Correlation of Reading and Listening Comprehension Discrepancy with Teacher Perceptions of Reading Disability in Ghana

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Abstract

The catalyst for this study emerged from the unprecedented number of Ghanaian students with reading difficulties, in an environment where school counselors are generally unavailable, funding is limited, and most educators do not recognize learning disabilities as true disabilities. Based on the limitations of the IQ-achievement discrepancy model for determining disability in Ghana, the study tested reading disability using the discrepancy between reading and listening comprehension as measured by tests of reading achievement, as described in the 1993 study by J. R. Wood. These results were then compared with teachers' perceptions of reading disability among Ghanaian elementary schoolchildren. Results of dependent sample *t*-tests showed that in each group of participants from grade 3 to grade 6, students identified as underachieving by teachers had average reading comprehension scores that were significantly lower than their average listening comprehension scores, meeting the definition of reading disabled. The correlation between teacher perception and a determination of reading disability confirms the results of studies by Ysseldyke, Algozzine, Shinn, and McGue (1982), Stedman and Kaestel (1987), Shriner, Danielson, and Rouse (2000), Wood (1993), and Mira and Schwanenflugel (2013), suggesting that teachers have the insight and assessments needed to make determinations of reading disability.

Key words: reading disability, Ghana, Woodcock-Johnson III test, intelligence-achievement discrepancy model, teacher referral

Introduction

A major concern in Ghanaian schools is the large number of students with reading difficulties. More than half of the students score below the basic requirement in reading based on various year-end tests. Although most developed nations focus on reading problems, that is not true in Ghana and most underdeveloped nations. In Ghana, educators mistakenly perceive reading-disabled students as lazy or unwilling to learn because societal beliefs do not recognize a disability without physical evidence. It is necessary to serve these struggling students in a way that will work within the societal context.

Reading Disabilities in Ghana

Based on data from the Ghana Education Service (2010), 64% of all students read significantly below their grade level. In 2011, only 23% of third graders in Ghana were proficient in reading (Ghana Education Service, 2011). A Government of Ghana (2006) survey indicated that one of every three girls and boys in urban Ghana did not attend school, while 37% of girls and 28% of boys in rural areas did not attend school. In recent years, more than half of the students scored below the basic requirement in reading based on various year-end tests.

As a country with a rapidly developing primary and secondary education system in a context of increased interest in improving the quality of education, Ghana is very concerned with the high failure rate in reading by children, especially at the elementary level (Mumuni, 2010). This concern about reading failure rates led to the upgrade of all 38 teacher-training colleges. As part of the process, the teacher training colleges introduced a teaching certification program in the 2003-2004 academic year (Ghana Education Service, 2010) which represents an additional step beyond completing teacher training college programs (Adera & Asimeng-Boahene, 2011).

In 1971, a study of the United Nations Educational, Scientific, and Cultural Organization (UNESCO) indicated that a significant number of African countries, including Ghana, did not provide any type of special education (Tarnopol & Tarnopol, 1982). Since the 1970s, however, Ghana has placed increasing emphasis on the needs of the handicapped child (Kuyini & Mangope, 2011). Ghana has also recognized the philosophy of inclusive education promoted by the United Nations (UNESCO, 1994). The philosophy involves including all students in the same class, with general education and special education teachers working collaboratively or cooperatively to combine their professional knowledge, perspectives, and skills (Adera & Asimeng-Boahene, 2011). The government of Ghana initiated pilot inclusive education programs in 30 schools, and the lessons gained from these schools are meant to inform practice in other schools when broad national implementation takes place (Alghazo, Dodeen, & Algaryouti, 2003). The Ministry of Education's Strategic Plan (2003-2015) envisions the achievement of an inclusive education system by 2015 (Ghana Education Service, 2011).

