The Role of Instructional Materials in Learning Geography among Secondary Schools in Busega District, Tanzania

Waziri Mzinga and Daniel Oduor Onyango, PhD*
St. Augustine University of Tanzania

*Corresponding Mail: jumadan06@gmail.com

Abstract: The purpose of the study was to establish the role of Instructional Materials in the Learning of Geography Subject in Secondary Schools of Busega District. The study adopted the mixed research approach under which convergent parallel design was used. The study involved 23 secondary schools in Busega District whereby four secondary schools were purposively sampled to participate in the study because the schools had exhibited a severe declining performance trend in Geography at the National examinations for last five years. The study used purposeful, stratified and simple random sampling techniques to select 1 DEO, 4 Heads of Schools, 4 Heads of Geography Department, 8 Geography Teachers and 80 students to participate in the study. Questionnaires and interview guides were used for data collection. Quantitative data was analyzed using descriptive statistics with the help of the SPSS software while the qualitative data was analyzed thematically. The study concluded that the use of learning materials in geography contributed to enhanced creativity and innovativeness in learners. Learning materials further assisted learners to comprehend difficult topics in Geography. It also made learning very interesting and this motivated learners to fully participate in the learning process. The study recommended that the use of instructional material should be emphasized in public secondary schools as they played a key role in enhancing productive learning of geography.

Keywords: Geography, instructional process, Instructional materials, Learning Process

Introduction

Adequate and appropriate use of instructional materials is critical in the teaching and learning of all subjects taught in secondary schools, Geography included. According to Butt (2011), teaching and learning resources support educators in making decisions on what and how to teach. As observed by Edelson, Shavelson and Wertheim (2013), the use of instructional resources enhances geographers’ creative thinking with regards to problems, giving them models for “thinking geographically” and creating chances for them to exercise this form of thinking.

According to the World Bank (2014), Tanzania, through Big Results Now (BRNE) intended to achieve goals of improving education quality in primary and secondary schools through provision of adequate instructional materials to the learners and teachers. UNESCO (2000) reported that the quality of education in Africa is rapidly declining due to inadequate supply of key instructional materials and the decline in the utilization thereof. UNESCO (2000) further advocated for the revitalization of policies intended to provide learning resources and to safeguard and improve education quality in Africa. Thus, it insisted that the provision of teaching-learning materials especially books is an important way of improving the academic platform.

In the recent years, performance in geography at ordinary level secondary schools in Tanzania has not been good. In the last 5 years, the pass rate has been below 65% in 2015, 48.7% in 2016, 51.24% in 2017, 53.18% in 2018, 53.03% in 2019, and 53.15% in 2020 (NECTA, 2015; 2016; 2017; 2018; 2019; 2020). For example, in Busega District alone, only 0.44% scored B while 39.53% scored F. The remaining scored C and D and no student scored an A grade. This suggests a challenge in the teaching and learning of geography (National Examinations Council of Tanzania, 2019).

Many factors can contribute to learners’ better performance but key among them include adequate
instructional materials and physical facilities, well trained and adequate teachers and proper utilization of the language of instruction. This was confirmed by Mbwambo (1990) in Makewa, Role and Ngussa (2012) who established that English teachers in Tanzanian Secondary Schools for example, faced problems in teaching tenses, spelling, pronunciation, use of articles, summary writing, irregular verbs, punctuation, word order and conditionals. Makewa, Role and Ngussa (2012) further suggest that these problems were caused by the non-availability of instructional materials for teaching and learning.

Geography as a discipline enables learners to understand, master and utilize the available resources in their environment, to carry out different economic activities such as agriculture, fishing, lumbering, beekeeping, mining activities and forestry (Onyango, 2019). Geography is believed to provide necessary content or materials for every individual to succeed since it describes the reality of day to day life of human beings. Reinfried and Hertig (2011) argued that geography is concerned with human-environment interactions in various contexts. Consequently, it relates various aspects of life hence, imparting critical skills and knowledge in learners. It helps learners to apply such knowledge to different economic activities within their locality that assists improve lives. To effectively achieve these objectives of learning geography, availability of instructional materials should be a key concern. Aydin (2011) points out that geography is a very colorful subject for students in secondary schools if lessons are invigorated with various in-and-out of school activities. Klein (2005) emphasizes that geography is oriented to specific facts and the development of skills in observation, recording and the use of information collected for the solution of problems.

