LEVERAGING TEXT RECALL ABILITY THROUGH TRANSLANGUAGING

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ABSTRACT

This paper explores the effects of translanguaging on learners' ability to recall information when reading texts in isiXhosa as their home language and English as their first additional language. The study engaged a Solomon four quasi-experimental design with four groups of participants: two experimental groups and two control groups. Four rural Grade 4 schools comprising 215 learners aged between nine and 12 participated in the study. The results show a positive correlation between translanguaging techniques and learner performance on the ability to recall information in their home language. Regarding English, the results display a regressed but statistically non-significant performance. The study responds to concerns about the substandard reading abilities of African (Black) learners in elementary grades in South Africa and suggests an alternative multilingual approach, translanguaging, to enhance the reading abilities of multilingual learners. It demonstrates that substantial gains can be obtained in reading development in elementary grades when translanguaging techniques are exploited.

KEYWORDS: Translanguaging, reading comprehension, isiXhosa home language learners, Grade 4, quasi-experimental study.

INTRODUCTION

Comprehension remains one of the issues that needs to be addressed when dealing with reading and writing, literacy, and language acquisition in general. According to Arends and Fonseca (2024), comprehension is the *sine qua non* of reading, without which reading cannot fulfil the purpose for which it is intended. While the decoding process helps learners learn to read, comprehension helps them read to learn and, in so doing, fulfil the purpose of reading a particular text. Comprehension is considered one of the crucial skills upon which success in academic programmes depends. One needs to acquire appropriate reading skills, comprehension skills and appropriate strategies to read successfully. This may involve a fair number of cognitive abilities, which include the ability to recall information and infuse such information with the reader's background knowledge when reading a text. It may well involve being selective—paying adequate attention to the most important and relevant parts of the reading text—to understand complex and subtle implicit messages conveyed through the writer's choice of a particular vocabulary. Determining the main idea is primarily a matter of using cues the writer provides in the text to aid the reader in predicting what is most important (Block & Duffy, 2008).

There have been concerns about the substandard reading abilities of Black South African learners in elementary grades in South Africa (per Section 1 of Act 55, 2005). For instance, a

report by the DoE (2014) on the annual national assessments shows that learners read below the expected national and international levels. Even though several factors may contribute to poor reading performance, little attention is given to the monolingual models, practices and approaches that seem to be dominating reading development among multilingual learners. Very few studies have attempted to establish the effects of reading techniques that engage two languages simultaneously on learners' text recall abilities. As a result, this paper explores the effects of translanguaging on learners' ability to recall information when reading texts in isiXhosa as the learners' home language and English as their first additional language. It challenges the prevailing monolithic ideologies about language in education and affords the opportunity for the engagement of an alternative multilingual approach, translanguaging, to enhance the reading skills of multilingual learners. The findings respond to an alternative hypothesis, which posits that the participants' performance on the target ability would vary in both languages and throughout the groups because of the intervention, and the null hypothesis, which posits that performance would remain the same in both languages and throughout the groups, regardless of the intervention.

READING AND RECALL ABILITY

Research often links reading and recall abilities to psycholinguistics and neuroscience (Goodman & Goodman, 1976) and working memory (Peng et al., 2017) and their roles in content retrieval and processing. According to Strauss et al. (2009), the reader anticipates what the next word would be, using information from the reading text and preexisting knowledge, and, therefore, does not have to see every letter of a word or each word in a sentence when reading a text. In essence, experience tells the reader about the type of anticipated information, what it should look like and where to look for it. As they read, the reader selects evidence to confirm or refute the predictions.

Just and Carpenter (1992) observe that working memory plays a pivotal role in reading comprehension as it entails storing perceived words and their integration into the reader's ideas, thereby generating their intermediate or final thoughts. Alptekin and Ercetin (2011) examined the effects of working memory capacity and content familiarity on literal and inferential comprehension in second-language reading. The results revealed the independent and additive effects of working memory capacity and content familiarity on inferential comprehension. Thus, readers' preexisting knowledge related to the text content is key. Prior knowledge helps readers compensate for gaps in text-based information by affording quick and relatively effortless access to relevant information in long-term memory based on incomplete text-based information as cues. Thus, a reader relies on salient textual information and background knowledge to recall information obtained from a text. In this manner, reading involves deciphering a written linguistic code while the reader also brings meaning to the text to make more sense out of it. Making sense of a text requires a reader to relate the meanings of the text to what they already know (Janks, 2011). Accordingly, working memory helps a reader relate multiple ideas and concepts in their existing knowledge and those appearing in various parts of the text through inferential processes.

