



## INFLUENCE OF AVAILABILITY OF TEACHING AND LEARNING RESOURCES ON STUDENTS' ENROLMENT IN GEOGRAPHY IN SECONDARY SCHOOLS, WEST POKOT, KENYA

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### Abstract:

Geography is one of the core subjects of the school curriculum and plays a crucial role in secondary education by equipping learners with essential knowledge, skills, values, and attitudes necessary to understand both physical and human environments. It bridges the natural and social sciences. Despite its importance, student enrolment in Geography remains low compared to other humanities, particularly in West Pokot County of Kenya. This study aimed to investigate the influence of the availability of teaching and learning resources on students' enrolment in Geography in secondary schools in West Pokot, with a focus on Kipkomo sub-county. Anchored in Krumboltz's Social Learning Theory, the study employed a descriptive survey design and a concurrent mixed-methods approach to gather both quantitative and qualitative data. The target population included 1,049 Form Three students and 18 school principals, from which a sample of 289 students and 7 principals was drawn using purposive, stratified, and simple random sampling techniques. Data were collected through student questionnaires and interviews with the school principals. Quantitative data were analyzed using descriptive statistics via SPSS version 25, while qualitative data were analyzed thematically. The findings revealed a significant shortage of essential teaching and learning resources, with 67.5% of students indicating that atlases were inadequate, and 73.4% reporting a lack of Geography laboratories. These resource limitations were cited as key barriers to effective teaching and learning, ultimately discouraging student enrolment in the subject. The study concludes that the unavailability of key instructional resources negatively impacts students' choice to pursue Geography. This paper recommends that schools, in collaboration with stakeholders, should prioritize the provision of adequate teaching aids such as textbooks, atlases, maps, and Geography laboratories to enhance learning and promote higher enrolment in the subject.

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## 1. Introduction

Geography, as an academic discipline, systematically studies the Earth's phenomena, including its physical features, the distribution of life, and human interactions with the environment (Paul & Aithal, 2020). According to the Australian Curriculum, Assessment and Reporting Authority (ACARA), Geography is defined as *"the investigation and understanding of the earth and its features and the distribution of life on earth, including human life and its impacts."* This definition emphasizes the "why of where," exploring how and why places differ, how they're interconnected, and how they're changing at various spatial and temporal scales.

Geography provides a firm foundation for advanced studies in specialized fields like geomorphology, remote sensing, geology, urban planning, climatology, and meteorology, among other fields. It is an elective subject in many schools around the world, as students choose from optional subjects like History and Christian Religious Education, among others. Studies show that the proportion of Year 12 students studying Geography dropped sharply from the late 1980s to the 2000s, with continued declines reported in subsequent decades (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2022; MacLeod & Mitchell, 2019). This reduction is often attributed to the broadening of subject offerings within the senior secondary curriculum, especially the rise of interdisciplinary social science subjects such as Society and Environment and Legal Studies, which have drawn students who might previously have selected Geography (Harris & Bateman, 2020).

Moreover, while Geography remains embedded within the F-10 Australian Curriculum as part of the Humanities and Social Sciences learning area, it is often taught in an integrated rather than a discipline-specific manner, limiting its visibility and status in the senior years (ACARA, 2022). Consequently, many Geography educators express concern that the emergence of interdisciplinary learning areas has contributed to the diminishing enrolments in senior secondary Geography across Australia (MacLeod & Mitchell, 2019).

In Kenya, the Kenya National Examination Board (2009) observes that Geography is among the subjects which have experienced a decline in terms of the number of students taking it up to the final years. In 2009, 112,446 students registered for Geography countrywide. However, the number declined to 111,646 in 2010. This shows that there was a tremendous decrease among the Geography students between 2009 and 2010. It is therefore against this background that this study sought to find out the determinants of students' choice of Geography as an optional subject in secondary schools in Kipkomo sub-county, West Pokot County.

According to the KNEC (2021) results analysis, Geography has been posting the least performance among the humanities offered. In addition, the subject had a broader

syllabus content full of many practical areas like photograph work, fieldwork, map work and statistical methods (KICD, 2005). The situation is even made worse by inadequate teaching-learning resources, contributing to a decrease in enrolment in Geography at form three every year.

