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Perception and Use of Open Educational Resources by Teachers in Teaching English in Public Secondary Schools in Mwanza City Council, Tanzania

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ABSTRACT

This study examined teachers' awareness, access to and use of open educational resources (OERs) in supporting English language teaching in public secondary schools in Mwanza City Council, Tanzania. A mixed-methods design was used to collect data from 100 participants through questionnaires with closed- and open-ended items. Quantitative data were analysed using SPSS, including regression analysis, while qualitative data were analysed thematically. The findings showed that teachers' engagement with OERs was low: only 35% of participants were aware of the benefits of OERs for English teaching, 23% reported access to OERs, and only 9% used OERs to support classroom instruction. Regression analysis indicated a significant relationship between teachers' awareness, access and use of OERs. The study concludes that increasing teachers' awareness and access is essential for expanding classroom use of OERs. It recommends targeted capacity building for English teachers, improved institutional support, and further research on individual and institutional factors affecting OER adoption in secondary schools.

KEYWORDS: Open Educational Resources; public secondary schools; teachers' awareness; teachers' access; teachers' use; English language teaching

1. INTRODUCTION

As global initiatives aim to make education affordable for everyone by minimizing costs such as tuition and school fees and even adopting tuition-free education policies, the question of quality and affordable educational resources remains a conundrum in the global education community, but especially, must be solved in developing countries, especially in sub-Saharan countries such as Tanzania. It is true that common educational resources such as textbooks in developing countries are among the factors that increase the cost of education. They also affect the quality of education when a school or a support person such as a teacher does not cover the costs of purchasing quality reading materials. To understand the negative impact of unaffordable educational resources, the OERs movement intervened by providing high-quality and affordable educational resources to students of all social classes who had access as alternative low-cost textbooks (Bradley, 2013). OERs focused primarily on cost savings for students, particularly from low-income families (Grewe and Davis, 2017). However, in order for students to access and use OER, be it course materials, modules, textbooks, streaming videos, tests, software and any other tools, materials or techniques used to support access to knowledge (William and Hewlett, 2013); The need for teacher guidance is significant. In other words, the more familiar teachers become with OER, the better informed students are and the greater their access to and use of OER. Open Educational Resources (OER) refers to learning, teaching and research resources in any form and medium that are publicly owned or distributed under an open license, allowing free access, reuse, repurposing, etc. Adaptation and redistribution by others (Yuan et al. 2008).

They are usually made freely available on the Internet or the Web. Teachers and educational institutions use them primarily to facilitate course development, but they can also be used directly by students.

Learning objects such as lecture materials, references and readings, simulations, experiments and demonstrations, as well as syllabi, syllabuses and teacher manuals are examples of open educational resources (D'Antoni 2009). "Openness" is a popular academic tradition that promotes free access to knowledge and technology (Cronin and MacLaren 2018). Its mission was to help create impactful, lasting changes in learning opportunities for all children, wherever they are (Wiley et al. 2014). Reduced public education resources have led to increased accountability and unprecedented tensions in schools and systems (Hylén 2021). Open educational resources are global inventions that leverage the widespread availability of ICTs to democratize learning by making high-quality learning materials and tools available to anyone, anywhere, at any time, and at low cost (Yuan et al. 2008). Advances in technology have enabled teachers in underdeveloped countries to access up-to-date materials to support their teaching - materials that would otherwise never be available to them (Dutta 2016). It has been established, though, that the bulk of users of open education resources come from wealthier nations (Bissell 2009). Teachers and both formal and independent learners are using open educational resources (OER) at previously unheard-of levels as a result of the rapid advancements in ICT. The goal of the movement for open education resources is to address disparities in educational access (Atkins et al. (2007). Students and educators resorted to emerging information and communication technologies as a means of meeting these new demands. One such resource that they used was Open Educational Resources, the utilization of which is the focus of this study. Teachers in Mwanza, as in most regions of Tanzania, have a high demand for educational resources, while the supply is limited for various reasons. Because teachers are responsible for ensuring they read and prepare for their lessons, their need for access to available educational resources is paramount. Common initiatives teachers take include sharing class notes, using their old notes and reference books, and photocopying reading materials from other fellows who had access to them.