It is worth noting that reading comprehension involves more than simply recalling and retelling information. Teachers should teach learners comprehension strategies that would aid learners in going beyond the surface of the text. Even when children can retell a story completely or list facts from a text, they might not comprehend the text thoroughly if they are unable to discuss it (McIntyre, Hulan & Layne, 2011).

THEORETICAL FRAMEWORK

This study is framed within a translanguaging model. Translanguaging is a concept attributed to Cen Williams (García, Bartlett & Kleifgen, 2006; Baker, Jones & Lewis, 2012; Hornberger & Link, 2012) and refers to a pedagogical practice in a multilingual classroom in which a learner receives input in one language and gives output in a different language. Translanguaging is a spontaneous practice among multilingual speakers in which interlocutors subconsciously switch input and output modes during the communication process. Essentially, it is a process during which one receives a message in one mode of communication and, in return, interprets, actions or responds in another. Translanguaging has been broadened to include multiple discursive language practices (García, 2009), including technology (Vogel, Ascenzi-Moreno & García, 2018), whereby a multilingual person engages these to make sense of the world and formulate and express thoughts.

Scholars have suggested various models through which translanguaging could be viewed and incorporated as a pedagogy. These include the continua of biliteracy by Hornberger and Link (2012) and the *Ubuntu* translanguaging models by Makalela (2016). The continua of biliteracy lens posits that learning occurs along and across continua. The lens provides the focal points in the continua at which one's knowledge and use of different language varieties and literacies meet. In a learning environment, biliteracy develops along reciprocal intersections between the various languages existant in learners' repertoires and the various semiotic means by which they acquire and express the same. The continua enable one to observe how possible it is for infinite, elusive, unpredictable, interrelated, and simultaneous opportunities for literacy to develop within the continua. In effect, this model considers the various contexts, content, and linguistic and literacy repertoires learners bring to the learning environment. Research has often assumed that literacy acquisition occurs linearly and sequentially (Cummins, 2005), ignoring the numerous possibilities of crisscrossing, backtracking, and simultaneity in the process. According to Hornberger and Link (2012: 243), "the continua of biliteracy lens reminds educators that the more students' contexts of language and literacy use allow them to draw from across the whole of each and every continuum, the greater are the chances for their full language and literacy development and expression". Multilingualism as a resource and translanguaging as a vehicle through which biliteracy can be achieved are at the centre of the continua of biliteracy.

Makalela (2016) proposes a model in which an African value system of interdependence, *Ubuntu*, is the framework for translanguaging. The model is introduced through a scenario about international trade and the coexistence of numerous language groups in the Limpopo Valley to display the notion of confluence between African multilingualism. It shows how confluent, fluid and porous languages have become and questions the relevance of the separatist orientation towards language education and literacy development in the 21st century. The *Ubuntu* lens fits well as a pedagogical strategy in a multilingual context since, in an African context, for example, one language is not sufficient to complete the cycle of meaning-making. This approach explains why "the notion of translanguaging fits in to account for complex multilingual encounters where speakers use more than one language for exchange of input and output" (Makalela, 2016: 190).

In Wales, translanguaging techniques were introduced in education to open up the possibility of two languages being seen as mutually advantageous to a bilingual school, person, and society (Baker, Jones & Lewis, 2012). However, in South Africa, the effects of translanguaging techniques have not been fully explored despite the multilingual nature of

schools and the legislative directive that learning opportunities must, whenever possible, be made available in all official languages (Constitution, 1996). Plüddemann (2011) observes that it is impossible to teach mathematics or sciences effectively in a multilingual classroom without 'shuttling' (or allowing the learners to do so) between various linguistic repertoires in the classroom. This indicates a deficit in the educational system in that it deprives learners of fulfilling their potential as multilingual citizens. The challenge teachers face in this regard is that translanguaging has not been sanctioned by education authorities or indeed by teachers themselves; instead, it is generally regarded as a deficit practice, mistaken for translation and code-switching (Probyn, 2015).