The importance of instructional materials in teaching and learning geography in secondary schools has been emphasized by Heffron and Downs (2012) who acknowledged that geography is a dynamic and active discipline that reflects on the everyday lives of learners. Heffron and Downs (2012) further observed that this dynamism calls for a careful and appropriate use of instructional resources and materials such as visual, audio, audio-visual and human being) that play a significant role in the teaching-learning process. Therefore, the use of instructional materials is imperative in order to enable students to be actively involved in class tasks when teaching is taking place. Similarly, the instructional materials ought to be adequate and appropriate and the language used in teaching-learning should be appropriate so as to create room for interaction between teachers and learners.

In a study conducted in Nigeria, Aduwa (2005) argued that instructional materials such as audio-visual, audio, tape recorders, videos, slide projectors, filmstrips, maps, charts, graphs and others are vital in the teaching and learning process. The researcher showed that in schools where administration provided adequate teaching and learning materials learning was enhanced and students’ academic performance improved. Mobilization and use of resources not only enhances teachers’ preparation to guide students but also leads the students into a better understanding of geographical features or concepts, develops interest and motivates learners to go extra mile in quest for knowledge and skills.

According to the West Africa Examination Council report (2007) on geography examination, the performance of the candidates has been poor while the weaknesses manifested are mostly in the areas of map reading. The report stated that most of the candidates could not identify simple features on the topographical maps due to poor knowledge of map reading and interpretation of survey maps. Additionally, most candidates could not identify the given physical features on the survey maps and describe the relief and settlement in the given area. This suggests that there was negligence in the application of visual teaching-learning materials in geography.

The Kenya Institute of Curriculum Development (KICD) (2010) emphasized on the experience gained in primary school in order to prepare the learner for future studies. Furthermore, the curriculum content should be derived from basic to more difficult geographical concepts. The content of the KICD syllabus includes several aspects such as photographs, field and map work as well as statistical methods. The scope and dynamic nature of the syllabus requires teachers to be more innovative by improvising local materials in case of lack of resources to teach Geographical concepts.

In Kenya, Geography as a subject is offered in the four-year secondary education course. Teachers are required to provide students with opportunities to understand the implications of life in the global society, which is full of innovations and scientific
discoveries. Newspapers and magazines contain different kinds of maps through which people read and understand the information presented. The inclusion of practical geography in both physical and human geography is not only done solely for the purpose of passing the examination but it comprises activities which leave a lasting value to those who participate in it. Tety (2016) indicated that instructional materials are key to teachers’ and students’ performance. In response, teachers use different strategies to minimize the challenges in quality instructional materials. Askew (2011) asserted that people from different cultures have known the importance of the teaching-learning materials used to explain concepts during the teaching and learning process. Tamakloe, (2005) suggested that audio-visual aids cater for both audio and visual aspects in the teaching and learning environment.

Furthermore, audio-visual materials involve and welcome learners through a sense of visualizing and hearing. In such a situation, the student becomes more creative and knowledgeable enough about the subject contents that are believed to increase a better understanding. Instructional materials enable teachers to explain geography concepts more vividly. As such, learners become creative and are encouraged simply because difficult concepts are made simple due to the effective utilization of instructional materials which are believed to offers a better understanding in the teaching-learning process. According to Christensen (2010), when materials are used in the teaching and learning of geography topics, it excites curiously about the world with regards to the physical process and human experiences that relate to geographical features. This is because effective and efficient usage of instructional materials in the teaching-learning process enable learners to be more competent through having permanent memory of what has been learnt. Forsyth, (2013) noted that it is only through analyzing educational needs that the usage of any technology or audio-visual devices as the delivery tool will support the learning process. Such situation makes learners see the real picture from what is being learnt in classroom. Hence, teaching and learning through instructional materials builds learners' understanding and abilities since learner acquires skills and knowledge that are enhanced by permanent memory through having morale in the learning process.

