The Influence of Learning Environment in the Mastering of 3rs in Public Primary Schools in Nyang'hwale District – Tanzania

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ABSTRACT

This study investigated the influence of the learning environment in the mastering 3Rs in public primary schools in Nyang'hwale District, Tanzania. The study was guided by three objectives namely: factors that lead to pupils' failure to master 3Rs from standard one up to standard three in public primary schools in Nyang'hwale District, Tanzania, how school environment supports pupils to master 3Rs in public primary schools in Nyang'hwale District. The other objective was to find out the solutions on how we can improve the mastering of the 3Rs to secondary school pupils in Nyang'hwale District. The study used a mixed research approach where both qualitative and quantitative approaches approach were applied. The sample size of the study was 106 respondents, who were obtained through percentages. The participants were selected using simple random sampling stratified sampling and purposive sampling while data of the study were collected through questionnaires and interview guides. Quantitative data were coded through Statistical Package for Social Sciences (SPSS) 20 edition and were analysed by thematic analysis technique. On their part, qualitative data were analysed through content after being grouped. The analysed data were presented in charts, graphs, Tables and explanations. The findings of the study show that there was poor mastery of the 3Rs among primary school pupils in Nyang'hwale District. Most of the primary school pupils in Nyang'hwale District were found to have the problem of poor mastering of the 3Rs. In addition, the findings indicate that the teaching and learning environment had a great influence on the mastering of the 3Rs to primary school pupils in Nyang'hwale District. The study recommends that Teachers should implement strategic teaching methodologies and apply current teaching and learning materials.

Keywords: Learning, Learning Environment, 3Rs, Public schools

INTRODUCTION

Since 1961, the Tanzanian government has shown a strong desire to provide primary education. The efforts helped the country to achieve a high level of literacy among its citizens in the 1970s to mid-1980s (Kitta, 2004). However, this achievement did not last long; it dropped from 90% in 1986 to 84% in 1992 (Mushi, 2010, Msoroka, 2018). Currently, the literacy rate in Tanzania is about 78.1% (Msoroka, 2018; The United Republic of Tanzania, 2014). The current literature suggests that at the primary school level, learners' mastery of the 3Rs is a burning issue in Tanzania. Evidence suggests that a good number of pupils complete primary education level without mastery of reading, writing and arithmetic (TWAWEZA, 2015). Failure to master the 3Rs is said to affect their academic performance at the other academic levels and their lives generally (TWAWEZA, 2015). Recently, Uwezo (2017) indicated that there were significant regional differences in children's learning outcomes in Tanzania, especially in literacy among children aged 9-13. The region with the highest literacy achievement in the country had a 64% literacy rate and the lowest had 23%.

Uwezo's (2017) study suggested that 28% of the standard seven pupils who were reached by the study could not read the standard two Kiswahili textbook. Only 35% of standard three pupils were able to read the standard two Kiswahili textbook; 56% of standard three pupils were able to read and solve multiplication problems at standard two level. This is contrary to the objective set by the Tanzania Education and Training Policy of 1995, which expected standard three pupils to have achieved basic literacy skills – reading, writing and solving simple arithmetic problems (The United Republic of Tanzania, 1995). Several factors have been reported to affect students' mastery of the 3Rs. For instance, TWAWEZA (2015) discovered that a poor teaching environment, a shortage of classrooms, and a huge number of students in classrooms were among the challenges which hindered students in developing these core basic skills. Consequently, some pupils have been reported to complete primary education without appropriate mastery of the 3Rs. Similarly, Andrea (2014) discovered that factors such as gender, age, family background, social status, time and environmental factors, which vary from national, regional and global levels, affect students' mastery of the 3Rs. In addition to the environmental factor, Andrea identified gender, age, family background, social status and time as factors also affecting the learning process of the students. Strand (2007) argues that the basic skills for reading, writing and arithmetic have morphed into the hard skills of basic mathematics,