That translanguaging is currently not freely and fully actioned is proving a challenge for multilingual learners. In a study investigating how multi-ethnic and multicultural youth in Johannesburg, South Africa, negotiate their identities through translanguaging experiences, Makalela (2014: 677) observes that "children tend to experience an identity crisis in monoglossic school environments when they are deprived of opportunities to use their multiple discursive language forms, varieties and modes they bring with them". They feel "[being] torn between school language expectations and out-of-school language experiences". Furthermore, learners in elementary grades cannot express themselves in English but can easily do so in their home language/s. Faced with this challenge, teachers have resorted to 'smuggling' the vernacular into the classroom to aid their teaching (Probyn, 2009). According to Mbirimi-Hungwe (2016), when a learner can explain what they have been reading in a different language from the one in which the text has been written, it demonstrates that they have understood the text. Consequently, learners should be allowed to express themselves in their home language/s to exhibit how well they understand what they read.

As reflected above, research suggests that considerable positive outcomes could be achieved if the current approaches to the reading development of bilingual learners are reviewed. Translanguaging is one model that can help multilingual learners better understand in class and, at the same time, restore the dignity of indigenous African languages in the classroom. Accordingly, translanguaging should not only be seen as a language practice of multilingual learners but also as a pedagogical strategy to foster language and literacy development. As a conceptual framework, translanguaging and related ideas promote a positive view of bilingualism, permitting bilinguals to act naturally, using their languages as they do at home and in their communities (MacSwan, 2017). As a concept and framework within which a study could reside, translanguaging is quite a recent concept of which the theoretical underpinnings and research are still developing. Presently, there is a paucity of research on the effects of a translanguaging approach on reading in elementary grades in South Africa.

THE STUDY

Permission to conduct the study was obtained from the Research and Ethics Committee of the institution at which the research project was registered. The proposal of the study outlining the full details of the research was submitted to the committee for perusal to ensure that it adhered to the research ethics.

This study used a pre- and post-test quasi-experimental design. This design is like any other experimental research design insofar as it involves randomised groups, some of which might have been pre-tested and provided with an intervention, all of which were post-tested. The type of quasi-experimental design adopted for the study was a Solomon four-group design. A Solomon four-group design is a pre-test post-test experimental design. It is similar to other

experimental designs insofar as it has randomised groups, all of which are post-tested. However, in our case, due to a lack of strict randomisation of a group, because the data were collected from schools, in which the groups were already intact, the study could not be truly experimental but rather quasi-experimental. The difference between a Solomon four-group design and other pre-test post-test experimental designs is that it has two pre-tested experimental groups, one of which receives treatment and two post-tested control groups that have not been pre-tested, one of which receives treatment. Effectively, this design allows a study to have four groups comprising two experimental groups and two control groups.

DATA COLLECTION

Four rural Grade 4 schools in Matatiele District in the Eastern Cape were selected to participate in the research. Two hundred and fifteen learners aged between nine and 12 participated. Two sets of tests, a pre- and a post-test, were used to assess the participants' reading comprehension skills in English and isiXhosa, respectively. The tests were written during the class periods allocated for language teaching under the school timetable. During a test, the teacher read the passages aloud while the learners read along silently. Soon thereafter, the learners were asked to answer comprehension check questions. They had continuous access to the text when answering the questions. The questions for each language had been typed and printed on separate A4-sized sheets, and each participant had a copy to read from and answer the questions in the spaces provided for each question/item.

The translanguaging treatment was introduced a day after the learners had written pre-tests during the participants' scheduled, regular class time and in the regular classrooms used for teaching English and isiXhosa as subjects during their respective periods. The participants were taken through reading activities in which two languages were used in one text: both isiXhosa and English, albeit in separate paragraphs. At the end of the reading, the learners were required to answer comprehension check questions. Questions of which the answers or clues could be located in a paragraph written in English were asked in isiXhosa and vice-versa. The output was required orally and, in some cases, in writing. This exercise was repeated for several days, using different text types. Short passages of about 50 words were used to introduce the concept of reading a text in one language and answering questions in a different one. After three encounters (i.e., three class periods of one hour each), the length of the reading passages was increased to about 300 words. The passages used for the translanguaging treatment were curriculum-based fictional narratives obtained from the learners' textbooks and Nal' ibali (Nal 'ibali, 2016), a website hosting short stories for young readers.