Although the initiative goes so far as to not leave teachers empty-handed, the biggest risk in this process is the quality of the material disseminated. This doubt can lead to two assumptions: First, the cases in which students from different schools massively fail in a particular subject despite being taught by different teachers suggest that students may be sharing an irrelevant resource. Second, because teachers lack sufficient resources to make comparisons and make decisions; they share the same resources for years. Therefore, when asked about poor academic performance, their main argument remains the lack of resources, as demonstrated in the studies of Chakupewa (2018). Nghambi, (2015); and Melack, (2014). Teacher awareness in this study refers to teachers' knowledge and understanding of the existence, relevance and possible classroom application of OERs in English language teaching. It can also be defined as the practice of keeping abreast of the best teaching methods, educational trends, and understanding students' needs well in order to create the best possible learning environment. The use of modern digital technology is currently common practice in business, the entertainment industry, politics, science, medicine and education. Educational studies have shown that modern digital technology through ICT achieves significant achievements in the field of education and research (Robinson, 2015; Robinson et al., 2014; and Hilton III, et al., 2013). Furthermore, numerous studies conducted in the education sector have specifically focused on OERs and their impact on postsecondary students' academic performance (Robinson, 2015; Hilton III and Laman, 2012; and Lovett, Meyer, and Thille, 2008).). Other renowned studies in the same field have addressed the issue of students' access to, use and performance of OERs (Grewe and Davis, 2017; Allen, Guzman-Alvarez, Molinaro and Larsen, 2015; and Feldstein et al. 2012). These and other effectiveness studies found that students who successfully access and use OERs achieve better or equivalent outcomes than students who use traditional reading materials (Grewe and Davis, 2017). Although previous studies have focused extensively on the access and use of OERs, the extent to which modern digital technology is used to facilitate English language teaching and learning in secondary schools in Tanzania is not yet well understood. Consequently, there is a general assumption that modern digital technology is for entertainment purposes and is less related to teaching and learning, particularly in secondary education. To examine this assumption, the current study examined the extent of teachers' awareness, access and use of OERs when teaching English language in secondary schools in Tanzania. This was in response to the fact that previous studies conducted in other parts of the world focused mainly on the influence of OERs on students' learning performance, without considering the teaching aspect.

With the growth and spread of modern technology, it is possible to access a lot from digital technology. Teachers like everyone else are not far from using laptops, tablets and mobile phones to operate globally and access current trends. However, the question remains as to the extent to which they are aware of the availability, access and use of OERs, which is intended to alleviate the problem of inadequate teaching and learning resources. The current study was carried out against this background.

2. RESEARCH METHODOLOGY

2.1 Research design

The cases were selected among English teachers in public secondary schools in Mwanza City Council, Mwanza Region. Teachers, as curriculum implementers, were considered important participants because they were considered to have rich data on awareness, access, and use of OERs. Other educational stakeholders involved in monitoring curriculum implementation were also involved, as some of the required data, particularly on access and use of OERs, required informants who had extensive data on policy issues. Samples were drawn from both rural and urban populations to provide a true representation of the population in Mwanza City Council, although the results were not generalizable. The diversity of sampling representation should include different experiences and data to reflect the actual situation.

2.2 Area of the study

The study was conducted in Mwanza City Council in Mwanza Region. The area was chosen because it has reliable network and internet connectivity for digital communication and has a sufficient number of teachers using digital devices such as smartphones, tablets and laptops. The location is also considered suitable due to the prevailing digital technology culture through which the population in the district embraces modern digital technology in entertainment and business by using their accounts on Facebook, Instagram and WhatsApp to name a few. This suggests that the Mwanza population was not new to the world of modern digital technology and is therefore suitable for the data required in this study. Mwanza City Council also has a large number of secondary schools, either publicly or privately owned. In most of these schools, the lack of teaching and learning resources is a persistent problem, particularly in public secondary schools. This opens scope for examining the extent to which teachers were aware of alternative ways to address the problem through the use of modern digital technology and how often these alternative means were used to support teaching and learning processes and thereby improve student performance. This scenario made Mwanza City Council an appropriate research location to provide adequate and diverse data.

