The Efficacy of Exemplary Learning Materials for Enhancing Writing Skills among Primary School Children with Susceptible Writing Difficulties

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Abstract

This paper reports the efficacy of exemplary learning materials for improving writing skills of Grade Two children with susceptible writing difficulties. A mixed research approach involving phenomenological and quasi-experimental designs was used. Two teachers and 49 children were purposively selected from two primary schools in Dodoma Region, Tanzania. Data were collected through observation, interviews and tests. The findings indicate that children benefited from learning through designed materials. Children in the experimental group improved their writing skills significantly compared with those in the control group, $t=13.15$, $p<.001$ with a very large effect size of 4.211770, $g>0.8$. Thus, teachers should frequently support these children using designed materials in remedial classes to remove grade repetition.

***Keywords*:** *writing skills, writing difficulties, efficacy, exemplary learning materials.*

Introduction

Writing skills are essential skills of concern globally due to their usefulness in school and life in general. Together with other fundamental abilities (listening, speaking, and reading) in language, writing skills are a predictor of academic achievement and a prerequisite for access to and involvement in social life and economic activities (Graham, 2019). Since paper and pencil examinations are frequently used to assess academic progress, students with strong writing skills have a greater chance of succeeding in academic activities at school (Al-Gharabally, 2015; Graham, 2019). Moreover, the capacity to write successfully is a crucial workplace competency across professions and business sectors (Lee & Schmidgall, 2020). Besides, at home, writing helps family members in initiating and keeping personal relations using a variety of social networks and media (Freedman, Hull, Higgs & Booten, 2016). This means that individuals who do not sufficiently master the basic writing skills will eventually encounter problems in participating fully in academic, occupational, and personal life.

Due to the importance of writing skills, worldwide policies such as Education for All (EFA), Millennium Development Goals (MDGs), and Sustainable Development Goals (SDGs) point out the issue of writing skills. For instance, the EFA strategy specifies that every child should be able to benefit from educational opportunities designed to meet their basic learning needs such as writing, oral expression, numeracy and problem solving (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2006). Moreover, UNESCO (2006) underlines the importance of writing skills to achieve each of the EFA goals including economic, social and political participation as well as development in today's knowledge societies. Likewise, MDGs intended to achieve Universal Primary Education (UPE) in which among other things, the focus was put on writing. The Millennium Development Goals were replaced by SDGs which also focus on education. The SDGs envisioned ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all. Under this goal, one of the targets is to ensure that all youths and a substantial proportion of adults develop reading and writing skills.

Tanzania is not far from the worldwide agenda which focus on recognizing the importance of writing skills. Tanzania's Education and Training Policy (ETP) of 1995 and 2014 state the importance of writing skills in school learning. Together with Tanzania's policies insisting on the issue of writing skills, the government of Tanzania launched several initiatives to improve the quality of primary education in general and 3Rs (Reading, Writing, and Arithmetic) in particular. For example, the government initiated in-service training for primary school teachers through the Primary Education Development Programme (PEDP) II and III (Ministry of Education and Vocational Training (MoEVT), 2012a; 2012b). Both focused on 3Rs training to help teachers become more effective in teaching these basic skills to primary school children (MoEVT, 2012a, 2012b). Additionally, the government has changed the primary school curriculum for grade I and II. This curriculum insists on 3Rs in those classes (Ministry of Education, Science and Technology (MoEST), 2015).

Despite the importance of writing skills together with the initiatives made in different countries to improve the skills, it was established that the majority of the learners in the world and Tanzania in particular, do not achieve the desired level of writing skills at early grades as it is expected (FinScope, 2017; Mmasa & Anney, 2016; Pembe & Bali, 2019; Phiri, 2015; Suleiman, Boniventura, Kalage, Mihayo & HakiElimu (Tanzania), 2015; UWEZO, 2014; World Statistic Institute, 2011). Some of the children complete even primary education without mastering the writing skills (UWEZO, 2013). For example, the world statistics anticipated that 27% of the primary school children encounter problems of writing skills in the world (World Statistic Institute, 2011). Despite the worldwide data, there are also

country-specific data. In Zambia, for instance, Phiri (2015) found that on average 50 (64.05%) of fourth graders had difficulties in writing words and sentences from BASAT (The Basic Skills Assessment Tool) while 61(76.25%) were unable to write the tested story correctly.