DATA ANALYSIS

The data obtained from the two pre-tested groups (Groups A and C) were analysed, and the pre-test and post-test scores were first measured within each group and then between the two groups. The pre-test scores provided a baseline on which the effects of the intervention could be estimated. The post-test scores obtained from all the groups were also analysed and compared, first, within each pre- and post-tested group and then between and across other groups. The study paid particular attention to the correlation between the groups that received treatment and those that did not to determine if there was any difference in performance in reading comprehension due to the intervention/treatment.

All the data were first quantified according to common patterns as provided in the objectives of the study and then analysed quantitatively using descriptive statistics to obtain measures of

central tendencies (mean) and dispersion (standard deviations). Statistical analysis of variances (ANOVA) was performed to determine whether there were any statistically significant differences between the mean scores obtained from the various groups of participants. To this effect, correlations were pitched at an alpha value of 0.05 to measure statistical significance. T-tests were also performed to measure the variances of the distributions of the mean scores within each group and between the various sets of the participating groups. The findings were organised according to common patterns and themes based on the questions that guided the study and then analysed quantitatively using descriptive statistics to obtain the mean and standard deviations.

RECALL ABILITY IN ISIXHOSA

The participants in the first experimental group (Group A) and the first control group (Group C) were assessed on their ability to recall information they had read from the target texts. For isiXhosa home language, the post-test results indicated an improved performance by the two groups. The participants in Group A displayed much more improvement than those in Group C. Table A below presents the descriptive measures of central tendencies and dispersion of the results of this assessment:

Table A: Recall ability in isiXhosa

	Experimental Group A		Control Group C	
	Pre-Test	Post-Test	Pre-Test	Post-Test
Mean	1.88	2.86	1.46	2.19
N	50	50	24	32
Std. Deviation	0.92	1.07	1.10	1.26
t-test and p-value	t = 4.65; df = 49; p <0.05		t = 1.57; df = 23; p >0.05	
	t = 3.39; df = 31; p <0.05			

The table above displays the mean scores of the participants from the first experimental group (Group A) and the first control group (Group C) on text recall abilities in isiXhosa home language. It shows that the participants in Group A obtained a mean score of 1.88 and a standard deviation of 0.92 in the pre-test and 2.86 with a standard deviation of 1.07 in the post-test. With the standard deviation lower than the mean, the level of homogeneity in the group's ability to recall information was deemed high both at the pre-test and post-test. Therefore, the scores of most of the participants could be located around a central point. At face value, the mean scores of the two tests showed that the participants performed even better in the post-test than they did in the pre-test. The pre- and post-test scores were performed in a t-test to verify this assumption. The results of the t-test reflected a statistically significant difference at an alpha value of 0.05 (t = 4.65; df = 49; p <0.05). This rejects the null hypothesis, which posited that the participants' performance in recalling information would remain the same regardless of the intervention. In essence, the results show that translanguaging enhanced the participants' ability to recall information when reading in isiXhosa, thus improving reading comprehension.

As regards the first control group (Group C), the table shows that the group obtained a mean score of 1.46 with a standard deviation of 1.10 in the pre-test and 2.19 with a standard deviation of 1.26 in the post-test. The group displayed more improved performance in the post-test than in the pre-test. The scores of the two assessments were measured in a t-test to measure the significance of their variability. However, the results of the t-test reflected that the difference between the pre-test and the post-test was statistically non-significant at an alpha value of 0.05 (t = 1.57; df = 23; p >0.05). This result essentially accepts the null hypothesis, which posited that the participants' performance in remembering information would remain the same between the pre-test and the post-test. Ultimately, some ostensibly improved learner performance should be viewed with caution since there might be a shadow effect on the researcher's overall results. The shadow effect in this regard suggests that, despite efforts to control for variables, there might be unapparent underlying influences at play that affected the conclusions drawn.
 The post-test scores of the first experimental (M = 2.86; SD = 1.07) and first control (M = 2.19; SD = 1.26) groups—the groups that had also taken a pre- and a post-test—were tested via a t-test to measure their variability. The results revealed that the differences between the two groups were statistically significant at an alpha value of 0.05 (t = 3.39; df = 31; p <0.05). Therefore, the null hypothesis, which predicted no variability between the two groups, was rejected.