Although Ghana has focused on severe handicaps such as physical impairment, blindness, deafness, or mental retardation (Mumuni, 2010), it has not focused on reading disabilities. Ghana has no process to identify children with reading disabilities (Mumuni, 2010). Instead, educational experts in Ghana have designed the curricula in a way that treats every child in the class as above average in intelligence (Gyimah, Sugden, & Pearson, 2007). The various African governments have not considered it worthwhile to invest in the area of reading disability (Osei, 2010). Most are already struggling to keep up with the rest of the world in providing basic education to their citizens (Kulpoo, 1998). Unfortunately, even specialists in many third world nations including Ghana have sometimes failed to recognize reading disability as something other than some degree of mental retardation (Serpell, 1986). In fact, some critics argue that

experts have not demonstrated whether the concept of reading disability, as understood in the United States and other developed countries, has a useful role to play in third world education (Abosi, 2007).

According to Loeb, Eide, Jelsma, Toni, and Maart (2008), the unique conditions in Ghana make students vulnerable to developing reading problems. Various researchers (Davids & Gouws, 2013; Prater, Minner, Islam, & Hawthorne, 1997) put forward different causes of reading disability, and some are more evident in Ghana and other third world countries. Some authors have attributed reading disorders to genetic predisposition (Wagner, Torgesen, & Rashotte, 1997), while others have suggested that problems related to childbirth, malnutrition, and poor growth are contributing factors (Snow, Burns, & Griffin, 1998).

Methods to Identify Reading Disabilities

In the United States, the Office of Education (1976) determined qualification for any type of learning disability services through the IQ-achievement (IQ-A) discrepancy model, which is the difference between a child's ability and performance, as determined through general intelligence testing, and actual academic achievement (Mather & Roberts, 1994). In the case of a child with a reading disability, a discrepancy implies that the actual reading score is lower than the expected reading performance. Children who are poor readers but do not display a discrepancy are not eligible for special education under this model (Kim, Wagner, & Lopez, 2012). The discrepancy theory can identify the unwilling student from the disabled student. If a child of normal intelligence performs well on a battery test, such as the Wechsler Intelligence Scale for Children or the Woodcock Johnson Test of Achievement (WJIII), that ability should translate to high academic performance in the classroom (Cahan, Fono, & Nirel, 2012; Stanovich, 1991).

Although the IQ-A discrepancy model has remained a prevalent tool in the identification of students with reading disabilities (Mather & Gregg, 2006), criticism of its validity has also grown. Some of these criticisms include multiple methodologies within the IQ-A discrepancy model, varied thresholds for what constitutes a severe discrepancy, inherent and controversial issues with tests of intelligence, inconsistent implementation between states, and problems with objective decision making (Aaron, 1997; Lerner, 2003; MacMillan, Gresham, & Bocian, 1998; Mercer, Jordan, Alsop, & Mercer, 1996; Reschly & Hosp, 2004; Siegel, 1989). Joseph (2008) indicated that U.S. school psychologists focus on the concept of reading disability to such an extent that they do not always correctly identify student needs. They provide rationales such as, "Johnny has a reading problem because he has a learning disability" or "Sally has a reading problem because she is dyslexic" while neglecting to identify the reading skill areas in need of intervention (Joseph, 2008). In addition, Gottlieb and Alter (1994) found that strict adherence to the discrepancy model would mean that only 15% of students already receiving reading disability services would actually qualify. This is not an ideal situation, considering that 64% of students in Ghana read significantly below their grade level (Ghana Education Service, 2010).

Additional problems arise with implementing the IQ-A model in Ghana. Use of the model would require the services of school psychologists, which are nonexistent or very scarce in the country (Gottlieb & Alter, 1994). Although the government of Ghana introduced the practice of school psychology to the country in the 1960s, the practice is still foreign and, as a result, practitioners have difficulty applying Western theories of school psychology in the Ghanaian context (Peterson & Shinn, 2002). Implementation of the IQ-A model also consumes significant resources, with the average cost of an eligibility evaluation reaching about $5,000 (MacMillan & Siperstein, 2002; President's Commission on Excellence in Special Education,

2002). Yet, such assessments have little instructional relevance and often result in long delays in determining eligibility, which could delay services (Harnett, 2012).

