

CAN READING BE USED AS A PREDICTOR OF LITERACY OUTCOMES? A LITERATURE REVIEW

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Abstract

Aimed at improving the quality of education, interventions in literacy have emerged in several countries. However, most of these interventions have concentrated on reading as a component of literacy at the expense of listening, speaking and writing which are other measures of literacy. The paper examines the relationship between reading and improved performance in language subjects. The literature review showed that reading cannot be taught in isolation from the other three components of literacy and that reading is a good proxy for measurement of literacy. The paper, however, recommends for further empirical research to establish the proportionate contribution of each of the four components of literacy on improved performance in language subject.

Key words – Literacy, interventions, Reading, Writing, Speaking, Listening

1.0 Introduction

A global audit of the quality of education has included measures of children's reading and mathematics ability as a way of accounting for children's learning (Barrett, 2010). Thus both reading and mathematics have become key indicators for evaluating if learning is taking place. The apparent shift in focus to the quality of education was necessitated by the rapid expansion of access to education following the Education For All initiative. The rise in the number of students joining primary school led to strained school facilities, high student teacher ratio and a general reduction in quality of education (Bartlett, Dowd & Jonason, 2015).

According to Bold et al., (2017), three out of five students in Nigeria and Mozambique are still not able to read simple words in English and Portuguese even after close to four years of compulsory literacy education. Other studies have shown that performance in core examinations could be attributed to inability to read at early grades (Uwezo, 2011). To change this status, educators have developed literacy interventions aimed at improving reading abilities of children in the early grades. The expected outcome is that children will not just learn to read but will read to learn (Goldman, et al., 2012). Where learning to read involves mastering basic procedural reading skills that enable readers to recognize written words, pronounce them correctly and read with reasonable fluency (automaticity), while reading to learn involves moving beyond these procedural

skills to acquire information from text (Nell & Megha, 2012). Therefore, achieving automaticity enables students to be able to access and retrieve information in a way that is useful to them.

Research continues to show that literacy interventions are impactful on the reading ability of children (Miller, 2014; Siddiqui, Gorard & See, 2015). Literacy programs implemented on a wide scale such as the Success for All in New Zealand and the United States have recorded impacts of up to 0.3 standard deviations (Borman, et al., 2007). Further, an impact evaluation of the Reading Recovery program among first graders in the United States by May et al., (2013) found large effect sizes of up to 0.40 standard deviations. A similar literacy program implemented in public schools in South America found a positive effect of reading interventions on student achievement (Costa & Carnoy, 2015). Nationwide interventions in Jordan and Egypt have recorded comparable results (Gove, Brombacher & Ward-Brent, 2017). Other African and Asian countries have had moderate to large impacts of literacy interventions. The impact of the Literacy Boost program implemented in several countries including Mozambique, Pakistan, Ethiopia, Nepal and Malawi was found to be moderate to large with effect sizes of 0.27 to 1.21 by a study done by Guajardo and Ochoa, (2012).

These results show that reading interventions have been effective in improving the reading skills of learners. However, there is a dearth of empirical evidence on how the improved reading ability translates to outcomes in the performance of the languages as academic subjects (Gao, Mo, Shi, Wang, Kenny & Rozelle, 2017). Often, the research focus is language as a predictor of reading, a perspective that will be discussed in a different section of this paper. This paper however looks at the use of reading ability as a measure of improved performance in language subjects.

In the last two decades there has been increased research focus on reading development in the second (Grabe, 1991) and even third languages of learners. In East Africa, English and Kiswahili are the most influential languages among the multiple ethnic languages in the region. Meaning, they are not the first languages of the learners in the region. In Tanzania, Kiswahili is the

official language of Business and the one used for instruction in primary schools, Kenya uses both English and Kiswahili as official languages, with English as the main medium of instruction (Mazrui & Mazrui, 1993). This article seeks to add to the body of knowledge by reviewing the link between literacy and performance of early grade learners in English and Kiswahili within a multi-language context.

In Kenya, the Primary Mathematics and Reading initiative (PRIMR) which was implemented in English and Kiswahili mostly used reading (as implied in the title) as a measure of improvement in performance in English and Kiswahili (Piper, Zuilkowski & Mugenda, 2014; Piper, Zuilkowski & Ong'ele, 2016). This was also transferred to Tusome literacy intervention, which was a scale-up of the PRIMR initiative to the national level. Similarly, Tusome used reading outcomes as proxies for measuring improvement in English and Kiswahili language subjects (Freudenberger & Davis, 2017). This article therefore reviews and discusses the relevance of use of reading indicators as measures of improvement in language subjects.