2.3 Sample and sampling techniques

2.3.1 Sample size

This study used a sample of 100 participants drawn from public secondary schools and relevant education offices in Mwanza City Council. The participants included English language teachers and key education stakeholders, namely heads of English departments, the District Education Officer (DEO), school inspectors or school quality assurance officers, Ward Education Officers and parent representatives. The sample was considered adequate because it provided rich and diverse data on administrative and pedagogical issues related to OER awareness, access and use in English language teaching.

2.4 Sampling procedures

The study used both purposive and simple random sampling to select participants from the study population.

2.5 Purposive sampling

The study used purposive sampling to select key informants, including heads of English departments, the District Education Officer, Ward Education Officers, school inspectors or school quality assurance officers and parent representatives. These respondents were selected because of their professional roles and experience in curriculum implementation, teaching and learning, and the use of digital technology in educational settings.

2.6 Simple random sampling

The study used simple random sampling to select English language teachers from selected public secondary schools in Mwanza City Council. This technique was used to reduce selection bias and to obtain responses from teachers with different characteristics and experiences. The sampling frame was obtained from the district education office, and teachers from the selected schools were randomly invited to participate until the required number of teacher respondents was reached.

2.7 Data collection methods

2.7.1 Questionnaire

A questionnaire can be defined as a research instrument consisting of a series of questions and prompts used to collect information from respondents. In this study, questionnaires were used to collect quantitative data on secondary school teachers' awareness, access and use of OERs to support English language teaching and learning. The questionnaire contained both closed-ended and open-ended items. Closed-ended items generated quantitative data based on Likert-scale responses, while open-ended items allowed respondents to provide qualitative explanations about their experiences with OERs in English language teaching.

Questionnaires were administered to teachers and selected key informants to collect data from both classroom and curriculum-management perspectives. The use of questionnaires was preferred because it enabled the researcher to collect data from a relatively large number of participants within a short period. The questionnaires were administered by the researcher and a research assistant.

2.8 Data analysis

Data analysis involved editing, coding, classifying, analysing and interpreting the collected data. The researcher used both qualitative and quantitative techniques during the study as they were conducted simultaneously. Regression analysis was performed using the SPSS version 25 software program (SPSS, Inc., Chicago, IL, USA) to process quantitative data.

3. RESULTS

The level of awareness of teachers in English teaching offerings. It was observed that the level of awareness of teachers was influenced by several factors. Based on the scale used, only 35% of respondents reported that they were aware of OERs used to support English teaching and learning in secondary schools. These results were based on the test that included selected variables that were considered important in describing the cause of some of the respondents' behaviors. The test conducted included several independent variables tested based on teachers' awareness of OERs for teaching English. The results are shown in Table 3.1

Table 3.1 Mean and Standard Deviation

	Mean	Std. Deviation	N
Teachers' awareness of OERs	3.52	1.052	100
Work experience	1.317	.5474	100
Education level	2.57	.561	100
Gender	1.57	.495	100
Age	37.84	6.992	100

The results showed that the standard deviation for age, which was 6.9, was outside the SD range and therefore not closer to the true value, while the remainder represented measurements that were closer to the true value as they were less than ±2. These results also showed that except for age, whose data was spread out due to high standard deviation, the remaining Data were clustered around the mean and thus had good standard deviation as its value was less than ±2.0. The mean for age (37.84) was exceptionally higher than the rest of the variables. This variation defined the difference between age and the remaining variables.

The findings also revealed the correlation between the extent of teachers 'awareness and work experience, education level, gender and age. The findings were as presented in Table 3.2.

