado, Pérez González, Maldonado Rico, & Sebastián Gascón, 1997).

It would appear that these children identified as future repeaters did not receive instruction in these crucial emergent literacy skills in preschool or in first grade, given their low levels of development. It is important to emphasize that quality early literacy instruction prior to formal literacy instruction would ideally involve an explicit focus on all of these skills within a balanced curriculum (Morrow, Gambrell, & Pressley, 2003), except for reading self-concept, which would presumably be a byproduct of a quality literacy intervention.

In addition, low-income families may not realize the role that they play in teachers' decisions to retain their children and may become more active once they are made aware of the influence they have in their children's academic careers. Teachers may also benefit

from training in alternatives to retention and challenges to their beliefs in retention, possibly challenging the belief that the causes of retention lie solely with the child and his family.

8. Policy Alternatives

A necessary consideration for policy alternatives to repetition must take into account the culture of repetition. One of the difficulties of trying to combat repetition is that, while there is a research base suggesting that repetition is ineffective, it is a well-entrenched practice in Latin America. Even when automatic promotion was instituted in Costa Rica in the 1970s, 20% of children still repeated first grade (Schiefelbein & Wolff, 1992). In this study of 16 first grade classrooms, it was evident that repetition was at the teachers' discretion and that the teachers implemented it, presumably under the assumption that it was an effective practice. Any policy designed to reduce repetition must consider how to work with parents, teachers, and administrators who believe in the benefits of repetition and provide alternatives to repetition, the ideal being prevention rather than remediation. Simply instituting a mandate for social promotion would not be enough, either from the perspective of student outcomes or teacher practice.

The results from these preliminary analyses of a first grade cohort suggest that teacher and possibly family training and reading and emergent literacy skills could be a focus in the prevention of repetition. For example, high-quality preschool curricula or targeted interventions could include developmentally appropriate early literacy activities for children specifically geared to provide them with the requisite skills for learning to read while also provided needed training for teachers in the importance of emergent literacy skills. It was clear from this study that the first grade repeaters did not have the early literacy skills that provide the foundation for reading, skills which should be worked on in preschool. In a

World Bank educational policy study to prioritize cost-effective interventions for reducing grade retention Schiefelbein & Wolff (1992) suggest two types of policies could reduce repetition in the early years: 1.) clearly focused and targeted in-service, hands-on training programs in key areas like reading and emergent literacy skills; and 2.) the transferral of the best teachers to first grade.

Research on preschool interventions has been carried out in Costa Rica by the authors. We conducted a study comparing the effects of various intervention models with parents, teachers, and volunteer tutors focused on emergent literacy skills at the preschool level and estimating their impact on first grade reading ability and retention (Rolla San Francisco et al., 2005). This intervention work provides insights into areas for effective professional development and non-formal educational interventions with parents and community volunteers.

9. Conclusions

Grade retention as a *de facto* policy for remediation in Costa Rica cost $24 million in 2002, 6.9% of the primary budget, and there is no evidence to suggest that it is effective. This paper describes the relationships among reading difficulties, lack of emergent literacy skills, and first grade retention through the description of a study of children from 16 first grade classrooms in Costa Rica. Teacher interviews suggested that teachers' decisions to retain children were based on reading difficulties and on perceived lack of family involvement, but they demonstrated little knowledge of emergent literacy skills. Preventive alternatives to the default policy of repetition in Costa Rica that provide children with the skills they need before and during first grade in order to allow them to succeed as readers ought to be disseminated.

10. References

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Table 1. Official rates of enrollment, repetition, and dropout by grade level in the Costa Rican elementary school system in 2002 (Ministry of Education, Costa Rica, personal communication, October, 2003)

2002	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Total
Percent Repetition	14.9%	8.7%	7.2%	8.7%	6.7%	0.7%	7.82%
Total Number of Repeaters	13,807	7,204	6,023	7,356	5,418	515	40,322

Table 2. Costs of Repetition in Primary School in Costa Rica in 2002

	6 Grades
Unit cost per student*	$594
Total primary school budget (grades 1 through 6)	$347,888,634
Total Cost of Repetition (Unit cost per student x Total number of repeaters)	$23,951,268
Percentage of primary budget spent on repeaters (Total cost of repetition/Total primary school budget)	6.9%

Table 3. Fourteen Teachers' Responses to Interview Questions about Their Decisions To Identify 53 First Grade Children as Future Repeaters