Christensen (2010) explained that teaching and learning materials facilitate knowledge attainment. For example, an effective understanding of geography concepts can be possible through the usage of instructional materials. Therefore, geography teachers must review various materials before going to teach so as to have enough knowledge in the subject contents, so as to provide and impart knowledge and skill to their learners effectively. For instance, teachers who design and apply local and modern instructional resources found in their own environment for the teaching-learning of geography enable students to learn effectively. Furthermore, HakiElimu (2011) conducted a study to determine whether teachers were motivated by the availability of instructional materials and found this was a key motivator for teaching. Additionally, Ndalicchako and Komba (2014) added that some subjects are looked at as optional subjects hence less emphasis is put by relevant authorities in ensuring there are adequate teachers as well as instructional materials. This has led to poor staffing for such subjects like Geography and insufficient teaching and learning facilities.

The place of instructional materials in the teaching of Geography cannot be overemphasized. A number of studies on this aspect have clearly pointed out that availability and appropriate use of teaching materials has a positive effect on the learning outcomes. According to Okobia (2011), in a study conducted in Pakistan, the effective use of instructional materials makes the subject more real. This means instructional materials help in explaining difficult concepts, making learners experience what is theoretically learnt in classroom, hence helping to enhance the imagination of the learners, preventing misconceptions and making the learning interesting. Therefore inadequate instructional materials in geography teaching and learning could lead to negative impacts in the teaching and learning process. Not only would inadequacy of instructional materials contribute to poor academic performance of students, but also student would slowly develop negative attitude towards opting for geography (Charles, 2009). This will eventually lead to dogging of classes, missing assignments and class work, hence poor academic outcomes.

UNESCO (2000) reported that Education quality in Africa was rapidly declining due to inadequate supply of key instructional materials and the decline in their utilization. It therefore advocated for the revitalization of policies intended to provide
learning resources so as to safeguard and improve education quality in Africa. Additionally, the UNESCO reported that the provision of teaching and learning materials, especially books, was an effective way of improving students’ academic performance.

Gikunda (2016) conducted a study on the factors influencing teachers’ performance in the implementation of geography curriculum in public secondary schools of Kenya. The study employed a mixed research approach. The researcher found out that more Geography teachers were required to enable the effective implementation of the geography curriculum. The inadequacy of instructional materials in some schools affected the way teachers handled the subject. Teachers’ hardly employed numerous instructional materials in their teaching activities as they were constrained by the high number of students per class with limited time to handle each of them appropriately. The study recommended that the ministry of education and the school administration should increase the budget for procuring such resources as textbooks, globes, geography resource centers, audiovisual materials, fieldwork resources and libraries among other things which the teachers would require to improve their performance. The study further recommended that principals and geography teachers should sensitize parents and the community at large on the need for the provision of adequate learning resources like revision books for students in secondary schools. Even though the study tried to provide the way forward to the government especially on buying learning resources, it is worth noting that the government also had so many responsibilities and hence there was a need to involve other stakeholders to provide support in buying learning resources.

Mwesiga (2017) conducted a study on factors influencing students’ poor performance in geography subject in Tanzania. The researcher found out that teachers were not attending in-service training to update their knowledge in terms of content and pedagogy and study tours were irregularly conducted, while other schools had no geography resource rooms. They lacked such teaching and learning resources as geography textbooks, internet services, maps, photographs, globes and survey apparatus. Other factors were poor mathematical and drawing skills, poor English background among students and lack of motivation for teachers and students. The research recommended that performance improvement for the geography subject be given a special priority by establishing geography resource rooms and providing adequate teaching and learning resources. Additionally, the MoEST in cooperation with PMO-RALG should organize in-service training for geography teachers to update them with new skills and knowledge required in teaching and learning geography.