Table 3.2 Correlations (N=100)

		Work experience	Education level	Gender	Age
Work experience	.050	1.000	.171	-.080	-.051
Education level	.217	.171	1.000	-.236	-.273
Gender	-.070	-.080	-.236	1.000	.081
Age	-.078	-.051	-.273	.081	1.000

The results showed that there were positive relationships between teachers' level of awareness of OERs for English teaching and professional experience, whose value was 0.05, and education level, whose value was 0.21, as their values were greater than 0. Conversely, there were negative relationships between teachers' level of awareness of

OERs for teaching English and gender, whose value was -07, and age, which was also -07. This is because the gender and age values were less than 0. Based on the results, the model summary in Table 3.3 was used to indicate the strength of the relationship between the model and the dependent variable.

Table 3.3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.219a	.048	.035	1.034

a. Predictors: (Constant), age, work experience, gender, education level
b. Dependent Variable: Teachers' awareness of OERs

The results in Table 3.3 show that the R-squared is 0.04, which means that 4% of the variation in the output variable is explained by the input variable. Thus, only 4% of the observed variation in the target variable is explained by the regression model. An ANOVA test was performed to compare the variation between sample means and the variation within each sample. The results are shown in Table 3.4.

Table 3.4 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	15.438	4	3.860	1.192	.320
Residual	307.667	95	3.239		
Total	323.106	99			
Dependent variable: Teachers' awareness of OERs					
Predictors: age, work experience, gender and education level					

Table 3.4a Coefficients

Predictor	B	Std. Error	Sig.	Lower Bound	Upper Bound
Constant	2.684	.578	.000	1.545	3.822
Work experience	.024	.112	.828	-.196	.245
Education level	.383	.116	.001	.154	.612
Gender	-.042	.126	.741	-.289	.206
Age	-.003	.009	.744	-.021	.015
Dependent variable: Teachers' awareness of OERs					

A one-way ANOVA was conducted to compare the effects of professional experience, education level, gender, and age on teachers' level of awareness of OERs for teaching English in secondary schools. The results showed that the differences between teachers' level of awareness of OERs for teaching English (0.00) and education level (0.00) were significant, while professional experience (0.82), gender (0.74) and Age (0.74) were statistically insignificant. These results show that education level was the strongest predictor of teachers' awareness of OERs.

3.3 The Extent of Teachers' Access to OERs for Teaching English

The results showed that only 23% of participants had access to OERs for teaching English in secondary schools. These results are based on factors tested based on the extent of teachers' access to OERs. The test conducted included several independent variables tested based on teachers' access to OERs for teaching English in secondary schools. The results are shown in Table 3.5

Table 3.5 Mean and Std. Deviation

	Mean	Std. Deviation	N
Teachers' access to OERs	3.75	.934	100
Gadgets and institutional support	3.81	.876	100
Internet speed and connectivity	3.88	1.079	100

Reliable bandwidth	3.95	.997	100

The results showed that the standard deviation for teachers' access to OERs for teaching English was 0.93. Internet speed and connectivity had a standard deviation of 1.07, reliability and bandwidth strength had a standard deviation of 0.99, and gadgets and institutional support had a standard deviation of 0.87. These values were all below ±2, indicating that the data were clustered around the mean. The mean values ranged from 3.75 to 3.95, suggesting a close statistical relationship among the variables. The results also showed the correlations between teachers' access to OERs for teaching English and internet speed and connectivity, reliability and bandwidth strength, and gadgets and institutional support. The results are shown in Table 3.6.

Table 3.6 Correlations

		Teachers' access to OERs	Gadgets and institutional support	Internet speed and connectivity	Reliable bandwidth
Pearson Correlation	Teachers' access to OERs	1.000	.435	.321	.339
	Gadgets and institutional support	.435	1.000	.509	.506
	Internet speed and connectivity	.321	.509	1.000	.561
	Reliable bandwidth	.339	.506	.561	1.000

The results showed that there was a positive relationship between the extent of teachers' access to OERs for teaching English (1.0) and the remaining tested variables, namely gadgets and institutional support, internet speed and connectivity, and reliable bandwidth, whose values were respectively 0.43, 0.32 and 0.33 were; since their values were greater than 0. Based on the results, the model summary in Table 3.7 was used to indicate the strength of the relationship between the model and the dependent variable.