Other factors also lead to the argument that Ghana should disregard the IQ-A discrepancy model in determining reading disability services. The first factor relates to the overlap of low achievement and reading disability (Algozzine, 1985; Algozzine & Ysseldyke, 1983). There is enough evidence that, irrespective of discrepancy, all struggling readers suffer from phonological deficits (Stanovich, 1991). Using the IQ-A discrepancy model to determine who receives special interventions would exclude students whose reading problems are not neurological. Another argument relates to the high correlation between teacher referrals and determinations that students have a reading disability. This observation led Stanovich (1991) to propose that reading disability be solely linked to scores in reading achievement, disregarding the IQ of the student. The etiology of reading disability implies that this impairment is essentially a matter of underachievement and that educators should treat all children reading below grade level as if they have a reading disability (Ysseldyke et al., 1982).

Comparison of reading and listening comprehension scores. Because of the aforementioned problems with the IQ-A discrepancy model, a method for comparing reading and listening comprehension seems to be the best option for Ghanaian educators to identify reading-disabled students in Ghana. This method utilizes a discrepancy between listening and reading comprehension test scores as measured by tests of reading achievement. The high correlation of listening comprehension and reading comprehension led many researchers (Durell, 2010; Gillingham & Stillman, 1997) to recommend that listening comprehension is a viable means of approximating reading comprehension (Amin, Amin, & Aly, 2011). Children develop strong listening skills and retain these skills even in later stages of schooling. It takes quite a few years

for reading comprehension to outperform listening comprehension. Eventually, as children develop good reading habits, the gap between reading and listening comprehension closes. However, for the child with a reading disability, the reading and listening comprehension gap widens, with the latter becoming significantly better than the former (Badian, 1999).

Teacher referrals. Teacher nomination is the first step in most screenings or referral processes (Ysseldyke & Algozzine, 1980). Preliminary evidence suggests that teachers are able to identify struggling readers from average readers even when the differences in academic performance are more subtle (Lane & Menzies, 2005). This is a fortunate situation given that struggling students are 70% more likely to be successful when teachers intervene before third grade (Bursuck & Damer, 2011).

For a nomination or referral for reading disability screening to occur, the teacher must recognize the presence or absence of given behaviors (Lane, 2003). The teacher therefore plays an integral role in documenting reading disability. If the teacher does not notice a concern, additional supports seldom follow. Thus, high rates of teacher referral are necessary if the affected students are to receive appropriate interventions.

There seems to be a strong correlation between teacher referral and reading disability qualification. Algozzine, Christenson, and Ysseldyke (1981), Gresham, MacMillan, and Bocian (1996), and Gresham, MacMillan, Beebe-Frankenberger, and Bocian (2000) established this correlation through the Wechsler Intelligence Aptitude Test, and Wood (1993) has done so through the WJIII. By focusing on low achievers in reading, researchers have been able to debunk the discrepancy theory, as they proved that readers with or without IQ discrepancy have more in common (phonological deficits) than not (Mather & Roberts, 1994).

Stedman and Kaestel (1987) subjected low-achieving groups referred for testing to numerous psychoeducational tests. The findings revealed that 96% of their scores were within the common range that qualified them for reading disability services (Stedman & Kaestel, 1987). That is, 96% of the low achievers who were tested for learning disability obtained low scores (below the 25th percentile) in comprehension, letter word identification, memory for sentence, word attack, proofing, picture vocabulary, quantitative concepts, and applied problems and thus qualified for special education services in reading. The strong link between teacher referral and reading disability qualification proves that there is virtually no important educational difference between students with reading disability and low achievers referred by their classroom teachers for testing to determine special education services (Stedman & Kaestel, 1987).

Hypotheses

This study was designed to test the reading and listening score discrepancy model in an elementary school in Ghana and link the results with teacher perceptions of reading disabilities, with a single research question:

> Do children in Ghana who are perceived by teachers to be underachievers in reading have an actual reading disability?

Four hypotheses were tested, relating to samples in grades 3, 4, 5, and 6:

- **H_1** There is a difference between teacher perceptions of reading disabilities and actual documentation of reading disabilities of third grade elementary school children in Ghana, as tested by the WJIII test of achievement using the discrepancy between reading and listening comprehension results.
- **H_2** There is a difference between teacher perceptions of reading disabilities and actual documentation of reading disabilities of fourth grade elementary school children in

Ghana, as tested by the WJIII test of achievement using the discrepancy between reading and listening comprehension results.