Report from the Kenya National Examination Council (KNEC) indicates that students' enrolment in Geography has been relatively low compared to other humanities over the past four years (KNEC report 2018). In Kipkomo sub-county (Kipkomo KCSE analysis 2018-2021) shows that, on average, less than 30% of the students enrolled for Geography in the last four years compared to Christian Religious Education, 85% and History 70%. Enrolment of students into Geography, particularly in Kipkomo sub-county, has been very low, with the option of students having to select any humanities subject. Most students opt for history and C.R.E. in this category (KNEC 2014, 2015, 2016 and 2017). Additionally, the performance of students at the KCSE level remains dismal, with an unclear understanding of the factors contributing to this performance (KNEC report 2021). It was against this background that this study sought to investigate the influence of teaching and learning resource availability on Students' Enrolment in Geography in Secondary Schools, West Pokot, Kenya.

## 2. Literature Review

### 2.1 Theoretical Framework

The study was guided by the social learning theory (SLT) as developed by Krumboltz (1979). Krumboltz (1979), in this theory, posits that the experiences learners have while studying dictates their career choice. This theory takes cognizance of several factors determining the process of career choice of an individual, among them genetic endowment, the conditions in the environment and the learning experiences (Patton & McMahon, 2006). Students make a choice of subjects to pursue in line with their career aspiration, and thus the theory aligns with equipping learners with techniques to choose a career that best fits them. The theory suggests that students' educational choices are influenced not only by their abilities and interests but also by external factors such as the availability of resources, the quality of instruction, and exposure to learning opportunities (Krumboltz, 1979).

The SLT provided a useful framework for understanding how the presence or absence of adequate Geography teaching and learning resources could shape students' perceptions of the subject and their eventual enrolment decisions. For instance, when students have access to relevant textbooks, maps, laboratory equipment, and trained teachers, they are more likely to develop positive learning experiences that foster interest and confidence in studying Geography (Gul *et al.*, 2024). Conversely, inadequate resources may create negative learning experiences, discouraging students from selecting the Geography subject at higher levels.

Moreover, SLT's emphasis on vicarious learning that entails learning through observation and social interactions aligns with the idea that well-equipped Geography

classrooms and fieldwork activities provide real-world experiences that make the subject more engaging and meaningful for students' career development (Yates, 2020). Thus, Krumboltz's theory helped explain how improving the learning environment could positively influence students' academic motivation and subject choice.

According to Ireh (2000), students' learning experiences include the performance of the individual learners in Geography and their prior learning experience, for instance, in Social Studies at the primary level, which is a building block for Geography. The theory is therefore relevant to the study since it incorporates environmental factors such as teachers' influence on the learning environment. Emphasis of SLT on the environment as the major influence on the subject choice taken by students is the core limitation of the theory. The reason for this is that students will be less accountable for their choices, as they would term their choice of Geography mainly due to school policy on the subject determination, the influence of peers, and teachers. There is, therefore, more weight on the environment as opposed to the students who are directly affected by the choices he/she makes. Consequently, the limitation of the theory is in its overemphasis on the influence of external factors, such as the school and peers, on the choice of Geography as opposed to factors inherent in the learners, such as their skills and experiences. The question, therefore, is whether the knowledge students have gathered from Form One and Form Two is enough for them to make an informed decision on whether to pursue the subject or not.

## 2.2 Empirical Review

According to studies (Ashaver & Mwuese, 2013; Save the Children 2017; Harichandan *et al.*, n.d.) These resources include textbooks, video, audio and visual aids, printed materials, graphic materials, maps, sketch maps, pictures, photographs, film stripes, tape recording, radio films, diagrams, thermometers, barometers, wind vane, rain gauges, Geography lab equipment, projectors, and computers, according to studies These instructional resources are crucial in impacting students' learning. They should be used by the teachers when covering main points and concepts, clarifying the relationships between material objects and concepts, and guiding teachers in teaching, as well as to facilitate learners to participate in learning, overcome language barriers and understand and retain important learned content (Harichandan *et al.* n.d.).

Falode *et al.* (2016) in their study note that instructional resources stimulate students' positive attitude towards the learning process. This is evidenced by findings from a mixed-methods study in Kenya, which showed that effective utilization of textbooks is strongly associated with improved academic performance among secondary school students (Mwikali *et al.*, 2024). Sarkar (2016) also found out that there was limited use of Geography instructional resources in West Bengal. UNESCO (2012) also found these instructional resources insufficiently provided in the rural schools in Southern Africa.