Table 3.7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.461	.212	.204	.833

a. Predictors: (Constant), reliable bandwidth, gadgets and institutional support, internet speed and connectivity

b. Dependent Variable: Teachers' access to OERs

The results in Table 3.7 show that R-squared is 0.21, which means that 21% of the variation in the output variable is explained by the input variable. Thus, only 21% of the observed variation in the target variable is explained by the regression model. An ANOVA test was performed to compare the variation between sample means and the variation within each sample. The results are shown in Table 3.8

Table 3.8 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	54.080	3	18.027	8.621	.000
Residual	200.733	96	2.091		
Total	254.812	99			
Dependent variable: Teachers' access to OERs					
Predictors: reliable bandwidth, gadgets and institutional support, and internet speed and connectivity					

Table 3.8a Coefficients					
Predictor	B	Std. Error	Sig.	Lower Bound	Upper Bound
Constant	1.671	.243	.000	1.193	2.149
Gadgets and institutional support	.350	.068	.000	.216	.484
Internet speed and connectivity	.072	.058	.211	-.041	.185
Reliable bandwidth	.118	.062	.058	-.004	.241
Dependent variable: Teachers' access to OERs					

A regression analysis was conducted to determine the influence of internet speed and connectivity, reliable bandwidth, and gadgets and institutional support on teachers' access to OERs for teaching English. The overall model was statistically significant, $F(3, 96) = 8.621$, $p < .001$, and explained 21.2% of the variation in teachers' access to OERs. However, among the individual predictors, only gadgets and institutional support was statistically significant ($B = .350$, $p = .000$). Internet speed and connectivity ($B = .072$, $p = .211$) and reliable bandwidth ($B = .118$, $p = .058$) were positive but not statistically significant at the .05 level. These findings indicate that teachers' access to OERs was mainly influenced by the availability of digital devices and institutional support.

3.4 The Extent of Teachers' Use of OERs in Teaching English

The test conducted involved multiple independent variables which were tested against the extent of teachers' use of OERs as the dependent variable to describe the mean and standard deviations. The findings were as presented in Table 3.9

Table 3.9 Mean and Standard Deviation

	Mean	Std. Deviation	N
Teachers' use of OERs	3.58	1.065	100
Teachers' self-perception of OERs	3.66	.767	100
Capacity building in OER use	3.53	1.145	100
Work experience	1.317	.5474	100

The results showed that the standard deviation for teachers' use of OERs in English classes was 1.06, while teachers' self-perception of OERs was 0.76, capacity building in OER use was 1.14, and work experience was 0.54. These values were all below ±2, indicating that the data were clustered around the mean. The mean values ranged from 1.31 to 3.66. With the exception of work experience, the difference between the remaining factors was only 0.13, suggesting a close statistical relationship between the variables. The results also showed the correlations between teachers' use of OERs in English classrooms and capacity building in OER use, self-perception of OERs and work experience. The results are shown in Table 3.10.

Table 3.10 Correlations

	Teachers' use of OERs	Teachers' self-perception of OERs	Capacity building in OER use	Work experience
Teachers' use of OERs	1.000	.390	.298	.077
Teachers' self-perception of OERs	.390	1.000	.413	-.027
Capacity building in OER use	.298	.413	1.000	-.001
Work experience	.077	-.027	-.001	1.000
Teachers' use of OERs	.	.000	.000	.096
Teachers' self-perception of OERs	.000	.	.000	.325
Capacity building in OER use	.000	.000	.	.493
Work experience	.096	.325	.493	.

The results showed that there was a positive relationship between the extent of teachers' use of OERs in teaching English (1.0) and the remaining variables tested, namely capacity building in the use of OERs and self-perception of OERs and work experience, the values of which were 0.39, 0.29, and 0.07, respectively; since their values were greater than 0. Based on the results, the model summary in Table 3.11 was used to indicate the strength of the relationship between the model and the dependent variable.