problem-solving and reading in higher primary education (class 1-4) and upper primary education (class 5 – 7). With this trend, one can find a larger number of children completing primary education without adequate basic literacy skills that would lay the foundation for a child to listen, speak, read and write in the target language throughout the academic journey. Strand believes that pupils fail to master the basic 3Rs due to their family backgrounds such as family income, parent's educational background, and parenting style. This study notes that the mastery of the 3Rs is fundamental; it builds up a foundation for further studies. However, as noted earlier, illiteracy seems to be rampant among primary school leavers in Tanzania. As seen in this section, several studies have been conducted on the mastery of the 3Rs. However, the contribution of the learning environment to the mastery of these 3Rs has been understudied. For this reason, the current study intended to fill that gap; the purpose of this study was to investigate the influence of the learning environment in the mastering of 3Rs in public primary schools in Nyang'hwale District, Tanzania. Specifically, this study intended to address the following three objectives:

i. To find out the status of the 3Rs among students in Nyang'hwale District
ii. To assess whether the school environment influences pupils to master the 3Rs in public primary schools in Nyang'hwale District
iii. To find out the appropriate measures to improve the mastery of the 3Rs among the pupils in the public primary schools in Nyang'hwale District

Methodology

This study used a mixed-methods research approach. Usually, mixed-methods research makes use of both quantitative and qualitative forms of data in a single study to study the phenomena from multiple perspectives (Gray, Mills, & Airasian, 2012; Ivankova, 2015; Lawrent, 2018). In this study, the two forms of data were used for triangulation purposes. With the help of a case study research design, scholars of this study were able to conduct an intensive investigation and fully analysed the limited number of variables that were investigated. This helped the researchers to acquire an in-depth understanding of the influence of the learning environment on learners' acquisition of 3RS, as case studies allow for a thorough analysis of data from multiple fieldwork sources (Creswell, 2007; Yin, 2014). This study involved 106 participants. They included students, teachers, Head Teachers and District Educational Officers. The participants were selected

through simple random, purposive, and stratified sampling techniques. In this study, simple random sampling was used to select students. A list of students' names for standards five to seven was developed in each of the selected schools; numbers were assigned to each of the students' names. Then, small pieces of paper were made (equivalent to the number of students) and numbers were assigned to each of the pieces of paper. The pieces of paper were then put in the box. Thereafter, the pieces of paper were randomly picked without replacement, until the sample size was reached. In this study, data were collected through questionnaires and interviews. Quantitative data were coded and entered into Statistical Package for Social Sciences (SPSS) 20 edition software for analysis.Qualitative data were analysed through thematic analysis. The analysed data were then presented in charts, graphs, tables and explanations. To adhere to research ethics, no real names of participants and institutions have been mentioned in this paper; only pseudonyms have consistently been used.

Findings

Status of the 3Rs
This section discusses the findings on the status of the 3Rs in public primary schools in Nyang'hwale District. Sub-sections below summarise the findings on pupils' ability to read, write and numeracy.