Artvinil (2017) avers that, despite the many challenges, Geography teachers are keen to use available technology in the classroom, according to an analysis of their

opinions on creative Geography instruction. These challenges might be related to how to use those technologies. Relatedly, a study by Gatsinzi, Ndayisenga *et al.*, (2020) on enhancing quality education in poorly resourced and overcrowded classrooms in public schools of Gasabo district, found out that provision of adequate instructional resources is key to addressing the issue of quality education.

Gaudence *et al.* (2013) examined how Geography is taught in schools in Western Kenya's Homa Bay district using video resources. It was demonstrated that watching videos improved learning achievement through comprehension, engagement, and retention using an experimental study design that included pretest and posttest control groups. In Zimbabwe, research by Mupa and Chinooneka (2015) found that textbooks and syllabuses were the only educational resources used in classrooms. It is possible to prevent the disparities that result from teaching and learning by utilizing didactic materials created from locally accessible resources, such as textbooks, that mirror the curriculum (Williams, 2016). In its report, the World Bank (2014) states that an education system's quality is determined by how well its resources are transformed in schools.

Sarkar (2016) investigated the use of Geography teaching aids in West Bengal high schools. The results of a survey research design showed that Geography teaching resources were not being used to their full potential. Additionally, it was discovered that a variety of educational tools were not being utilized consistently. According to a 2012 UNESCO assessment, Eastern and Southern African rural schools lacked enough instructional materials. According to Mwikali *et al.*, (2024), students who did not have textbooks performed noticeably worse on tests than those who did. Falode *et al.* (2016) discovered that a computer simulation instructional package encouraged students to have a favorable attitude toward the teaching and learning of Geography.

Recent research highlights the crucial role of teaching and learning resources in curriculum implementation and the achievement of learning objectives. For instance, studies emphasize that instructional materials are essential for facilitating effective teaching and enhancing learner comprehension, particularly in resource-dependent subjects such as Geography (Wanjiku & Oduor, 2021). Adequate access to a variety of instructional resources and methods enables students to develop practical skills and effectively interact with their learning environment (Ouma, 2020).

Empirical evidence also shows that inadequate teaching and learning resources negatively affect both student performance and subject enrolment. For example, Njeru and Orodho (2019) found a significant positive correlation between the availability of instructional materials and student achievement in Kenyan secondary schools. Similarly, Kipng'etich (2018) reported that while instructional materials alone may not guarantee excellent performance, their absence severely limits learning outcomes in subjects requiring practical engagement, such as Geography.

Challenges such as resource shortages, limited teacher capacity, and financial constraints continue to hinder subject enrolment and effective curriculum delivery in many Kenyan schools (Ministry of Education, 2017). Adequate provision of teaching and learning materials, alongside skilled personnel, has been shown to enhance student

engagement, comprehension, and academic performance (Mwangi & Nyaga, 2022). Furthermore, research indicates that even when following the same curriculum, differences in teacher expertise and pedagogical practices significantly influence students' learning experiences and outcomes (Karimi & Njoroge, 2020).

From the foregoing related studies, it is clear that student attitude towards Geography, availability of teaching and learning resources, student previous performance and school policy on the subject selection have a direct influence on student choice of Geography at Kipkomo Sub-County in West Pokot County.

### 3. Methodology

This study adopted a descriptive survey research design. Preliminary and exploratory studies employ descriptive survey designs, which enable the researcher to collect data by distributing a questionnaire and then compile, display, and analyze the results for clarification (Orodho, 2004). The study further employed use of a mixed method approach, where both qualitative and quantitative approaches were employed. According to Creswell and Cresswell (2018), researchers sometimes combine qualitative, analytical, and quantitative methods within a single study, a strategy known as the mixed-method approach. This integration allows researchers to align their data collection and analysis techniques more effectively with the study's research questions.

The study was undertaken in Kipkomo Sub-County, West Pokot County, in the Northern Part of Kenya and located along Kapenguria-Lodwar road. The Target comprised Form three students who had not picked Geography as a selective subject in the Humanities field, teachers of Geography and heads of departments of the 18 schools in Kipkomo Sub-County. Therefore, 1049 form three students in 18 secondary schools since they had already chosen their preferred humanities subjects, dropping Geography in the process. The students would be in a good position to explain what prompted them to leave out Geography.