An analysis between the second experimental group (Group B) and the second control group (Group D) was also performed. Table B below shows the results of the two groups.

Table B: Recall ability in isiXhosa – Post-test results

	Experimental Group B	**Control Group D**
Mean	3.06	2.60
N	98	35
Std. Deviation	0.98	1.14
t-test and p-value	t = 2.62; df = 34; p <0.05	

Concerning the groups that had written the post-test only, the second experimental group (Group B) and the second control group (Group D), the second experimental group (Group B) obtained a mean score of 3.06 and a standard deviation of 0.99, while the second control group (Group D) obtained a mean score of 2.60 and a standard deviation of 1.14. With the dispersion levels far lower than the mean, the second experimental group (Group B) was more homogenous than the second control group (Group D). The t-test results of the two groups indicated a statistically significant difference at an alpha value of 0.05 (t = 2.62; df = 34; p <0.05) and, consequently, rejected the null hypothesis. Concerning text recall ability, the participants in the second experimental group (Group B) demonstrated relatively better performances than those in the control group, which affirms the effectiveness of translanguaging in improving the participants' ability to recall information when reading in isiXhosa.

A comparison of the mean scores obtained from the groups that had taken the pre-test and the mean scores of the groups that had not taken the pre-test showed that the non-pre-test groups

performed nearly the same as the pre-test groups, with marginal differences. This result refuted any possibility of the carryover effect that might place the pre-test groups at an advantage over the no-pre-test groups due to prior exposure to a similar assessment during the pre-test. To consolidate the absence of the carryover effect and measure the significance of the variance between the four groups' performances on text recall ability in isiXhosa, a one-way ANOVA was performed on the post-test scores obtained from the four groups (i.e., Groups A, B, C, and D). Table C below shows the results of the ANOVA in which variance in performance within each of the groups that wrote the pre-test and the post-test (i.e., Groups A and C) and between the four groups was measured.

Table C: ANOVA results on recall ability in isiXhosa

	SS	Df	MS	F	P
Between-treatments	20.2537	3	6.7512	6.01244	.000599
Within-treatments	236.9277	211	1.1229		
Total	257.1814	214			

The results of the ANOVA displayed an f-ratio value of 6.01244 and a p-value of .000599. The differences in performance between the four groups were statistically significant at an alpha value of 0.05. (f = 6.01244; df = 3; p < 0.05). The null hypothesis, which predicted that there would be no difference in the performance between the four groups, was rejected.

RECALL ABILITY IN ENGLISH
Concerning English, the participants' first additional language, the post-test results indicated some regressed performance in the first experimental group (Group A) and the first control group (Group C). The regression was measured within and between the groups to measure its extent. The descriptive measures of central tendencies and dispersion of the results of this assessment are presented in the table below:

Table D: Recall ability in English

	Experimental Group A		Control Group C	
	Pre-Test	**Post-Test**	**Pre-Test**	**Post-Test**
Mean	1.16	0.93	1.07	0.94
N	51	54	30	31
Std. Deviation	0.92	0.80	1.11	1.09
t-test and p-value	t =1.450; df =50; p >0.05		t = 4.65; df = 49; p >0.05	
	t = 0.392; df = 30; p = >0.05			

The table above shows the mean scores of the participants from the first experimental group (Group A) and the first control group (Group C) on text recall abilities in English First Additional Language. The table also shows that the participants in the first experimental group (Group A) obtained a mean score of 1.16 with a standard deviation of 0.92 in the pre-test and 0.93 with a standard deviation of 0.80 in the post-test. The post-test results indicate some regressed performance since the mean score of the post-test is lower than that of the pre-test. The differences between the pre-test and the post-test results were tested via a t-test. The results revealed that the differences between the two assessments were statistically non-significant at an alpha value of 0.05 (t = 1.450; df = 50; p >0.05). Therefore, the null hypothesis, which predicted no difference in the performance between the two assessments, was confirmed. This implies that the translanguaging techniques were not very effective in inducing the participants' ability to recall information read from an English First Additional Language text. However, the difference in performance between the two assessments should be viewed with caution since there might be some shadow effect on the researcher's overall results. In this instance, the shadow effect means that there could be subtle influences or complexities oblivious to the researcher that arose during the research process and might have impacted the interpretation of results and the conclusion drawn.