Mtitu (2014) conducted a mixed study on the learner-centered teaching in Tanzania and the researcher found out that teachers’ substantive and syntactic knowledge and classroom organization and management were critical for student performance. The researcher recommended that there is a need to address dilemmas in the implementation of Learner Centered Teaching (LCT) approaches such as class sizes, curriculum design, teacher shortage and teachers’ need for mastery in the substantive and syntactic knowledge. Other recommendations included that teachers be given in-service training regarding the conceptual and theoretical understanding of LCT, its approaches and application in geography classrooms; teachers’ use of an integrated-formative evaluation and assessment approaches and the need of further research on aspects around the same topic. This study, therefore, sought to answer the following question: What is the perceived role of instructional materials in learning Geography in Public Secondary Schools in Busega District?

Research Methodology
This section presents the research design, population and sampling techniques, instruments and data collection procedures, statistical treatment of data and ethical considerations.

Research Design
The study adopted the mixed research approach under which convergent parallel design was used. In this design a researcher is enabled to merge qualitative and quantitative data in order to provide a comprehensive analysis of the research problem.

Population and Sampling
The study involved 23 secondary schools in Busega District whereby four secondary schools were purposively sampled to participate in the study because the schools had exhibited a severe declining performance trend in Geography at the National examinations for last five years. The study used purposive, stratified and simple random sampling techniques to select 1 DEO, 4 Heads of
Schools, 4 Heads of Geography Department, 8 Geography Teachers and 80 students to participate in the study.

**Instruments and Data Collection**

A single questionnaires and an interview guide were used for data collection. Validity of the research instruments was checked by experts from the faculty of education in St. Augustine University and the reliability of the instruments was calculated through test-retest method in which the Pearson Correlation Coefficient Index of 0.8 was obtained. This implied that the instrument were valid for data collection (Cohen, Manion & Marrison, 2011, Danscombe, 2014).

**Statistical Treatment of Data**

Thematic approach was used to analyze qualitative data (Braun & Clarke 2006; Creswell, 2014). This was done by arranging the data in categories and themes. The data which was collected through the questionnaire was analyzed using descriptive statistics with the help of the Statistical Package for Social Sciences (SPSS version 20).

**Ethical Considerations**

In carrying out the study, ethical standards were adhered to by seeking authorization from relevant authorities such as the Regional Administrative Secretary of Simuyu Region and District Administrative secretary of Busega District. Participants were informed about the purpose and the importance of the study.

**Results and Discussion**

The purpose of this study was to investigate the perceived role of instructional materials in learning Geography in Public Secondary Schools in Busega District.

**Question:** What is the perceived role of instructional materials in learning Geography in Public Secondary Schools in Busega District?

With regard to this question, the results are presented in table 1 which indicates that, majority (56%) agreed and 13.8% strongly agreed that availability of instructional material makes learners become more creative and innovative while 12(15.0 percent) strongly and 15% strongly disagreed.

This means that majority of respondents generally agreed that availability of instructional material makes learner become more creative and innovative in the teaching and learning process. These findings agree with literature which pointed out that instructional materials motivate teachers and helps the learners to acquire and strengthen skills in reading, observing, listening and communicating. All these together can make learners to become more creative and innovative (Christensen, 2010; Gikunda, 2016 and Okobia, 2011). Through the interview with the DEO, it was revealed that:

<table>
<thead>
<tr>
<th>Activities</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Agree</th>
<th>Strong Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makes learners more creative and innovative</td>
<td>12</td>
<td>15.0</td>
<td>12</td>
<td>15.0</td>
</tr>
<tr>
<td>Helps learners understand difficult topics</td>
<td>12</td>
<td>15.0</td>
<td>___</td>
<td>11</td>
</tr>
<tr>
<td>concepts</td>
<td></td>
<td></td>
<td>13.8</td>
<td>51</td>
</tr>
<tr>
<td>Motivate and enables learners to prefer</td>
<td>12</td>
<td>15.0</td>
<td>12</td>
<td>15.0</td>
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<tr>
<td>learning</td>
<td></td>
<td></td>
<td>33</td>
<td>41.3</td>
</tr>
<tr>
<td>Offer a chance for learners to participation</td>
<td>12</td>
<td>15.0</td>
<td>15.0</td>
<td>12</td>
</tr>
<tr>
<td>full in classroom activities</td>
<td></td>
<td></td>
<td>55.0</td>
<td>44</td>
</tr>
</tbody>
</table>