2.0 Literacy and language subjects

There is currently a large body of evidence on the nature of the reading process, particularly in the first language, leading to a number of literacy interventions developed based on the existing evidence. However, the variations in learner needs across nations, especially in language background and the need to learn to read in languages other than the learner's first language has caused an expansion in research focusing on academic reading in second or third languages and foreign language reading (Grabe, 1991). An early review of reading in languages other than the first language, (Grabe, 1991) posits that second language reading is different from reading in the first language and is influenced by different factors. Such factors include, differences in acquisition and training in the second language, student background differences, differences in the social context of

learners as well as language processing differences. Where differences in acquisition and training stem from the fact that students learning to read in a second language are also learning its vocabulary and grammatical structure. Such learners are therefore limited in the number of words they already know at the start of their learning to read and in their competence in the sense of grammar of the language. Which in turn affects their ability to understand what they read since the vocabulary knowledge is limited. This background is representative of some of the learners in Kenya learning to read in English and Kiswahili. Yet others begin to learn English and Kiswahili with an average store of oral language vocabulary and a sense of grammar, particularly in English.

A discussion on the link between the forms of oral language (speaking and listening) and reading is important in laying the foundation for our argument. There is a considerable amount of literature showing the correlation between reading achievement and measures of oral ability, particularly speaking (Foorman, Koon, Petscher, Mitchell, & Truckenmiller, 2015) (Fuchs, Fuchs, Hosp, & Jenkins, 2001). The consideration of the place of oral language proficiency is important in light of the apparent distinction between ability to converse in a language and ability to perform the same language academically. This thought arose from the observation of Skutnabb-Kangas and Toukmaa as cited by (Cummins, 1999) that Finnish children studying in Sweden were fluent in both Swedish and Finnish but did not perform as well in verbal academic tests of both languages. Cummins (1999) argues that attaining oral fluency in a language, does not automatically lead to ability to perform equally well in academic tasks in that language. Perhaps, this could be attributed to the childrens' inability to comprehend the languages very well due to limitations in vocabulary.

Moreover, it is increasingly evident from research carried out in other African countries including Cameroon, India, Mali, Philippines, South Africa that communication with learners in a familiar language (first language) during classroom reading instruction is beneficial (Ball, 2010; Chuo & Walter, 2011; Piper, Kwayumba, Oyanga & Jepkemei, 2015). First, children learn to

read faster if they speak the language of instruction, mainly because they already have a repository of vocabulary, knowledge of the linguistic construction of the language, and the ability to pronounce the sounds of the language. This prior knowledge facilitates learning to read, as well as comprehending text. Being able to read and understand the language in turn facilitates academic learning. An assessment by (Piper, Schroeder, & Trudell, 2015) of the relationship between oral reading fluency and comprehension among Kenyan primary school children aptly demonstrates this. In their study, although children could read English a lot more easily than Kiswahili and their own mothertongue or first language, they did not comprehend what they read in English as well as they did texts in Kiswahili and their mothertongue.

The foregoing discussion demonstrates the importance of vocabulary and a learner's ability to comprehend text. As highlighted by (Dickinson, Golinkoff, & Hirsh-Pasek, 2010), children learning to read an alphabetic language must be able to identify the individual symbols as letters, learn the letters and their associated sounds, be able to recognise the words and make meaning of the words and their meanings in the context of wider units. Performance in academic subjects require the learners to demonstrate their abilities by spelling correctly and applying grammar in written language, being able to describe events or actions from a passage. In short, children require mastery of their own first languages which enables them gain to knowledge of concepts in the world and then master the other taught languages. Otherwise, as put by (Dickinson, Golinkoff, & Hirsh-Pasek, 2010), 'they only decode the letters in the sentence into words that yield nothing beyond a string of seemingly disconnected sounds'. Dickinson and colleagues argue for reading instruction that addresses oral language skills, vocabulary, and background knowledge in addition to the other code related skills in early literacy.

Reading is distinct from oral language because of its reliance on print rather than spoken words. That having been said, the other relevant conversation to this review is research on the

varying role of phonological awareness, memory, vocabulary, rapid naming and non- verbal intelligence in learners reading outcomes in different languages. (Ziegler, et al., 2010) carried out such a study on a sample of 1,265 children in second grade and found that phonological awareness accounted largely for reading performance in five languages.

In the literature there is some evidence to support how literacy impacts on performance in languages such as in Portuguese as found by (Costa & Carnoy, 2015) and in Chinese (Gao, Mo, Shi, Wang, Kenny & Rozelle, 2017). Another study on the effect of exposure to Polish and English as first and second languages on student performance in the Polish language found that exposure of 4-7 year olds to a second language English negatively influenced productive grammar in their first language Polish. Increased exposure to the Polish language was correlated with increased vocabulary size and phonological processing in bilingual migrant children in the United Kingdom. The study by Haman et al., (2017), examined student abilities in vocabulary, grammar, phonological processing and oral fluency.