As regards the first control group (Group C), the participants obtained a mean score of 1.07 with a standard deviation of 0.94 in the pre-test and 1.11 with a standard deviation of 1.09 in the post-test. With the post-test mean score lower than that of the pre-test, the results indicated a regressed performance by the participants. Furthermore, the dispersion levels in both tests were higher than the mean score, which indicated that the group was heterogeneous. As was the case in the first experimental group, the results of the t-test reflected a statistically non-significant difference between the pre-test and the post-test at an alpha value of 0.05 (t = 4.65; df = 49; p >0.05). In that way, the null hypothesis, which predicted no difference in the performance between the two tests, was confirmed. Thus, the difference in the performance between the two assessments should be viewed with caution since there might be a shadow effect on the researcher's overall results.

The study performed a t-test to measure the significance levels of the difference between the first experimental group (Group A) and the first control group (Group C). The results reflected that the two groups were not statistically significant at an alpha value of 0.05 (t = 0.392; df = 30; p = >0.05). Therefore, the implication is that the null hypothesis, which predicted no difference between the two groups, regardless of the intervention, was confirmed.

An analysis was also performed between the second experimental group (Group B) and the second control group (Group D). Table E below shows the results of the two groups.

Table E: Recall ability in English –Post-test results

	Experimental Group B	**Control Group D**
Mean	0.93	1.23
N	95	30
Std. Deviation	0.87	0.86
t-test and p-value	t = 0.893; df = 29; p >0.05	

Concerning the groups that had not written the pre-test, i.e., the second experimental group (Group B) and the second control group (Group D), the results indicated that the second experimental group (Group B) obtained a mean score of 0.93 with a standard deviation of 0.87, while the second control group (Group D) obtained a mean score of 1.23 with a standard deviation of 0.86. Each group displayed a higher level of homogeneity since the standard deviation for each was lower than the mean. However, the second control group (Group D) performed better than the second experimental group; hence, the mean of the former is higher. The t-test results of the two groups reflected a statistically non-significant correlation between the two groups at an alpha value of 0.05 (t = 0.893; df = 29; p >0.05). Accordingly, the difference in the performance between the two assessments should be viewed with caution since there is no sufficient evidence of the effect of the intervention.

The mean scores of the post-test obtained from the groups that had taken the pre-test and the mean scores of the post-test of the groups that had not taken the pre-test were compared to measure the extent of the possible carryover effect that might have occurred because of exposure to the pre-test. The results showed that the performance of the two sets of groups was nearly the same, with marginal differences. These results refuted any possibility of the carryover effect that might have placed the pre-test groups at an advantage over the no-pre-test groups due to prior exposure to a similar assessment during the pre-test. Furthermore, a one-way ANOVA was performed on the post-test scores obtained from the four groups (i.e., Groups A, B, C, and D) to measure the significance of the variance between the four groups' performances on text recall ability in English. The table below shows the results of the ANOVA in which variance in performance within each of the groups that had written the pre-test and the post-test (i.e., Groups A and C) and between the four groups was measured.

Table F: ANOVA results on recall ability in English

	SS	Df	MS	F	P
Between treatments	2.403	3	0.801	F = 1.02219	0.383778
Within treatments	161.4255	206	0.7836		
Total	163.8286	209			

The results of the ANOVA displayed an f-ratio value of 1.02219 and a p-value of 0.383778. The differences in the performance between the four groups were statistically non-significant at an alpha value of 0.05. (f = 1.02219; df = 3; p > 0.05). Consequently, the null hypothesis, which predicted that there would be no difference in the performance between the four groups, was confirmed.

A COMPARISON OF RECALL ABILITY BETWEEN ENGLISH AND ISIXHOSA

The study analysed the results each group obtained for each language to measure the extent of the influence of translanguaging on the recall ability between the two languages. Table G below displays the post-test results of the two languages for the experimental and the control groups.