H_3 There is a difference between teacher perceptions of reading disabilities and actual documentation of reading disabilities of fifth grade elementary school children in Ghana, as tested by the WJIII test of achievement using the discrepancy between reading and listening comprehension results.

H_4 There is a difference between teacher perceptions of reading disabilities and actual documentation of reading disabilities of sixth grade elementary school children in Ghana, as tested by the WJIII test of achievement using the discrepancy between reading and listening comprehension results.

Ghana is facing a contradiction between what it espouses in terms of education for all and what it provides to students with diverse needs to meet their educational goals. There is a need to find a simpler way to identify students with reading disabilities.

Methods

The central question of this quantitative study was whether there is a difference between teacher perceptions of reading disabilities, based partly on results of regularly administered reading tests, and the documentation of reading disabilities as tested by the Woodcock-Johnson III (WJIII) test of achievement using the discrepancy between reading and listening comprehension results among elementary school children in Ghana. This study modified the quantitative method created by Wood (1993) with the purpose of identifying reading-disabled students in Ghana. Like Wood's (1993) study, this study used a reading achievement test to identify a reading-disabled group due to problems with the IQ-A discrepancy method. .

Subjects and Setting

The study participants comprised 60 students from class (grade) 3 to class (grade) 6 attending an elementary school in Cape Coast, Ghana. The school has a total population of 454 students. Most students in the school were from primarily low socioeconomic status families, as is the case with most public schools in Ghana.

Teachers selected at random 15 students from a pool of struggling readers from each class, as determined by scores on the Ghana Primary Level Reading Assessment (GPLRA). The students scored significantly below their grade level on the GPLRA. The reason for selecting 15 students in each class was to get a fair representation of students in the school and to determine if teacher perceptions of students with reading disability were accurate. It was not the intention of this research to identify all students in the school with a reading disability. Students reading significantly below grade level who had not yet received any remedial services in reading were not part of the sample group. The reason behind this exclusion was to eliminate students whose reading problems were due to lack of reading instruction. The teachers perceived the students in the sample group as reading disabled after they failed to make progress despite exposure to adequate and appropriate reading instruction.

The 60 students selected for the sample comprised 13% of the 454 students in the sampled school, which is a reasonable representation. Although in most African countries, no statistics are available on the number of children and youth with reading disabilities, it is estimated that 10% to 14% of students experience reading difficulties (Foorman et al., 1997). It is also typical for approximately 10% of students at any grade level to be reading disabled (Seo, Abbott, & Hawkins, 2008). There were 42 boys and 17 girls in the sample population. This ratio

reflects the fact that reading disability affects more boys than girls, with the ratio estimated at 2:1 (Bursuck & Damer, 2011).

G*Power 3.1.7 was used to determine a sample size to ensure empirical validity (Faul, Erdfelder, Buchner, & Lang, 2013). Calculations showed that for a dependent sample *t*-test with one tail, a generally accepted power of .80, and an assumed medium effect size, approximately 34 participants were required to achieve empirical validity within a 95% confidence interval (Faul et al., 2013). Thus, the researcher considered the sample size of 60 to be sufficient.

Instrument

The WJIII was the measurement tool used for this research because it is the newest version of the Woodcock Reading Mastery Test used by Wood (1993). The development of the Woodcock Reading Mastery Test in the 1993 study utilized the findings of the research in reading available at that time (Wood, 1993). Educators have stressed the importance of using conormed data from achievement tests in diagnosing and assessing reading disabilities (Emens, Sapp, & Dorsey, 2010). Thus, in line with this recommendation, the subtest of reading comprehension in the WJIII test that the current study used allowed assessment of several skills: recognizing stated detail, recognizing cause and effect, sequencing, and recognizing inferences. The second subtest addressed listening comprehension and supplied rich information about the child's receptive language skills (Swanson, 1999).