The use of instructional material is very important since it makes learners to improve their skills and at the end helps them to become more creative and innovative which is very important for our country because we need people who are creative and innovative so as to be able to achieve development. All these will happen only if there are enough instructional materials.

The DEO’s view has been supported by Garba (2016) who conducted a study on “availability and use of visual teaching and learning materials in teaching geography at Minjibir education zone in Kano, Nigeria and found that the instructional materials help the learners to acquire and strengthen skills in reading, observing, listening and communicating. Haskew (2011) asserted that visual aids are used to explain concepts during the teaching and learning process which in turn makes learners to remember what has been taught.

Table 1 further indicates that, majority (71.3%) strongly agreed and 13.8% agreed that the use of instructional materials helps learners to understand...
difficult topics and concepts while only 15% strongly disagreed. Therefore, majority of respondents in the questionnaire agreed that instructional materials help learners to understand difficult topics and concept. On the same vein, Okobi (2011) observed that the use of instructional materials made the learning process real, hence easily understood by the learners. Similarly, Forsyth (2013) emphasized that the use of technology whether audio or audio-visual, enhances understanding of what is being taught, hence effective learning.

Through the interview with the DEO, on whether the use of instructional materials help learners understand difficult topics and concepts, it was revealed that “learners will understand easily if teachers use the instructional materials. As we know, effective teaching and learning goes together with students’ observation during the learning process.”

When teaching topics that are believed to be difficult by using instructional materials, those topics become simple and well understood by learners since learners are fully involved in the teaching-learning process. Dhakal (2014) asserted that geography as one of the subjects at secondary schools can be facilitated better when suitable and relevant instructional materials are utilized during the teaching and learning process. If the instructional materials are well used, students are attracted and motivated to learn through proper application of instructional materials. Therefore, instructional materials help learners to understand difficult topics and concepts and at the end, help to improve the teaching learning process.

Table 1 further indicates that, 41.3 percent agreed that the use of instructional materials motivates and enables learners to prefer learning geogaphy while 15.0 percent disagreed and another 15% strongly disagreed. This means that majority generally agreed that instructional materials offer a chance for learners to participate fully in classroom activities since they will be able to interact with their teachers and their fellow students in the process of learning. This interaction will help learner to participate fully and at the end, helps to improve their understanding.

Through the interview with the Head of school C, it was commented that,

When instructional materials are effectively utilized during the teaching and learning, it helps learners to have full participation and be able to interact with their teachers and their fellow students which is very important for the improvement of teaching and learning geography. For that case, instructional materials are very important for the improvement of teaching-leanring process.

Dhakal (2017) established that geography as one of the subjects at secondary schools is better to be facilitated when suitable and relevant instructional materials are utilized during the teaching and learning process. If the instructional materials are well used, learners are attracted and motivated to learn geography. In fact, learners will become more creative as they interact and relate with the content being taught.
Conclusions and Recommendations
This section provides the conclusions and then gives the recommendations.

Conclusions
This study concludes that learning materials are very important in teaching and learning of geography. Availability and use of learning resources contributes to enhanced creativity and innovativeness among learners. Learning materials also assist learners to comprehend easily various geographical concepts they learn in geography such as rock formation which would be difficult to learn in the absence of such learning resources as charts and real objects. This motivated learners and makes them eager to participate in class discussions.

Recommendations
The study recommends that the use of instructional materials should be emphasized in schools to ensure effective learning of Geography. This will make the learning of geography productive and hence improve performance of learners. Heads of schools should provide adequate instructional materials to be used in the learning of geography in order to facilitate active learning. This will contribute to making learners independent, hence good performance will be realized.

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