Tanzania is not different from other countries as school children experience similar situation in writing. This argument is evidenced by different studies. For example, a study by Ngorosho and Lahtinen (2010) note that almost 30% of the grade two children tested in writing words did not write any word correctly. Moreover, Kumburu (2011) revealed that 32% of 301 children in grade one had reading and writing difficulties. Besides, Kalanje (2011) identified that 27% of the children in standard one had reading and writing difficulties. Furthermore, the national baseline assessment for 3Rs in Tanzania reported that 42.1% and 53.1% of grade two children had difficulties in writing Swahili dictated words and sentences respectively (Brombacher et al., 2014). In the same view, the report by FinScope (2017) testified that 25% of all Tanzanians could neither read nor write in Kiswahili. Additionally, Pembe and Bali (2019) identified that 26.2% of 202 children in grade two were facing difficulties in writing words and sentences.

The reality from the aforementioned studies triggered the researcher to design exemplary learning materials (ELMs) to support primary school children with susceptible writing difficulties (CSWD) and test their efficacy. This study, therefore, sought to report the efficacy of the designed ELMs to determine if they can be used to improve the writing ability of the CSWD specifically on word and sentence writing. The study was guided by two research objectives, namely:

1. To examine the teaching and learning process of children with susceptible writing difficulties; and
2. To assess the efficacy of the exemplary learning materials designed to support writing ability of the children with susceptible writing difficulties.

Methodology

Development and validation of the exemplary learning materials (ELMs)

The ELMs were designed based on the findings of a preliminary study, syllabus analysis, and two theories: Social Constructivist and Motor Learning. The preliminary study revealed that CSWD experienced errors when writing due to lack of teachers' training, lack of supportive resources, and poor teaching/learning methods. The Kiswahili syllabus of 2015 emphasizes small group activities and use of teaching and learning aids, but the teachers were not using them. Additionally,

CSWD were being retained in the same class to support their writing skills, but this should be the last resort. Therefore, an intervention programme to focus on teachers' pedagogical competence was needed to address the problem.

The principles of social constructivist theory (SCT) and motor learning theory (MLT) were used to design the ELMs, which allowed learning through mediation, collaboration, and the use of prior knowledge. The ELMs include stages of learning and individual activities to identify the ability of the child to work independently. Practice was the core activity, and feedback was important after each activity.

Following the findings and mentioned principles, seven design guidelines were formulated to guide the designing process and implementation. These included aligning materials with the competency-based curriculum, following active learning techniques, adopting the maxims of teaching, making decision on pedagogy, creating flexible learning environment, arranging plus time table for the implementation, and stating procedural specifications. Procedural specifications included rationale of the lesson, lesson objectives, teaching and learning aids, time allocation for lesson implementation, introduction of the lesson, teaching with mediation, practice and conclusion.

The researcher used design guidelines and specifications to compose lessons for intervention, which were evaluated through expert appraisal, classroom trials and panel discussion. The ELMs were evaluated to improve their validity and practicability before testing their efficacy (see Appendix A: Final version of the sample of ELMs). The curriculum design researcher, an intervention programme designer and experienced teachers of literacy skills were involved in appraising and discussing the ELMs.

Research approach and design

This paper adopted a mixed research approach, using quasi-experimental and phenomenological designs to evaluate the efficacy of the designed materials. Quasi experimental research design was used to evaluate the efficacy of the designed materials whereas phenomenological research design was used to evaluate teacher and children's experiences on the ELMs. Two non-equivalent groups, experimental and control groups were used, with different sample sizes depending on the identified CWSD. The CSWD were similar in terms of school settings, teachers' qualifications, and children's prior knowledge on writing ability as argued by White and Sabarwal (2014).

Sample size and sampling procedures

The sample size consisted of 49 grade two children with susceptible writing difficulties (CSWD) who were purposively selected from two government primary

schools in Dodoma City in Tanzania. Out of the 49 identified CSWD, 28 (16 boys and 12 girls) were involved in the experimental group and exposed to the designed ELMs, while 21 (10 boys and 11 girls) were exposed to the Conventional Learning Materials (CLMs). The government primary schools were selected as the ELMs aimed to measure the writing ability of the CSWD in Kiswahili language. The selection of the two schools was based on the availability of rooms as other schools had double sessions.