The WJIII reading comprehension subtest utilized a modified cloze procedure: Students silently read a passage that had a word missing and then told the examiner the appropriate word to fill in the blank. Each item set included several types of factual and inferential questions, which simulate comprehension questions. This design enables a student to demonstrate reading comprehension skills on passages at a lower readability level and controls for potentially

confounding weaknesses in word identification and vocabulary knowledge (Glutting, Watkins, Konold, & McDermott, 2006). As a result, the questions do not uniformly increase in difficulty, nor do the questions measure increasingly complex skills from one item set to the next. Instead, the test distributes samples of the same literal and inferential comprehension skills within and across item sets. The reading comprehension subtest has a reliability of .92 (Grenwelge, 2010).

On the WJIII listening comprehension subtest, the first series of items addressed listening for details. In this series, the student answered the early questions by pointing to a picture and the later items by responding orally. In the listening comprehension part of the test, the examiner read the sentence to the students and asked them to supply the missing word, similar to the methodology for reading comprehension. Throughout the test, the student was free to ask the researcher to repeat the question once. The passages were actual stories drawn from textbooks and newspaper articles. The listening comprehension subtest has a test reliability of .92 (Grenwelge, 2010).

Both the reading and listening subtests provided similar data, with the only variation being the modality of presentation. The examiner obtained raw scores as described in the test manual for use in data analysis. The highest possible points for the reading and listening comprehension subtest was 28 for third grade, 30 for fourth grade, 32 for fifth grade, and 33 for sixth grade. None of the study subjects obtained the highest possible score.

Data Collection Procedures

The examiner presented the test to the children individually in a single session that averaged 1 hour. The examiner picked up the children from their classroom and escorted them to the testing room, which was a small room within the school with no audio or visual distractions. On the way, the examiner made sure the children knew the purpose of the test. The researcher

told the children about his interest in learning more about Ghanaian children having difficulty reading and the importance of identifying those individuals. The procedure for the administration of the subtests followed the directions in the test manual.

To reduce confounding variables, the test was conducted in English, and all participants were fluent in English. Ghana has several local languages, but the national language is English. Children might speak a local dialect at home, but English is the only formal language used in all schools (Owu-Ewie, 2006).

In Ghanaian society, one does not need consent from parents for a child to be tested. A school can act on behalf of a parent if necessary. Issuing consent forms to parents would require visiting the homes of all 60 students, as no mail addresses are available in most deprived areas. In addition, most low-income homes are not accessible by road. To satisfy American conditions for this research, the principal signed a form to assure the researcher that she had notified the parents of the children involved in the research.

Data Analysis

The researcher entered data into SPSS version 21.0 for Windows and screened data for accuracy and missing data with nonrandom patterns. The study presented descriptive statistics to describe the sample demographics and variables used in the analyses. Calculation of frequencies and percentages described any categorical data, such as gender or grade level. Calculation of means and standard deviations described any continuous data, such as difference scores (Howell, 2010). The researcher also used descriptive statistics and frequency distributions to determine whether responses were within the possible range of values and to ensure that outliers did not distort the data. Each subscale score received a standardized value, which provides a numerical representation of the deviation from a variable's mean, and the researcher examined participant

scores for values that fell above 3.29 or below –3.29, which indicate outliers (Tabachnick & Fidell, 2012).

To address Hypotheses 1 through 4, the researcher computed dependent sample *t*-tests to detect differences in each class level's listening versus reading comprehension scores. If a sampled grade level's average reading comprehension score was significantly lower than its average listening comprehension score at the $p < .01$ level ($\alpha = .01$), the sample was quantifiably defined as reading disabled. This study utilized a statistical significance level of $\alpha = .01$, in line with the recommendation by Coolidge (2000), Thomas (2013), and Creswell (2011).

The researcher assessed the assumptions of the dependent sample *t*-test prior to analysis. The dependent sample *t*-test assumes that both values that will be assessed follow a normal distribution, or bell curve. The researcher assessed normality for each class level using two one-sample Kolmogorov Smirnov tests each, which determined if the distribution of a class's listening or reading comprehension scores were significantly different from a normal distribution. If results showed violation of the assumption of normality for any class level, the researcher would use the nonparametric equivalent of the paired sample *t*-test in its place.