Table G: A comparison of recall ability between English and isiXhosa

	Experimental groups		Control groups	
	isiXhosa	English	isiXhosa	English
Grand mean	2.99	0.93	2.40	1.08
N	148	149	67	61
Std. Deviation	0.99	0.84	1.20	0.99

The table above shows that the participants in the experimental groups scored a grand mean of 2.99 with a standard deviation of 0.99 in isiXhosa, whereas they obtained a grand mean score of 0.93 with a standard deviation of 0.84 in English. The grand mean (2.99) for isiXhosa is higher than that of English (0.93). Each standard deviation is lower than its grand mean in both isiXhosa and English. This suggests that the participants in the experimental groups were fairly homogenous in both languages at the post-test. Regarding the control groups, the table shows that the groups obtained a grand mean score of 2.40 with a standard deviation of 1.20 in isiXhosa, while their grand mean was 1.08 with a standard deviation of 0.99 in English. As with the experimental group, the grand mean in isiXhosa (2.40) is higher than in English (0.99). Further, the standard deviation for each language is lower than its grand mean. This result suggests that the participants in the control groups were fairly homogenous in both languages at the post-test.

The results show that the level of homogeneity was higher in isiXhosa than in English for both the experimental and the control groups since their standard deviations in isiXhosa were the furthest from their grand means. With a higher grand mean and a higher level of homogeneity, the results show that the participants in the experimental groups performed better in isiXhosa than they did in English as far as remembering text information, yet both fell below the international benchmark of 75%.

Table G above also shows that the experimental groups obtained a higher grand mean score in isiXhosa (2.99), while the control groups obtained a higher grand mean score in English (1.08). The scores obtained in each language were tested via a t-test to measure the variability between the two sets of groups. Table H below presents a comparison of the grand mean scores and the t-test results on text recall ability for isiXhosa between the experimental and control groups.

Table H: A comparison of the grand mean scores and p-value on text recall ability in isiXhosa

	Experimental groups	Control groups
	isiXhosa	isiXhosa
Grand mean	2.99	2.40
N	148	67
Std. Deviation	0.99	1.20
t-test and p-value	t = 3.768; df = 213; p < 0.05	

The table above shows a comparison between the experimental and control groups' grand mean scores and the t-test results on text recall ability for isiXhosa. The t-test results revealed that the differences between the two sets were statistically significant at an alpha value of 0.05 (t = 3.768; df = 213; p < 0.05). Therefore, the null hypothesis, which predicted no variability in performance between the experimental and the control groups, was rejected.

The English scores were also subjected to a t-test. The table below shows a comparison between the experimental and control groups' grand mean scores and the t-test results on text recall ability for English.

Table I: Comparison of grand mean scores and p-value on text recall ability in English

	Experimental groups	Control groups
	English	English
Grand mean	0.93	1.08
N	149	61
Std. Deviation	0.84	0.99
t-test and p-value	t = 1.159; df = 208; p > 0.05	

The table above shows a comparison between the experimental and control groups of the grand mean scores and the t-test results on text recall ability for English. The test results indicated that the differences in performance between the two sets were statistically non-significant at an alpha value of 0.05 (t = 1.159; df = 208; p >0.05). In this regard, the null hypothesis, which had predicted no difference in the performance between the two sets regardless of the intervention, was confirmed. This result also implies that the difference in the performance between the two assessments should be viewed with caution since there might be some shadow effect on the researcher's overall results.

At face value—considering a higher grand mean and a higher level of homogeneity—the results in Table I show that the participants in the experimental groups performed better in one language than in the other as far as recalling information. The scores of the experimental groups were subjected to further t-testing to measure the extent of the difference in the performance between the first additional language and the home language to consolidate this assumption. Table J below shows a comparison of the grand mean scores and the results of the t-test of the experimental group on text recall ability between isiXhosa and English.

Table J: A comparison of the grand mean scores and p-value on text recall ability between isiXhosa and English

	Experimental groups	
	isiXhosa	**English**
Grand mean	2.99	0.93
N	148	149
Std. Deviation	0.99	0.84
t-test and p-value	t = 19.380; df = 295; p < 0.05	

The table above compares the grand mean scores and the results of the t-test of the experimental group on text recall ability between isiXhosa and English. The results indicated a statistically significant difference between the languages at an alpha value of 0.05 (t = 19.380; df = 295; p < 0.05). Thus, the null hypothesis, which had predicted that there would be no difference in the performance between the two languages regardless of the intervention, was rejected. This result means that as far as recalling information was concerned, translanguaging techniques were more effective in isiXhosa than in English.