Table 3.11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.426	.182	.173	.969

a. Predictors: (Constant), work experience, capacity building in OER use, teachers' self-perception of OERs
b. Dependent Variable: Teachers' use of OERs

The findings in Table 3.11 show that R square is 0.18 which means 18% of the variation in the output variable is explained by the input variable. Thus only 18% of the observed variation in the target variable is explained by the regression model.

In making comparison of variations between the sample means and variation within each sample, ANOVA test was conducted and the findings were as presented in Table 3.12.

Table 3.12 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	60.239	3	20.080	7.111	.000
Residual	271.126	96	2.824		
Total	331.365	99			
Dependent variable: Teachers' use of OERs					
Predictors: work experience, capacity building in OER use and teachers' self-perception of OERs					

Table 3.12a Coefficients

Predictor	B	Std. Error	Sig.	Lower Bound	Upper Bound
Constant	1.175	.319	.000	.548	1.802
Teachers' self-perception of OERs	.450	.081	.000	.291	.610
Capacity building in OER use	.152	.054	.005	.046	.259
Work experience	.166	.104	.110	-.038	.370
Dependent variable: Teachers' use of OERs					

3.5 The Relationship between the Use of OERs in Teaching English and Other Factors

3.5.1 The use of OERs and school management support

The test conducted included school leadership support as an independent variable, which was tested against the extent of teachers' use of OERs as a dependent variable describing their means and standard deviations. The results are shown in Table 3.13

Table 3.13. Mean and Standard Deviation

	Mean	Std. Deviation	N
Teachers' use of OERs	3.09	1.137	100
School management support	3.26	1.111	100

The results showed that the standard deviation for teachers' use of OERs was 1.13 and that for school leadership support was 1.11. Both values were below ±2, indicating that the data were clustered around the mean. The mean values were 3.09 and 3.26 respectively. The findings also showed the correlation between teachers' use of OERs and school leadership support, as presented in Table 3.14.

Table 3.14 Correlations

		Teachers' use of OERs	School management support
Pearson Correlation	Teachers' use of OERs	1.000	.353
	School management support	.353	1.000
Sig. (1-tailed)	Teachers' use of OERs	.	.000
	School management support	.000	.

The results showed that there was a positive relationship between the extent of teachers' use of OERs (1.0) and school leadership support, whose value was 0.3 as their values were greater than 0. Based on the model summary results in Table 3.15 was used to indicate the strength of the relationship between the model and the dependent variable.

Table 3.15 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.353a	.125	.122	1.066

a. Predictors: (Constant), school management support
b. Dependent Variable: Teachers' use of OERs

The results in Table 3.15 show that R-squared is 0.12, which means that 12% of the variation in the output variable is explained by the input variable. Thus, only 12% of the observed variation in the target variable is explained by the regression model. An ANOVA test was performed to compare the variation between sample means and the variation within each sample. The results are shown in Table 3.16

Table 3.16 ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	47.092	1	47.092	13.959	.000
Residual	330.601	98	3.373		
Total	377.693	99			
Dependent variable: Teachers' use of OERs					
Predictor: school management support					
Table 3.16a Coefficients					
Predictor	B	Std. Error	Sig.	Lower Bound	Upper Bound
Constant	1.910	.193	.000	1.530	2.291
School management support	.362	.056	.000	.251	.472
Dependent variable: Teachers' use of OERs					

A one-way ANOVA was conducted to compare the effect of school leadership support on the extent of teacher use of OERs. The results showed that the differences between the level of teacher use of OERs (0.00) and school leadership support (0.00) were statistically significant. These findings show that school management support was significantly related to teachers' use of OERs.