Results

Preanalysis Data Screening

Descriptive statistics and frequency distributions determined that responses were within the possible range of values. To test for the presence of outliers, the researcher examined standardized values; these values provide a numerical representation of the deviation from a variable's mean. The researcher reviewed each subscale score for values that fell above 3.29 and below –3.29, which indicate outliers (Tabachnick & Fidell, 2012). No participant was removed due to the presence of outliers. The researcher examined cases with missing data for nonrandom

patterns, and the researcher removed one participant with an incomplete evaluation due to missing responses (i.e., no scores for the reading or listening comprehension assessments). Final analyses included 59 participants.

Descriptive Statistics

Third, fifth, and sixth grades each had 15 subjects, and fourth grade had one less subject, 14, due to the removal of one participant for missing responses (i.e., no scores for the reading or listening comprehension assessments). A large proportion of the sample was male (42, 71%), with less than half as many females (17, 29%).

Scores of the individual students, as well as the ratios of the difference between the reading score and listening score, were examined. A commonly accepted ratio is ≥0.82 for third grade students, ≥0.83 for fourth grade students, ≥0.95 for fifth grade students, and 1.00 for sixth grade students (Durrell, 1969, 2010). As shown in Table 1, based on the difference scores, in the third grade group, most (13, 87%) students were disabled; only two (13%) were not—and those two were only one point above the cutoff value for being considered reading disabled (i.e., a ratio of .83 instead of .82) in grade 3 and would have qualified in grade 4 (Gillingham & Stillman, 1997). In the fourth, fifth, and sixth grade groups, all students had reading disabilities based on the difference scores.

Insert Table 1 here

Hypothesis Testing

The researcher used a paired sample *t*-test to determine if the grade level participants' reading comprehension scores were significantly lower than their listening comprehension scores on the WJIII. Prior to this analysis, the researcher assessed the assumption of normality using

two one-sample Kolmogorov Smirnov tests to ensure that reading and listening comprehension scores both followed a normal distribution. The results of the Kolmogorov Smirnov tests were not significant ($p > .05$) for each grade level group, indicating that neither variable was significantly different from a normal distribution. Thus, the data set met the assumption of normal distribution required for the *t*-test.

As shown in Table 2, results of the paired sample *t*-test indicated a significant difference between listening and reading comprehension scores for the all grade groups at the $p < .01$ level. Figure 1 shows the box plots for the listening and reading scores of the grade groups. Two students in third grade were not reading disabled based on the discrepancy between reading and listening comprehension as defined by Durell (1969, 2010) and Gillingham and Stillman (1997). This discrepancy indicates that to be a nondisabled reader, reading and listening comprehension ratios should be ≥0.82 for third grade students, ≥0.83 for fourth grade students, ≥0.95 for fifth grade students, and 1.00 for sixth grade students. Ratios below these reading disability benchmarks are commonly accepted indicators of reading disability (Amin et al., 2011). For the other grades, reading comprehension scores were significantly lower than listening comprehension scores, and the researcher considered the grade classes reading disabled and the rejected the null hypothesis in favor of the alternative.

Insert Table 2 and Figure 1 here

Discussion

The catalyst for this research was the undocumented number of students with a reading disability and the overreliance on the classroom teacher to identify students with reading problems. Gresham, Reschly, and Carey (1987) found that teacher referral is very accurate in

predicting reading disability among low achievers. Most reading disability experts believe that educators should treat all underachievers in reading as reading disabled irrespective of the cause (Mira & Schwanenflugel, 2013). The current study's finding that low scores on a local reading test were accurate in predicting a determination of reading disability based on a difference between reading and listening comprehension scores adds to other literature (Mira & Schwanenflugel, 2013; Shriner et al., 2000; Stedman & Kaestel, 1987; Wood, 1993; Ysseldyke et al., 1982) indicating that teachers have the insight and assessments needed to make determinations of reading disability. This method of identifying those with reading disabilities would be easy to explain and would raise awareness of reading disabilities in Ghana. With increased awareness of the problem, teachers would be better able to offer early and effective intervention to help students improve their reading skills.