Reading Ability
Figure 1 below summarises the respondents' opinions on the pupils' reading ability in Nyang'hwale District.
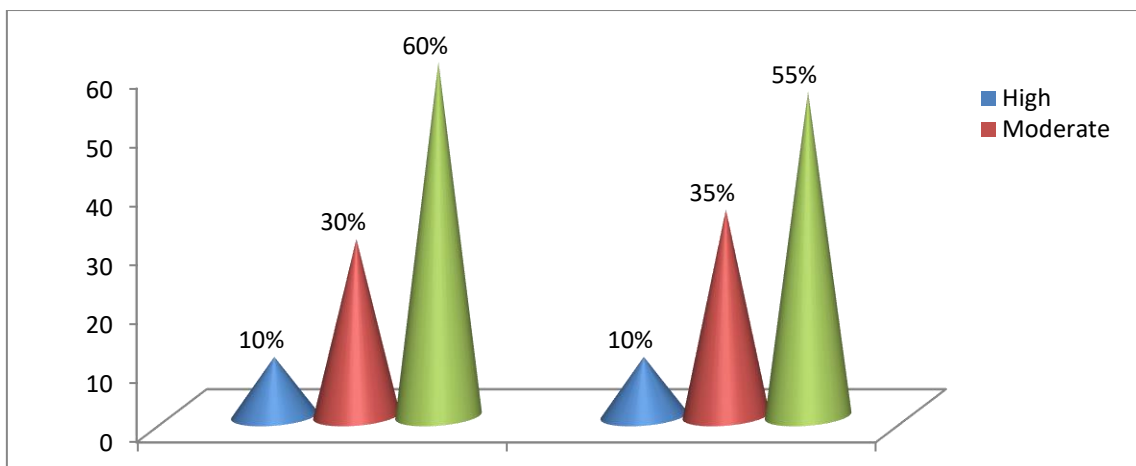

Figure 1: Participants' Responses on the Pupils' Ability to Read
Source: Field Data

As seen in Figure 1 above, teachers and pupils had a relatively similar opinion. The majority of the respondents involved in this study (60% of teachers and 55% of pupils) believed that a good number of pupils in Nyang'hwale district had low reading ability. As observed from the data, even the pupils did not believe in themselves; they rated themselves as having a low reading ability. Based on the findings above, one would argue that the ability of pupils to read in Nyang'hwale District primary schools was low. This was also noted through observation.During data collection, the researcher observed that most pupils in standards one, two, three, four, five, six and seven were not able to read. The same was observed in the documentary analysis. The data obtained from one of the district's offices indicated that 20% ofthe primary school pupils in Nyang'hwale District could not read.

Writing Ability
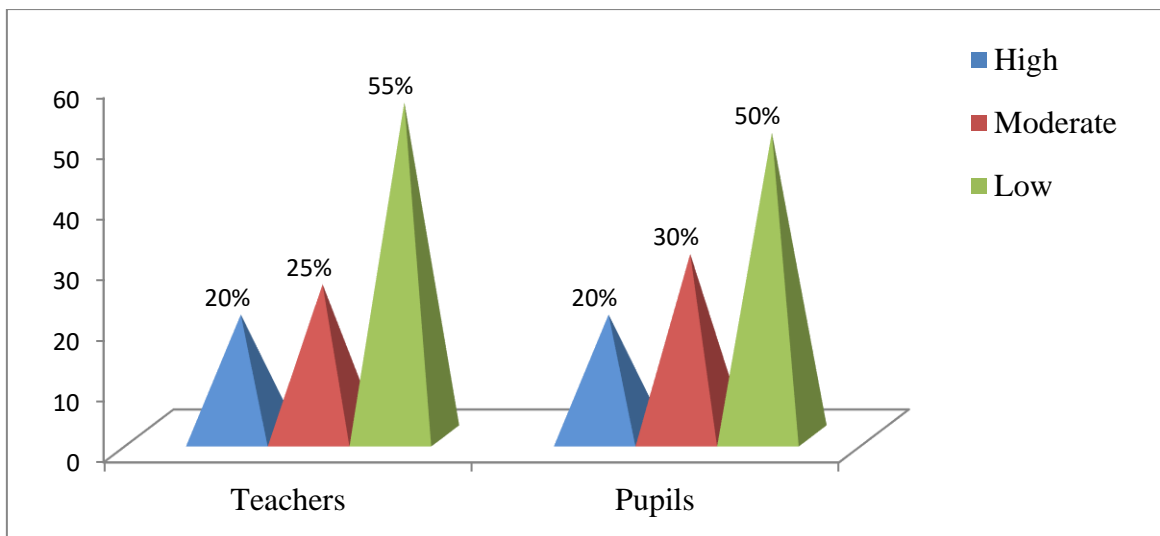Figure 2 below summarizes respondents' opinionsabout pupils' ability to write.