Two teachers who were teaching writing skills in grade two in the selected schools were involved. One was involved in teaching the experimental group, while the other was involved in teaching the control group. These teachers were purposively chosen as they were the only ones teaching writing skills to second graders in the selected schools. The teachers were of different sexes, but the important issue was to ensure that the participating teachers were those who teach in the respective class. Both teachers had Grade 3A qualifications. Besides, the teacher in the experimental group had 17 years of experience, while the one in the control group had 25 years of experience and had received in-service training on the 3R's.

Orientation of the teacher to the ELMs

The teacher in the experimental group was introduced to the ELMs and discussed with the researcher on how to use the materials. They also discussed where and how the proposed teaching and learning aids could be used. The researcher and the teacher worked together in preparing the desired teaching and learning aids including the cards for both letters and syllables, a tree of vowels and a chart of letters.

Data collection methods

Non-participant classroom observation, semi-structured interviews and tests (reading and writing) were used to collect data from both groups. The observation checklist consisted of three lesson dimensions, namely introduction, body of the lesson and conclusion. Each test had 14 items, consisting of ten words and four sentences. The test content included words with two vowels as short, and words with four syllables as long. Additionally, short sentences comprised two words, while long sentences comprised five words. The reading and writing tests were administered in different days, starting with the reading test, due to the fact that children with reading problems usually have writing problems (Graham, et al., 2021). Therefore, the children with critical reading problems were excluded before administering the writing test, as the ELMs were prepared for the children with writing problems. The scores for the writing test only were treated as pre-test scores, which were compared with the post-test scores.

The researcher conducted one – on – one interviews and reading test to individual participants in a private place while the writing test was administered in a group by dictation on an individual basis. During the writing test, it was ensured that the children were seated comfortably in a free environment and apart from each other to avoid copying. The writing test was administered by their teachers of writing skills in the same grade to familiarize them with the pronunciation of the dictated words.

Assessment through writing test (Dictation)

The word component was assessed in terms of nine patterns of errors, namely identification, spacing problem, misspelling, uppercase and lowercase confusion, letter deformation, poor alignment, overwriting, mixed letter sizes and letter reversal. In sentences, there was an addition of one pattern of error, namely word omission. Thus, each sentence had a total of 10 patterns of errors, and each pattern was awarded one mark. If the child failed to identify the word/sentence, he/she was awarded 0 for that item.

Validity and reliability of the tests

The researcher constructed the tests based on the primary school syllabus content used in all primary schools in Tanzania. The authorized standard one Kiswahili text books prepared and prescribed by the MoEVT (now MoEST) were used. The tests were also given to the researcher's co-workers and teachers of literacy skills from the two government primary schools. In measuring the reliability of the tests, the Spearman-Brown and Guttman Split-Half coefficients were used. The coefficients of reliability were found in both, words and sentences and were found to be above 0.70, which is acceptable for a classroom examination (Rosaroso, 2015). The reliability of the ELMs was measured through classroom trial, which was conducted using other grade two classes not sampled for the study.

Data analysis procedure

Qualitative data obtained through observations and interviews were thematically analyzed. Moreover, data obtained from observation checklists were analyzed based on the themes in terms of the lesson introduction, body of the lesson and conclusion. Besides, the data collected using tests were analyzed through descriptive statistics methods to obtain frequency, percentage, mean and standard deviation using Statistical Package for Social Sciences (SPSS) version 21.0. The independent sample t-test was used to analyse the significance of differences in mean scores between the experimental and control groups.

Findings and Discussion

This section presents the findings of the study based on the research objectives.

Teaching and learning process of the children with susceptible writing difficulties

Before the classroom implementation, 49 CSWD were identified (28 for experimental and 21 for control) and pre-tested to compare writing skills through an independent sample t-test. The pre-test results are summarized in Table 1.

Table 1: *Mean Pre-test Scores of Experimental versus Control Groups*

Groups	Mean	Mean Difference	S.D	S.E.D	t-ratio	Df	P-value
Experimental	51.25	4.18	16.34	4.90	.85	47	.398
Control	55.43		17.80				

The mean pre-test scores on writing skills for the experimental and control groups of the CSWD are 51.25 and 55.43 respectively and t (47) = .85, p > .005. The 't' ratio was not significant at any level of significance, indicating that both groups were equivalent at the pre-test level.