Based on the commonly accepted understanding of the physical and neurological causes of reading disabilities, it is clear that African children should not be immune to this type of disability. Yet, Ghana and other African countries have not historically recognized reading disabilities and, as such, have denied a substantial number of children school success. Resources are limited in Ghana, but this study has shown that the identification of reading disabilities does not require the costly and time-consuming process of assessment by a school counselor. Instead, teachers in local schools can use tools already at their disposal, in the form of reading tests.

Recommendations for Future Research

One limitation of this study was the question of the reliability of the WJIII test used in this study. No one has developed or normed group-administered tests of this nature for use in Ghana. Although it would be prudent to develop a reading disability test purposely for use in Ghana, common characteristics exist between U.S students and Ghanaian students with reading

disabilities. Therefore, future researchers may want to adapt U.S. tests to determine reading disability for the context of Ghana by making necessary adjustments to parts of the test that could potentially skew the results. The results of the current research would be more reliable if another credible source were able to specifically validate the use of WJIII to document reading disabilities in subjects similar to those involved in this study.

An area identified for further investigation relates to language of instruction. The use of the English language as the medium of instruction in Ghanaian schools, especially at the lower basic level, dates back hundreds of years when foreign missionary workers set up schools. With the inception of formal education came the use of English as a formal language and the consideration of the indigenous language as inappropriate for use as a teaching tool. At present, governmental policy states that English should be used as the medium of instruction beginning in first grade, with a Ghanaian language studied as a compulsory subject at the senior secondary school (high school) level (Owu-Ewie, 2006).

Since more than 64% of Ghanaian schoolchildren read significantly below grade level, however, the use of English as the only mode of instruction needs further investigation. Research has shown that the use of a child's first language in education enhances linguistic, cognitive, and academic achievement (Baker, 2001; Owu-Ewie, 2006). The National Association for the Education of Young Children (2010) reported that the loss of children's home language might result in the disruption of family communication patterns, which may lead to the loss of intergenerational wisdom, damage to individual and community esteem, and children's potential nonmastery of their home language or English.

An experiment in bilingual education in Mozambique demonstrated that children benefited greatly from the use of the mother tongue in terms of classroom participation, self-

confidence, bilingualism, and literacy in the second language (Kamwangamalu, 2004). Such findings may indicate that the poor academic performance in Ghanaian schools, especially in English proficiency, might be due to a lack of foundation in the child's local language for transfer to the second language (Owu-Ewie, 2006). Thayer-Bacon (1992) stated that, in the early stages of school, most reading tasks are performed by listening and, as a result, children develop strong listening skills and tend to hold on to those skills even in the later stages of schooling. In this study, the lack of foundation in the local language for transfer into the English language could have caused the subjects to hold on to their listening skills and thereby develop stronger listening skills than reading skills.

Conclusion

The effort to identify reading-disabled students in Ghana by linking teacher perceptions to the difference between listening and reading comprehension scores is an important step. At the same time, however, it is not enough to identify reading-disabled students in Ghana if this identification does not have implications for instruction. If teachers do not intervene early, students' reading difficulties tend to become more prominent, and students develop resistance to intervention efforts over time. Experts believe that after the third grade, only 25% of students respond effectively to reading intervention (Bursuck & Damer, 2011). Most reading experts recommend a reading methodology that uses a systematic, multisensory approach to teaching students basic reading, spelling, and writing (Bursuck & Damer, 2011). There is a need for further investigation of the best approach for Ghana, considering the use of the child's first language as an integral part of teaching the reading disabled. It is of great importance for educators to identify a child suffering from a reading disability early to provide focused assistance.

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Table 1

Frequencies and Percentages of Reading-Disabled Students

Grade	Reading disability		No reading disability	
level	*n*	%	*n*	%
3	13	87	2	13*
4	14	100	0	0
5	15	100	0	0
6	15	100	0	0

*These two students were only one point above the cutoff value that defined a reading disability relative to Durrell (1969, 2010) and Gillingham and Stillman (1997).