Figure 2: Ability of Pupils to Write
Source: Field Data

The data in Figure 2 indicate some similarities in the findings between learners' ability to read (Figure 1) and learners' ability to write (Figure 2). The findings indicate that teachers and pupils had relatively similar opinions on pupils' ability to write. Most of the teachers (55%) and pupils (50%) involved in this study believed that most pupils in Nyang'hwale District primary schools had low ability in writing.

However, one of the interviewees had a different view on this aspect. He claimed that the current situation in primary schools was not as bad as suggested by other participants. He argued that:

> *Previously, primary school pupils completed standard seven without knowing how to write, but now I can say that we have improved. Most of our pupils from standard three up to seven can write. Therefore, it is not true that the majority of primary school pupils are not able to write. It can happen in one or two schools to have pupils completing standard seven without knowing how to write, but not all schools. (Kyombo)*

Having students who complete the primary school cycle without writing skills is not a new phenomenon. Other studies such as Ngussa and Mjema (2017) came up with similar findings. They found some students who finished primary education without the knowledge of the 3Rs. Ngussa and Mjemaare of the view that schools' administrative support, teaching methodologies and teachers' and learner-related factors significantly influence pupils' mastery of the 3Rs.

Numeracy Skill
Since numeracy skill is part of the 3Rs, the researcher wanted to know the ability of pupils to do arithmetic in the selected primary schools. Through questionnaires, teachers and pupils were asked to rank the ability of the pupils to do arithmetic in the selected primary schools. Their responses were presented in Figure 3.
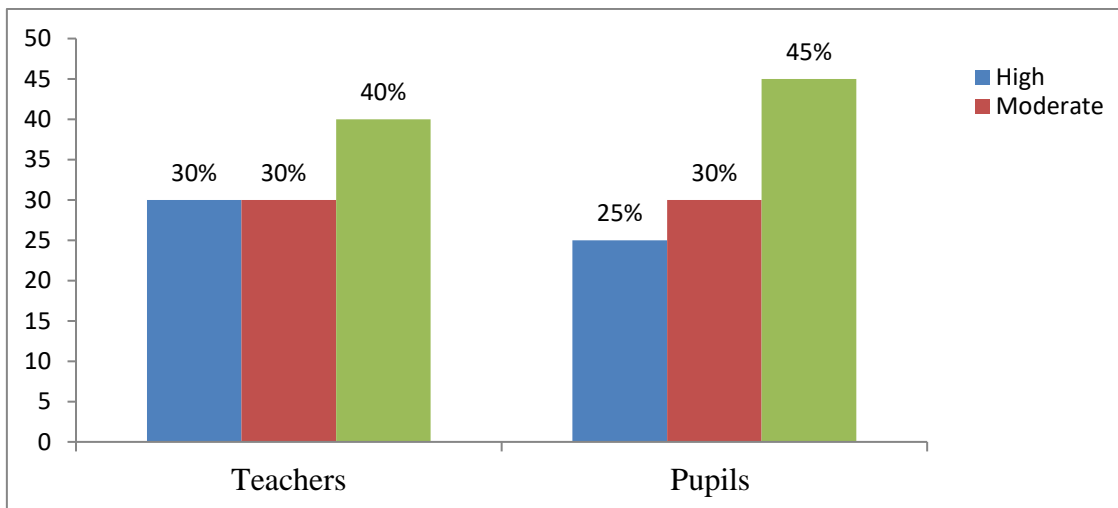

Figure 3: Ability of Pupils to Do Arithmetic
Source: Field Data

As observed in Figure 3, the majority of the respondents (40% of teachers and 45% of pupils) believed that a good number of pupils had alow ability to do arithmetic. This finding from the questionnaires was backed up by the data from interviews. For instance, one of the interviewees noted:

> *Arithmetic is another problem that hinders the performance of primary school pupils in this district. Many schools in our district have a problem with arithmetic. Mathematics is amajor problem not only in this District but also in all Districts in Tanzania. However, the government is trying to improve the performance of the subject; hence, we are going to have great performance in mathematics and science subjects this year. (Interviewee B, 02)*

It is argued here that such findings presented in this study are not unique. Other studies have found similar findings as well. For instance, in India, Sharma, Bajpai and Holani (2010) found pupils with low numeracy skills. One of the reasons for pupils to have low numeracy skills was poor support from the school administration on the achievement of the 3Rs. They argue that the school administration did not create a good and rich environment that could encourage and support speaking, listening, reading, and writing which could highly help pupils in mastering the 3Rs. A similar view was reported from Pakistan, where Iqbal, Rauf, Zeb, Rehman, Khan, Rashid and Farman (2012) observed that teachers failed to create a learning environment that could maximiselearners' ability to interact with each other and their learning materials. The learning environment did not support discussion, collaboration and provision of feedback, whichare important in studying numbers in elementary schools.

The Contribution of School Environment to Pupils' Mastery of 3Rs
On this aspect, the respondents were asked if pupils' mastery of the 3Rs was being influenced by the learning environment. Their responses in questionnaires are presented in Figure 4.
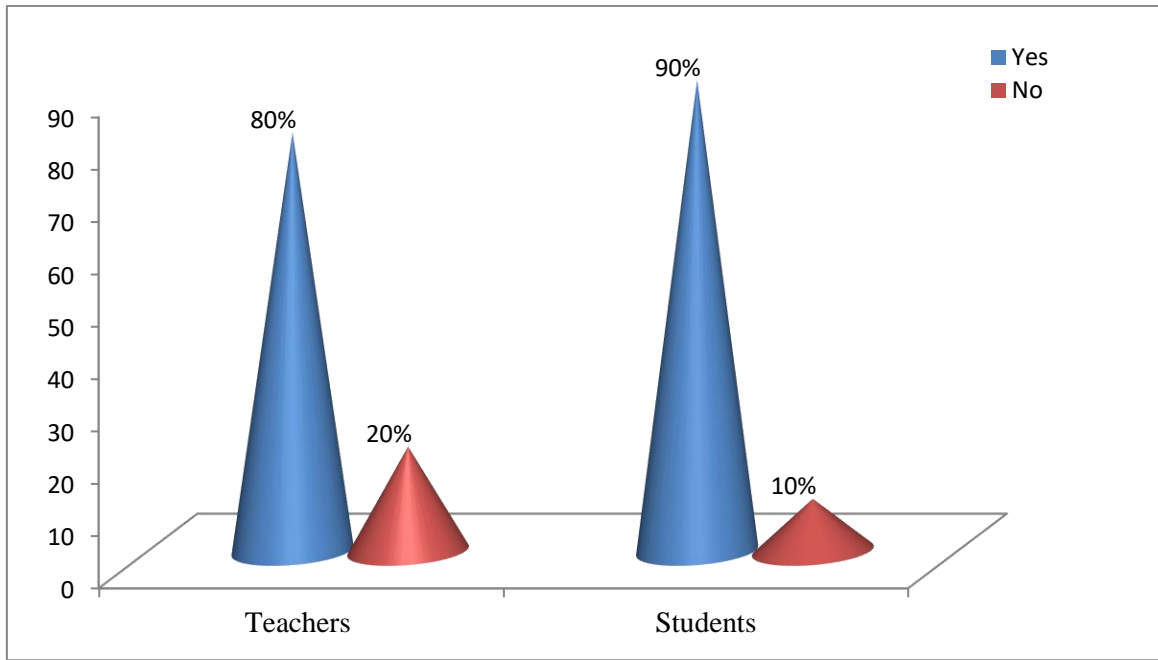
Figure 4: The Influence of the Learning Environment on Mastery of the 3Rs
Source: Field Data