Teaching and learning process in the experimental group

The experimental group was exposed to the ELMs for the intention of measuring their efficacy. Ten (10) lessons were observed out of 28 lessons (see Table 2), and each lesson took 40 minutes. Data from both classroom observation and interview were presented and analyzed following the three stages of the lesson, namely introduction, lesson development and lesson conclusion.

Table 2: *Organization of the ELMs Lessons*

Lessons
Vowels and Words
L-1: Vowels 'a, e, i, o, u' L-2: Words from vowels
Consonants, syllables and words
L-3-11: Consonant (b, d, f, g, h, j, k, l, m) syllables and words
Consonants, syllables, words and sentences
L-12-16: Consonant (n, p, r, s, t), syllables, words and sentences with two to three words
L-17-20: Consonant (v, w, y, z), syllables, words and sentences with two to five words
L-21-28: Digraph (ch, nd, ng, mb, sh, nj, nz, mw, ny), syllables, words and sentences with two to five words

Lesson introduction

The findings from the classroom observation revealed that the teacher introduced the lessons through songs followed by questions and/or activities of writing the syllables on the slates using a piece of chalk. It was observed that the children were very interested in the singing session. This was also evidenced from the words of one of the children who whispered to her neighbor "*Aaah! I like to sing. I sometimes wish to ask the teacher to add more time for singing*". Besides, during the interview, children reported that they liked the singing session. In support of the findings, one of the children had this to say:

> I like the songs which we sing during the lessons because the songs remind me of what we learned in other lessons, and sometimes, they help me identify the answers from the teacher's questions. Therefore, I have been trying to be the first one to respond immediately after the teacher's questions.

This statement indicates that songs are a good warm-up activity for children to engage in learning. This is in line with Džanić (2016), who reported that if the right songs are chosen, learning can become a funny and memorable experience as most of the children love to sing. Besides, it is documented that songs can improve the skills of speaking, listening, reading, and writing (Saricoban & Metin, 2000). Therefore, songs are influential for the children to enjoy the lesson and learn quickly if the songs relate to the lesson materials.

Lesson development

During this session, the children and the teacher performed different activities. The main activities performed by the children were letter identification, writing the identified letter(s) on air, writing the letters and syllables on slates as well as writing letters, syllables, words and sentences in their exercise books. Moreover, children were working in small groups and presenting what they had discussed.

During the interview, the teacher informed that every child participated in different activities during lessons and did most of the assigned work correctly, demonstrating that they understood what they had learned. In this context, the teacher had this to say:

> I did not expect they would be able to participate to that extent. You know, in normal classes, most of these children do not respond even to simple questions. But, in these classes, everyone struggled to respond to the questions.

Participating in different activities allowed children to use different senses while learning how to write. Moreover, most of the time the teacher was observed guiding the children, and helping those who were facing difficulties in holding a pencil and writing the letters. This shows that the teacher was observing while the children were writing. The observation method helped the teacher to identify most of the mistakes committed by the CSWD when writing and support them. Kennedy et al. (2012) emphasize the importance of observation as an assessment tool, especially when assessing young children in book reading or early writing.

Lesson conclusion

The teacher concluded the lessons by asking questions, and most of the children raised their hands to respond. Most of the answers were correct and the children were confident. The teacher then declared the end of the session and announced the next lesson, and gave homework to the children. Carr (2013) and Fernandez-Alonso (2015) state that the provision of homework helps the children in the earliest grade levels reinforce the learning of skills taught in class. In addition, homework encourages learners to become more independent problem solvers (Fernandez-Alonso, 2015). Hence, the use of homework enabled the CSWD to practise what they had learned.

Teaching and learning process in the control group

The control group was also observed to see what was happening in the classes during teaching and learning of the writing skills through conventional learning materials (CLMs). As in the experimental group, 10 lessons were observed and important phenomena were recorded by following the three stages of the lesson: introduction, lesson development and lesson conclusion. The teacher divided the writing skills into 26 lessons in the control group as shown in Table 3.