3.5.2 The extent of teachers' uses of OERs, work experience and education level

The test conducted involved work experience and academic degree as independent variables which were tested against the extent of teachers' use of OERs as a dependent variable to describe their means and standard deviations. The findings were as presented in Table 3.17

Table 3.17 Mean and Standard Deviation

	Mean	Std. Deviation	N
Teachers' use of OERs	3.56	.994	100
Work experience	1.317	.5474	100
Education level	2.57	.561	100

The results showed that the standard deviation for teachers' use of OERs was 0.99, while work experience and education level had standard deviations of 0.54 and 0.56 respectively. These values were below ±2, indicating that the data were clustered around the mean. The mean values ranged from 1.31 to 3.56. The findings also showed the correlations between teachers' use of OERs, work experience and education level, as presented in Table 3.18.

Table 3.18 Correlations

		Teachers' use of OERs	Work experience	Education level
Pearson Correlation	Teachers' use of OERs	1.000	.021	.244
	Work experience	.021	1.000	.171
	Education level	.244	.171	1.000
Sig. (1-tailed)	Teachers' use of OERs	.	.363	.000
	Work experience	.363	.	.002
	Education level	.000	.002	.

The results showed that there was a positive relationship between the extent of teachers' use of OERs (1.00), professional experience (0.02) and education level, the value of which was 0.24, as their values are larger were as 0. Based on the results of the model. The summary in Table 3.19 was used to indicate the strength of the relationship between the model and the dependent variable.

Table 3.19 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.244	.060	.053	.967

a. Predictors: (Constant), education level, work experience
b. Dependent Variable: Teachers' use of OERs

The findings in Table 3.19 show that R square is 0.060 which means 6% of the variation in the output variable is explained by the input variable. Thus only 6% of the observed variation in the target variable is explained by the regression model. In making comparison of variations between the sample means and variation within each sample, ANOVA test was conducted and the findings were as presented in Table 3.20

Table 3.20 ANOVA					
Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	17.230	2	8.615	3.083	.050
Residual	271.091	97	2.795		
Total	288.321	99			
Dependent variable: Teachers' use of OERs					
Predictors: education level and work experience					
Table 3.20a Coefficients					
Predictor	B	Std. Error	Sig.	Lower Bound	Upper Bound
Work experience	-.039	.105	.708	-.246	.167
Education level	.438	.102	.000	.236	.639
Dependent variable: Teachers' use of OERs					

3.5.3 Teachers' use of OERs, age and gender

The test conducted involved age and gender as independent variables which were tested against the extent of teachers' use of OERs as a dependent variable to describe their means and standard deviations. The findings were as presented in Table 3. 21

Table 3.21 Mean and Standard Deviation

	Mean	Std. Deviation	N
Teachers' use of OERs	3.88	.965	100
Age	37.84	6.992	100
Gender	1.57	.495	100

The results showed that the standard deviation for teachers' use of OERs was 0.97, while age and gender had standard deviations of 6.99 and 0.50 respectively. The age variable showed wider dispersion than the other variables, while gender and OER use were more closely clustered around their means. The findings also showed the correlations between teachers' use of OERs, age and gender, as presented in Table 3.22.

Table 3.22 Correlations

		Teachers' use of OERs	Age	gender
Pearson Correlation	Teachers' use of OERs	1.000	-.118	-.039
	Age	-.118	1.000	.081
	Gender	-.039	.081	1.000
Sig. (1-tailed)	Teachers' use of OERs	.	.021	.251
	Age	.021	.	.083
	Gender	.251	.083	.

The findings indicated that there were negative relationships between the extent of teachers' use of OERs (1.00), age (-0.11) and gender whose value was -0.03 since their values were less than 0.

Based on these findings the model summary in Table 3.23 was used to report the strength of the relationship between the model and the dependent variable.