As observed in Figure 4, it is clear that the majority of the respondents involved in this study (80% of teachers and 90% of pupils) believed that the learning environment had a great influence on pupils' mastery of the 3Rs. Based on the data, one would argue that if the learning environment were improved the pupils would easily master the 3Rs. The findings of this study are similar to Schneider (2002) who argued that conducive, attractive, clean, functional, and comfortable school facilities could improve students' achievement and mastery of important skills such as writing, reading and counting numbers. Therefore, educators need to advance the teaching facilities to improve the teaching process that can help pupils master the 3Rs. They need to conduct research and promote modern and innovative facilities to enrich the system of education. The findings of the current study correlate with the findings of Saeed and Wain (2011) who argue that poor mastering of the 3Rs in developing countries is caused by poor physical facilities of the schools. They believe that the school's physical facilities are fundamental factors for a better learning environment and have a positive influence on students' mastery of content in the classroom. With this perspective, one can argue that mastering of 3Rs can only be attained if the school has a conducive learning environment. In the same line, O'Sullivan (2006) argues that poorly maintained school physical facilities may send the message that education is not important and a negative attitude will be passed on to the pupils. Therefore, poor

mastery of the 3Rs in schools that have poor learning environments is a normal thing. That is why Leeper (1968) maintains that availability of the physical facilities such as compound walls, toilets, furniture, drinking water, technology, playgrounds, libraries, laboratories and health services have an impact on the mastering of the 3Rs. Effective learning environments provide necessary facilities in schools for students to learn and for effective teaching (Alobi, 2008). Along the same line, the researcher examined respondents' opinions on the learning environment that they consider to have a great influence on the pupils' mastery of the 3Rs. Table 1 summarizes the respondents' opinions on the same:

Table 1: Respondents' Views on the Influence of Environment on Mastery of the 3Rs

S/N	Learning Environment	Teachers (%)	Pupils (%)
1.	Toilets	00%	00%
2.	Classrooms	40%	30%
3.	Qualified teachers	00%	00%
4.	Chairs and desks	45%	50%
5.	Libraries	15%	20%
	TOTAL	**100%**	**100%**

Source: Field Data

The findings show that respondents believed that classrooms, chairs, desks and libraries greatly influence pupils' mastery of the 3Rs. The respondents did not believe in the contribution of the availability of toilets and qualified teachers. Usually, qualified teachers are considered a key aspect of the teaching and learning process. Several studies such as Leeper (1968), Alobi (2008) and Tanner (2009) have indicated the significance of qualified teachers in schools. Hence, the findings of the current study are a contradiction of what is being presented by those studies. Perhaps it is an indication that the selected schools had qualified teachers, hence they mentioned what they did not have in their schools.

Ways to Improve Mastery of the 3Rs
The third objective of this study explored the appropriate measures to improve mastery of the 3Rs among the pupils in public primary schools in Nyang'hwale District. In addressing this objective, this study collected information on what teachers were doing to improve mastery of the 3Rs in their classrooms. Figure 5