Table 3: *Organization of the Lessons in the Control Group*

Lessons
L-1-18: Consonants (b, ch, d, f, g, h, j, k, l, m, n, p, s, t, v, w, y, z), syllables, words and sentences
L-19-26: Syllables (nya, nye, nyi, nyo, nyu; nda…; nga…; mba…; sha…; nja…; nza…; mwa…), words and sentences

Lesson introduction

The teacher introduced the lessons by writing "*Reading and Writing*" and then asked one child to read loudly what was written on the chalkboard for the other children to re-read. The children were observed raising up their hands, eagerly waiting for

the teacher to select one of them to read loudly. These children were observed to be very happy in re-reading. The findings from the classroom observation were supported by the words from one of the children who said: *I like to be the first one to read what the teacher has written on the chalkboard because I want to become like the teacher who directs others in reading.*

Lesson development

At this stage, the teacher started the lesson by writing letters on the chalkboard and then asking one child to read loudly for the other children to re-read. The teacher then showed a manila card with syllables to the children and one child was selected to read loudly the syllables for the other children to re-read them. Then, the teacher wrote those syllables on the chalkboard. Furthermore, the teacher proceeded to show different pieces of manila cards with words and the same procedures of reading and writing on the chalkboard were applied. Thereafter, the teacher wrote one sentence after the other on the chalkboard and asked one child to read it loudly for the other children to re-read. Subsequently, the teacher used a pointer to show the syllables, words and sentences, and the children were reading them in chorus by following at what the teacher was pointing. Afterward, the teacher asked the children to copy what had been written on the chalkboard in their exercise books. Thereafter, the teacher sat on the desk and marked the children's copiedwork.

Through interview, the teacher seemed to be satisfied with the way of helping the CSWD in improving the writing skills despite the challenges faced. The teacher informed that absenteeism and shortage of teaching and learning aids were the main challenges in supporting the CSWD. With regard to absenteeism, the teacher stated:

> Some of the CSWD do not attend all the classes. For example, one child did not attend three classes while other two children did not attend five classes out of 26 despite frequent insistence to attend the classes. Actually, as it was revealed, these children were not sick but just truants.

It is clear that pupils who are absentees will have difficulty in understanding writing skills and will face a problem in learning the other subjects. These findings are in line with those of Mmasa and Anney (2016) which show that teaching of literacy (reading and writing) was difficult because of many pupils' infrequent school attendance particularly those in standard one and two. Besides, the teacher complained on the shortage of teaching and learning aids in school as well as funds for buying the required materials. These findings are supported by the following statement:

> Neither teaching/learning aids nor funds are provided by the office to support the teaching and learning process. Sometimes, I use my own money to buy manila cards so that I can write some letters and syllables for the CSWD to learn easily.

The quote from the teacher shows that the school lacked important aids required for teaching writing skills. But Ordu (2021) informs that the use of teaching aids is vital as it enables learners to use their hearing or seeing abilities and actively perform something while learning. Besides, Mmasa and Anney (2016) reported that young learners need more teaching and learning aids, classroom walls with impressive letters, words and learning cards.

Lesson conclusion

In this stage, there was no activity conducted by the teacher and children, rather, the teacher asked the children "Have you finished?" There were two types of responses from the children for this question. Some of them answered "*Yes*" while others answered *"No"*. In the two lessons observed, the teacher asked the children who had finished copying the notes to go in front of the class and tell those who were still writing as *mbumbumbu* means "learners with low ability, ignorant or fools". This kind of lesson conclusion can discourage children with low speed in copying notes to attend classes and may lead to school dropout.