Reasons for Retaining Children	Number of Teachers Who Cited Reason as a General Consideration	Numbers of Teachers who Cited Reason as a Specific Consideration for at Least One Student	Number of Children for Whom Teacher Cited Reason as a Specific Consideration in Her Decision To Retain Them
Reading Difficulties	10	9	24
Difficulties with Mathematics	7	3	5
Miscellaneous (Immaturity, Lack of Ability To Follow Instructions, Absenteeism, Previous Retention, etc.)	6	10	27
Writing	6	6	11
Lack of Family Support	4	11	25
Emergent Literacy Skills	2	3	5
Traditional Concept of Reading Readiness	2	2	2
Learning Difficulties	0	6	11

Table 4. Descriptive Statistics for Repeaters and Non-Repeaters (n=105)

		Repeaters	Non-Repeaters
Decoding (max. of 58)	Mean	5.5	29.2
	SD	2.6	16.91
	Range	1-14	5-58
Reading Comprehension (max. of 43)	Mean	.1	6.2
	SD	.3	6.7
	Range	0-2	0-24
Letter Identification (max. of 61)	Mean	13.6	41.7
	SD	12.2	15.6
	Range	0-43	1-61
Phonological Awareness (max. of 50)	Mean	7.9	18.5
	SD	4.7	11.7
	Range	0-18	2-50
Vocabulary (max. of 58)	Mean	21.3	24.8
	SD	2.3	2.5
	Range	16-26	20-29
Concepts about Print (max. of 13)	Mean	2.9	7.0
	SD	2.2	4.0
	Range	0-8	0-13
Reading Self-concept (max. of 5)	Mean	3.5	3.9
	SD	.6	.6
	Range	1.9-5	2.4-5

Figure 1.

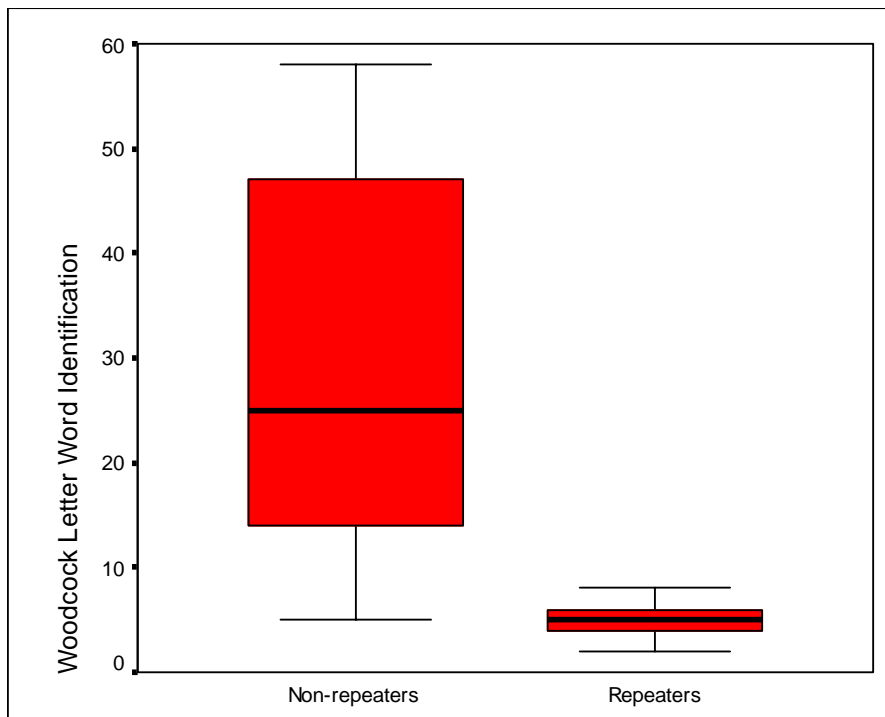Box Plots of Decoding Scores for Repeaters and Non-Repeaters (n=105)

Table 5. Spearman's rank correlations among decoding, reading comprehension, and early literacy skills (n=105)

	Decoding	Reading Comprehension
Letter Identification	.93	.80
Phonological Awareness (ability to manipulate the sounds in oral language)	.66	.65
Concepts about Print	.65	.65
Vocabulary	.56	.37
Reading Self-concept	.38	.45
Decoding		.85