These examples provide evidence of the transfer of literacy skills from one language to another. Another study undertaken in South Africa showed that children who were taught in their mother tongue in the first three grades of primary performed better on an English exam in grades 4, 5 and 6 than children who were taught in English in early grades (Taylor & Marisa , 2016). Research by Shin, Sailors, McClung, Pearson, Hoffman & Chilimanjira (2015) in Malawi, found that over the course of a year, the English reading and writing scores of students in grades two and three were predicted by their Chichewa literacy skills. These results were similar to those found by Trudell, Dowd, Piper and Bloch (2012), where students achieved higher Chichewa and English fluency, accuracy and reading comprehension in Grade four.

Improvement in literacy in English and Kiswahili has been shown to lead to better outcomes in English (Piper, Zuilkowiki, & Mugenda, 2014) and Kiswahili (Piper, Zuilkowski, & Ong'ele,

2016). Specifically, the research by Piper, Zuilkowski and Mugenda, (2014) found positive results on measures of oral reading fluency and reading comprehension in the English and Kiswahili subjects for grade one students. It is notable that the study found a larger effect for English when compared to Kiswahili. Although both languages are official languages in Kenya, a number of primary schools tend to promote the use of English in conversation outside the classroom. Additionally, English is used as a medium of instruction in all other school subjects except in Kiswahili giving students more opportunity for practice of the English language. Of emphasis is the use of reading measures as proxies for measuring improvement in language (English and Kiswahili).

To put the foregoing discussion on listening and speaking into context, it may be important to consider that historically, reading and writing were thought of as secondary to the oral forms of speaking and listening (MacArthur, Graham, & Fitzgerald, 2008). After all, children first learn to speak and later acquire written language and reading skills. MacArthur and colleagues argue that the four language systems of speaking, listening, reading and writing do not necessarily develop in discrete sequential stages but have the potential to influence one another. For instance writing, can be impacted on by oral language and reading. In short, an understanding of the interrelationship between speaking, listening, reading and writing can reveal the degree to which development or progress in one component can lead to progress in another component.

This is demonstrated by a study by Bowyer-Crane, et al., (2008), who investigated the differential effects of oral language versus phonology with reading intervention in early language and literacy skills. At the end of the 20- week intervention, children who received reading and phonology instruction showed better outcomes when compared to those in the oral language focus on instruction. They concluded that training in phonology improved children's decoding ability while training to develop oral language skills was important in developing vocabulary and

grammatical skills which form the foundation for reading comprehension. Evidently, reading comprehension is dependent on decoding ability as well as linguistic comprehension.

Further, as argued by Jacobs (2014), children should be assisted to listen, speak, read and write in the school subjects, this is because it enables them to build their language capacity in that subject. A Kiswahili teacher therefore will not just teach reading to their students, but will teach them to listen, speak, read and write in Kiswahili. In measuring academic performance in a written test, the children are first tested on their ability to read and make meaning of the test items, then their ability to write in the language is tested when they respond to the test items in writing.

Conversely, during the learning process, the child should be able to listen to the teacher and be able to describe, or answer to a teacher's question or clarify by speaking. Eventually, in the school context, teaching reading does not stop at teaching children how to recognise words in text. There has to be teaching of how to listen, converse and write in the language being taught for the student to be able to perform in any language test.

Perhaps, this then explains the weak performance in the Kiswahili language as noted in Kenya (Momanyi, 2009). The socio-linguistic context in Kenya is such that learners speak a variety of languages at home or in informal school communication and only speak Kiswahili during Kiswahili lessons. This practice may be responsible for poor learning outcomes in Kiswahili which may have led to the prioritisation of oral language instruction by some teachers as noted by Dubeck, Jukes and Okello, in their qualitative study on literacy instruction in coastal Kenya in 2012 (Dubeck, Jukes, & Okello, 2012). Their observation suggests the need for balance in focus on oral language and on reading and writing. This is especially so in light of the fact that Kiswahili being an alphabetic language, just like English requires a learner to be able to understand the relationship between letters and their corresponding sounds (Adams, 1990). This assertion is supported by the

findings of Martirosyan, Hwang and Wanjohi (2015) that English language proficiency was highly related to the academic performance of learners who were not native speakers of English.

3.0 Conclusion and recommendations

Evidently, children's ability to read influences their ability to recognise letters, words sufficiently enough to reproduce them in writing as a representation of what could have been spoken. On the other hand, there is strong theoretical rationale for the assertion that oral language skills such as semantics and syntax are important in reading comprehension. Since observable literacy outcomes depend on a learner's ability to read, comprehend and reproduce what was taught in the classroom, all four literacy components come into play. Thus, speaking, listening, reading and writing seem to play key roles in children's performance in language across the languages. This paper does not however, provide direct evidence for what proportion of each of this four components accounted for literacy outcomes. This could be the subject of further research.

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