Efficacy of the exemplary learning materials

The findings are presented dimension wise in words and sentences writing skills in Table 4 and 5 respectively on different patterns of errors followed by the overall results in Table 6. The writing ability of the groups were measured on the basis of their pre-test mean scores and compared with the post-test mean scores between the groups. The following Tables are illustrative:

Table 4: *Comparison of Pre-test and Post-test Scores of Experimental and Control Groups on Words*

Dimension	Patterns of Errors	Groups	Pre-test			Post-test		
			Mean	t-ratio	p-value	Mean	t-ratio	p-value
Words	Word identification	Experimental	6.86	.81	.439	10.00	3.18	.005
		Control	7.29			9.14		
	Spacing	Experimental	2.86	.07	.943	9.32	7.93	<.001
		Control	2.90			4.71		

Words	Spelling	Experimental	2.86	.00	1.000	7.96	3.58	.001
		Control	2.86			6.05		
	Case confusion	Experimental	4.36	1.75	.090	9.96	5.57	<.001
		Control	5.24			8.24		
	Letter formation	Experimental	1.07	1.47	.147	8.54	12.32	<.001
		Control	.67			1.81		
	Alignment	Experimental	6.46	.06	.951	9.71	4.57	<.001
		Control	6.43			7.14		
	Overwrite	Experimental	5.18	1.34	.187	9.82	4.31	<.001
		Control	6.00			7.71		
	Mixed letter sizes	Experimental	3.79	2.91	.005	9.64	9.00	<.001
		Control	5.67			5.81		
	Letter reverse	Experimental	6.46	1.24	.222	9.93	3.29	.003
		Control	7.10			8.95		

Table 4 reflects the comparison between the pre-test and post-test mean scores for the experimental and control groups of the CSWD on different patterns of errors in the word writing skills. The pre-test findings from Table 4 show that out of the nine 't' ratios, only one, that is, 'mixed letter sizes' was found to be significant at boundary level of significance ($t = 2.91$, $p = .005$). However, it can be said that at the pre-test level, both experimental and control groups were largely similar on word writing skills. Nevertheless, during the post-test, the experimental group performed better than the control group. Through the independent t-test, all of the 't' ratios were found to be significant at the level of significance ($p<.005$).

Table 4: *Comparison of Pre-test and Post-test Scores of Experimental and Control Groups on Sentences*

Dimension	**Patterns of Errors**	**Groups**	**Pre-test**			**Post-test**		
			Mean	**t-ratio**	**p-value**	**Mean**	**t-ratio**	**p-value**
Sentences	Sentence identification	Experimental	2.46	.07	.941	4.00	1.45	.162
		Control	2.43			3.90		
	Spacing	Experimental	.00	1.45	.162	1.79	5.80	<.001
		Control	.10			.33		
	Spelling	Experimental	.32	.32	.748	2.11	4.62	<.001
		Control	.38			1.05		
	Case confusion	Experimental	1.79	.17	.867	3.96	4.28	<.001
		Control	1.86			2.95		
	Letter formation	Experimental	.14	2.12	.043	2.46	8.99	<.001
		Control	.00			.05		

Sentences	Alignment	Experimental	.36	1.95	.058	3.36	13.08	<.001
		Control	.10			.52		
	Overwrite	Experimental	1.82	.50	.617	4.00	4.99	<.001
		Control	1.62			2.76		
	Mixed letter sizes	Experimental	.93	.54	.592	3.68	4.79	<.001
		Control	1.10			2.00		
	Letter reverse	Experimental	2.14	.81	.421	3.82	3.96	.001
		Control	1.81			2.86		
	Word omission	Experimental	1.39	1.28	.208	3.71	3.01	.004
		Control	1.90			3.00		

Table 5 highlights the findings of the mean pre-test and post-test scores for the experimental versus control groups of the CSWD on different patterns of errors in sentence writing skills. The Table shows that, at pre-test, none of the 't' ratios was found to be significant at any level of significance. Thus, it can be concluded that at the pre-test level, the experimental and control groups of the CSWD were also the same on the sentence writing ability. On the contrary, the Table portrays that during the post-test, nine out of ten patterns of errors are significant except one pattern that is 'sentence identification'. On 'sentences identification', the mean scores for the experimental and control groups are 4.00 and 3.90 respectively and the 't' ratio is found to be 1.45 which is not significant at any levels ($t = 1.45$, $p=0.162$). This means that, sentence identification was not a big problem in both groups of the CSWD.