Table 3.23 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.122a	.015	.008	.961

a. Predictors: (Constant), gender, age
b. Dependent Variable: Teachers' use of OERs

The results in Table 3.23 show that R-squared is 0.01, which means that 1% of the variation in the output variable is explained by the input variable. Thus, only 1% of the observed variation in the target variable is explained by the regression model. An ANOVA test was performed to compare the variation between sample means and the variation within each sample. The results are shown in Table 3.24

Table 3.24 ANOVA and Coefficients

Model/Predictor	Sum of Squares or B	df or Std. Error	Mean Square or Sig.	F or Lower Bound	Sig. or Upper Bound
Regression	4.062	2	2.031	.735	.482
Residual	267.993	97	2.762		
Total	272.055	99			
Constant	4.582	.346	.000	3.901	5.263
Age	-.016	.008	.048	-.032	.000
Gender	-.058	.114	.608	-.283	.166
Dependent variable: Teachers' use of OERs					
Predictors: age and gender					

3.6 Discussion

The results of the current study showed that OERs were underused to support English teaching and learning in secondary schools in Tanzania. According to the results, only 9% of respondents used the resources despite inadequate teaching and learning resources. However, awareness of OERs was also low, with only 35% of respondents appearing to have this awareness. Likewise, the level of access to the resources (23%) was lower than the level of awareness, meaning that some respondents were aware but did not have access to the resources to use. The overall picture behind these differences in the level of awareness, access and use of OER suggests that inadequate information about the availability and importance of using OERs in supporting teaching and learning is the greatest barrier for English teachers in secondary schools in the study area.

In view of these findings, targeted measures need to be taken to ensure that teachers in Tanzania are made aware of the available OERs and are well informed about their accessibility and use to support their teaching and learning processes in the classroom. The ability to disseminate appropriate information is believed to play an important role in enabling teachers to decide which resources to use with justification. This can be a motivating factor to increase awareness, access and use of OERs to support English language teaching and learning in secondary school classrooms. The observations from the current study are consistent with the Diffusion of Innovation Theory (DIT), in which Rogers (2003) describes the innovation decision process as an information search and information processing activity in which an individual is motivated to overcome uncertainty about the advantages and disadvantages of an innovation reduce innovation. The observed slowness and lack of responsiveness in the use of digital technology to support English language teaching and learning in the classroom is largely the result of an information gap that should be addressed immediately and appropriately to improve the situation. The research shows that there is a general awareness of OERs among secondary school English teachers in Tanzania. However, access to and use of OERs in English teaching in secondary schools is still low due to limited access to technology and lack of digital skills. The results also suggest that professional experience, educational level, age and gender have a significant influence on the extent of OERs use by teachers. These results suggest that teachers with higher levels of education and more professional experience are more likely to use OERs in their teaching. In addition, younger teachers' use OERs more often than their older and male colleagues. The results of this study have important implications for the use of OERs in secondary schools. The results suggest that the government and other stakeholders should invest in improving access to technology and improving teachers' digital skills to promote the use of OERs in English teaching. It is also important to train teachers on how to effectively use OERs in their classrooms. Finally, it is important to support teachers to ensure they have the necessary resources and tools to use OERs in their classroom.

4. CONCLUSION

The study concludes that English language teachers in public secondary schools in Mwanza City Council have low levels of awareness, access and use of OERs. Although OERs can help address shortages of teaching and learning resources, their classroom use remains limited. The findings indicate that awareness, access, school leadership support, capacity building, internet connectivity and the availability of digital devices are important factors influencing teachers' use of OERs.

The study recommends that education stakeholders, school management teams and English departments strengthen teachers' awareness and practical capacity to identify, access, adapt and use OERs in classroom instruction. Schools should also improve access to reliable internet, digital devices and institutional support. Future studies should examine school-level and individual factors that influence sustained OER use in English language teaching and learning.

As students learn through insufficient activities, challenges, exposure, and practice, their proficiency and performance in the language are impacted by the low level of awareness, access, and use of OERs in English language instruction. Naturally, in Tanzanian secondary schools, English is one of the most difficult subjects, so this is a realistic observation. Seldom can one find English in the streets and homes where the students reside. Teachers are therefore unable to meet every student's need in the classroom if they do not assign tasks for independent learning. OERs are typically made to support the teaching and learning process under supervision and facilitate the successful and easy work of teachers by taking communicative needs and language skills needs into consideration.

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