THE EFFECTS OF TRANSLANGUAGING TECHNIQUES ON RECALL ABILITIES

The results showed a positive correlation between translanguaging techniques and learner performance on the ability to recall information in isiXhosa, the learners' home language, due to the intervention. With English, the results displayed regressed but statistically non-significant performance, which is consistent with findings in other studies observing that when learners attempt assessments in a second language, their performance tends to be lower, making it difficult to measure and account for their true ability (Alptekin & Ercetin, 2011).

The findings in this regard contradict other findings on the effects of translingual techniques on the recall abilities of English second or foreign language learners. For instance, Ong and Zhang (2018) investigated the effect of code-switched reading tasks on Chinese bilingual learners' vocabulary recall ability. In their study, the experimental group was provided with a reading comprehension passage consisting of unfamiliar second-language target words, of which the translations were either glossed in the text margin or listed at the end of the text. The results showed that the experimental group's recall scores were higher than those of the control

group. Even though Ong and Zhang (2018) and this study investigated the recall abilities of multilinguals, it is worth noting some minor differences: In the former study, the participants were undergraduates, while the current study was conducted among Grade 4 learners. Furthermore, the participants in the Ong and Zhang (2018) study completed a gap-fill task, while this study required the participants to demonstrate their knowledge first by responding to various sets of multiple-choice questions in which they had to select the correct answers from the lists of answer options provided. Second, the participants were required to produce meaningful sentences in which they provided specific correct answers, although clues were obtainable from the reading passage.

The reason why the learners did not perform well in English can be attributed to several factors, including that text recall as a comprehension skill is not only confined to simply remembering or locating information presented in the reading text. Evaluating the said skill would inevitably require the learners to draw from a combination of various abilities essential to reading, such as morphology and vocabulary knowledge. Unfortunately, in Grade 4, the requisite skills for text recall are still lacking in the learners' additional language. Thus, dealing with assessments in an additional language proves to be a challenge for Grade 4 learners, irrespective of their having continuous access to the reading text when answering questions.

LIMITATIONS

It is worth noting that the design used in this study, a quasi-experimental design, has often met challenges in educational research. This is because there may be several intervening factors embedded in the context that might be difficult for the researcher to control or account for in the results of the experiment. These may include the impact of the home environment on the process, as well as the availability or lack of resources at the participating schools. As a result, the findings of this study should be confined to the conditions under which the research was conducted. Further, the findings should not be generalised beyond the specific context of rural South African schools due to unique cultural, linguistic, and educational dynamics.

Even though this study might have been limited due to the intervening variables inherent to quasi-experimental design in education, the variables were minimised as the researcher ensured that the learners had similar *sui generis* characteristics at baseline. The characteristics include the learners' grade, age and language background. Moreover, within the scope of this study, the findings are valid since the researcher collected data from a recognisable number of learners. The researcher collected data for this study from 215 Grade 4 learners in four different schools. Furthermore, the data were examined several times to ascertain if any more possible factors might require further analysis until a saturation point was reached. Nonetheless, it is advisable not to generalise and assume that the 215 learners are a fair representation of all Grade 4 learners in rural schools in South Africa. Further research with a larger population in which one could explore the long-term impact of translanguaging techniques on language learning and comprehension would be required.

CONCLUSION

This paper has demonstrated that substantial gains can be obtained when translanguaging techniques are employed in the reading development of learners in elementary grades. There was a positive correlation between the translanguaging techniques and learner performance on the ability to recall information in isiXhosa; that is, the learner performance improved in the learners' home language because of the intervention. This

demonstrates that translanguaging had a substantial impact on enhancing learners' ability to recall information when answering questions based on reading text in their home language. However, regarding English, the results displayed a regressed but statistically non-significant performance, which implies that any intervention strategy seeking to emulate the procedure outlined in this study among participants with similar characteristics to the participants in this study should be refined properly and exercised with due caution.

This paper contributes to the current research on reading development at elementary levels. It challenges the prevailing monolithic ideologies about language in education and affirms translanguaging as an appropriate approach that should be engaged when teaching reading among multilingual learners in elementary grades.

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BIOGRAPHICAL NOTES

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