Table 6: *Comparison of Pre – and Post-test Findings between Experimental and Control Groups*

Dimension	Groups	Pre-test				Post-test			
		Mean	Mean Difference	t-ratio	p-value	Mean	Mean Difference	t-ratio	p-value
Words	Experimental	39.89	4.25	1.39	.171	84.89	25.32	12.19	<.001
	Control	44.14				59.57			
Sentences	Experimental	11.36	.07	.03	.975	32.89	13.46	11.61	<.001
	Control	11.29				19.43			
Overall	Experimental	51.25	4.18	.85	.398	117.79	38.79	13.15	<.001
	Control	55.43				79.00			

Generally, based on Table 6, the independent sample t-test indicates that there is no significant difference between the experimental and control groups during the pre-test, ($t = .85$, $p = 0.398$). However, during the post-test, the CSWD in the experimental group performed better than those in the control group with the difference of 38.79 more marks. These results, obtained during the post-test indicate

a significant increase in the mean score for the experimental group, t = 13.15, p < .001. Equally, Figure 1 specifies that there was improvement in terms of mean scores in both experimental and control groups, but there was a sharp increase in the experimental group compared to the control group. This indicates that the CSWD in the experimental group performed better than those in the control group in the post-test. The findings of this study are in line with those of Kumburu (2011) who noted that all groups made significant improvement during the intervention programme, but the experimental group did better than control groups.

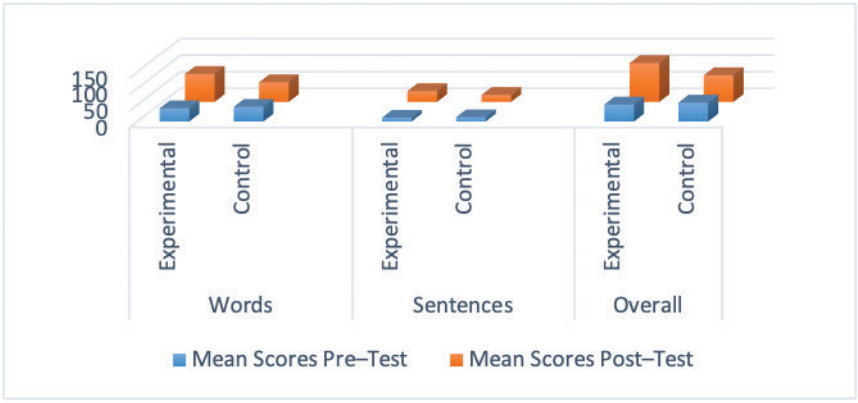

Figure 1: Pre-test and Post-test Mean Scores for Experimental versus Control Groups of CSWD on Writing Skills.

Despite a significant increase (t = 13.15, p < .001) in the mean score for the experimental group during the post test, the effect size was also calculated using the Hedges' g method. Hedges' g is used when the sample sizes between two groups is not equal (Brydges, 2019). In this study the sample size of the experimental and control group was different (see Table 7). The effect size was calculated using the data from Table 7.

Table 7: *Group Statistics*

	Group	N	Mean	Std. Deviation	Std. Error Mean
overall post	Experimental	28	117.79	5.280	.998
	Control	21	79.00	12.716	2.775

The obtained effect size is 4.211770 based on Hedges' g method. An effect size of 4.211770 indicates a very large effect, g>0.8 (Brydges, 2019). That means the means are likely to be very different.

Limitation of the Study

This study employed quasi experimental design. However, literature shows that there are limitations of using quasi experimental because randomization is not used

as a result there is a possibility of constructing non-equivalent groups. Nevertheless, this limitation was minimised by pre-testing the groups before the intervention. Moreover, the study did not assume control of the children's cultures, traditions, social economic status and education background. However, it employed quasi experimental design and therefore, it focused on improving the writing ability of the CSWD without any consideration of other factors.

Conclusions

This study concludes that the designed ELMs have the quality of improving the writing skills of the grade two CSWD in government primary schools in Tanzania. The ELMs engage the children and enable them to be active in the whole teaching and learning process. However, for the sustainability of improving the writing ability of the CSWD, teachers need to be assisted in designing more materials and maintaining similar strategies that could continuously enable them to improve the writing ability of the CSWD. The ELMs improved the writing ability of the CSWD because of the activities that were planned to involve the children from the beginning of the lesson to the end.

Recommendations

In light of the study's findings and conclusions, it is recommended that teachers be educated on how to identify the CSWD. Moreover, CSWD should not be retained in the same class; instead, ELMs should be designed based on the level of writing difficulties and used in primary schools to improve the CSWD's writing ability.

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