summarizes teachers' responses in questionnaires on the techniques they were using to improve the mastery of the 3Rs among their learners.
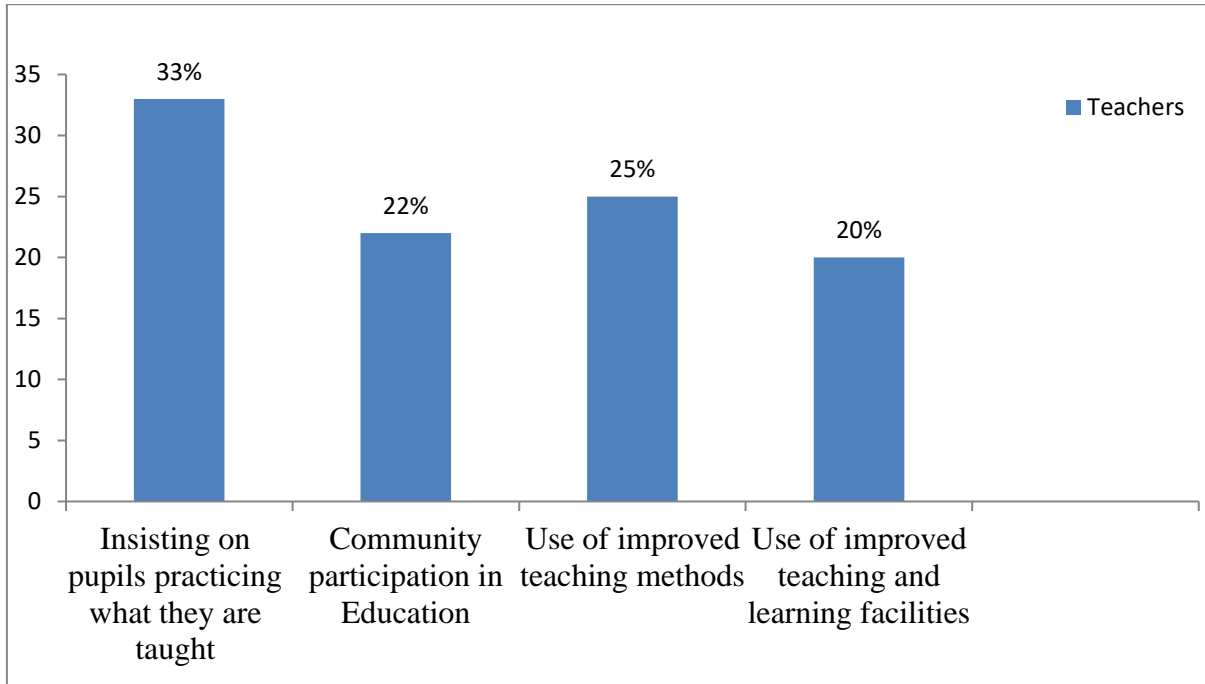

Figure 5: Ways Used to Improve Mastery of the 3Rs
Source: Field Data

Figure 5 indicates that teachers had ways to improve the attainment of the 3Rs in their classrooms. It is clear that the common techniques that were being used by the majority of the teachers included insisting pupils to practise what they had been taught, community participation in education, use of improved teaching methods and use of improved teaching and learning facilities. However, the data suggest that practice was the most preferred technique; 33% of the teachers mentioned it as their preferred technique. The findings of the current study are different from those of Duke and Nero (2011) who suggestedthat teachers should teach phonics, vocabulary, fluency, and comprehension to promote independent reading. Teachers should foster literacy by creating a community of literate learners. The school day should include time for self-selected reading; classrooms should reflect and encourage community and collaboration. Students need to use technologies that connect and expand concepts; learning facilities should be improved in schools to simplify the teaching and learning process.

Conclusions and Recommendations
This study concludes that most of the selected primary school pupils could not write read and do arithmetic. This proved that the status of the 3Rs to primary

school pupils in Nyang'hwale District was very low. The low status of mastering the 3Rs to primary school pupils in Nyang'hwale District is attributed to poor learning environments. Shortages of classrooms, chairs and tables, libraries and playgrounds were found to affect pupils' mastery of the 3Rs. It was noted that pupils failed to write, read and do arithmetic because they lacked chairs and desks in schools. It is argued that the best ways to improve mastery of the 3Rs to primary school pupils in Nyang'hwale District were to improve teaching methodologies, improve teaching and learning environments that were supposed to be attractive for learners to learn and to improve learning materials that would help learners master well the 3Rs. Since mastery of the 3Rs is mostly influenced by the environment, it is recommended that the government needs to create a conducive learning environment. The community should participate in the construction of school infrastructures such as classrooms and libraries. Also, teachers are urged to use proper teaching methodologies and advanced technologies to support learners in mastering the 3Rs.

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