Table 2

Dependent Sample t Test for Listening Versus Reading Comprehension Scores in Grade 3

Grade	Listening comprehension		Reading comprehension			
level	*M*	*SD*	*M*	*SD*	*t*(14)	*p*
3	12.33	2.06	5.33	2.32	10.46	< .001
4	13.36	1.74	5.86	1.46	22.91	< .001
5	15.93	1.16	8.80	2.08	14.66	< .001
6	19.87	1.60	12.47	3.14	9.97	< .001

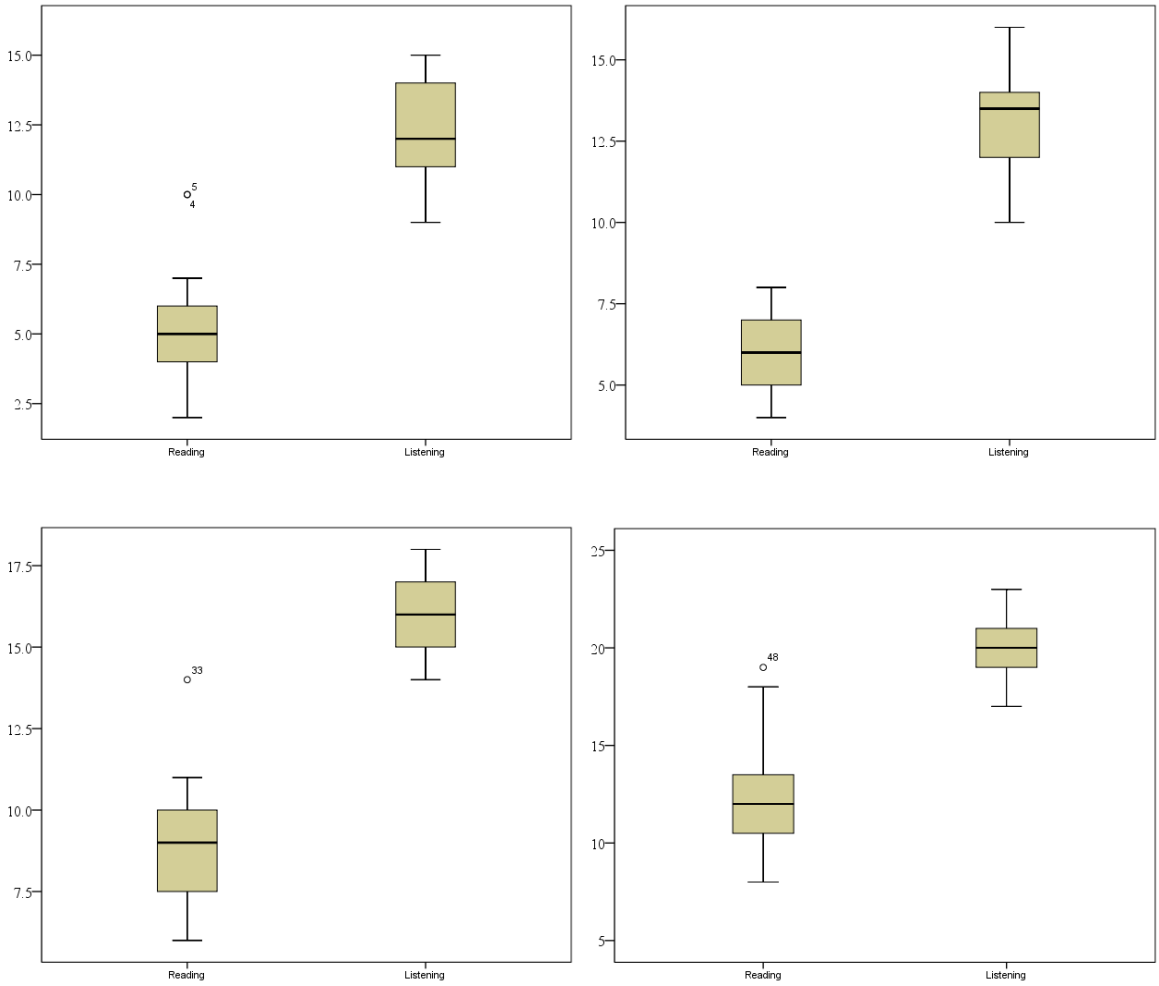

Figure 1. Listening and reading score box plots for (a) grade level 3, (b) grade level 4, (c) grade level 5, and (d) grade level 6.