**Table 1: Target Population**

School category	Target		Total
	Boys	Girls	
A school	219	116	335
B Schools	-	202	202
C schools	309	203	512
<b>Total</b>			1049

A sample is a proportion of the respondents that is representative and ideal for analysis (Creswell, 2017). The study obtained data from both single sex, boarding and mixed-day public schools in Kipkomo Sub-County, West Pokot County.

From the sampled schools, a purposive technique was used to identify the 289 Geography students and simple random sampling was used to pick individual respondents. The 289 form three Geography students involved in the study were

provided with pieces of paper with a Yes and No label. The papers were folded and put in a container. The students picked one at a time from the container, and those who picked Yes were recorded and included in the sample. The focus was on form three students since they had already chosen the Geography subject as their core subject.

Data collection was done using a questionnaire and interview schedule for students and teachers, respectively. These were considered less expensive and often offered great anonymity. The interview offers the following advantages: usefulness in the collection of in-depth information, questions can be explained, and it is appropriate for completed situations. The disadvantages of interviews include: time-consuming, the quality of data depends upon the quality of interaction, as well as the skills of the interviewer. Analysis of qualitative data from the interview schedules for principals was done thematically through content analysis based on themes.

#### 4. Results

The objective of the study was to examine the influence of the availability of teaching-learning resources on students' enrolment in Geography in secondary schools. The results are shown in Table 2.

**Table 2:** Availability of Teaching-Learning Resources

Type of resource	SA	A	U	D	SD
1. We do not have enough Geography textbooks in our school.	46 (15.9%)	86 (29.8%)	12 (41.5%)	92 (31.8%)	53 (18.3%)
2. Our school has enough Geography books for revision by students	44 (15.2%)	47 (16.3%)	14 (48.4%)	98 (33.9%)	86 (29.8%)
3 Our school does not have enough atlases to be used in teaching Geography	136 (47.1%)	59 (20.4%)	15 (5.2%)	24 (8.3%)	55 (19.0%)
- We do not have enough Globes to be used in teaching Geography in our school.	61 (21.1%)	86 (29.8%)	8 (2.8%)	70 (24.2%)	64 (22.1%)
- We have enough charts in our school to be used in teaching Geography	30 (10.4%)	17 (5.9%)	60 (20.8%)	84 (29.1%)	98 (34%)
6. Our school has no laboratory for the Geography subject	69 (23.9%)	143 (49.5%)	9 (3.1%)	56 (19.4%)	12 (4.2%)
7. Our school uses fieldwork in teaching Geography	43 (14.9%)	50 (17.3%)	10 (3.4%)	97 (33.6%)	89 (30.8%)

**Source:** Field data, 2021.

When asked to indicate whether Geography books are enough in school during Geography lessons, 46(15.9%) strongly agreed, 86(29.8%) agreed, 12 (41.5%) were undecided, 92(31.8%) disagreed, and 53(18.3%) strongly disagreed. This implies that Geography books are sufficient during Geography lessons in schools. Finding out whether the school has enough books for revision 44(15.2%) strongly agreed, 47(16.3%) agreed, 14(4.8%) undecided, 98(33.9%) disagreed and 86(29.8%). This implies that most schools have enough books for revision by students. This phenomenon could suggest that enrolment in Geography and its performance are high.

To determine whether the school had enough atlases to be used in teaching Geography, 136 (47.1%) strongly agreed, 59(20.4%) agreed, 15(5.2%) were undecided, 24(8.3%) disagreed, and 55(19.0%) strongly disagreed. The results revealed that most schools do not have enough atlases to be used in teaching Geography. This may suggest that students fail to choose the subject, hence low enrolment.

Regarding the adequacy of globes used in the teaching of Geography subject 61(21.1%) strongly agreed, 86(29.8%) agreed, 8(2.8%) undecided, 70(24.2%) disagreed, and 64 (22.1%) strongly disagreed. From the responses, it may be true that the globes are adequate in most schools, but they are either not used often, hence contribute to minimal understanding of the subject, and therefore low enrolment in it. Asked to indicate whether charts are enough in their schools, 30(10.4%) of the students strongly agreed, 17(5.9%) agreed, 60(20.8%) were undecided, 84(29.1%) disagreed, and 98(34%) strongly disagreed. From the responses, it is evident that many students disagree that charts are not enough in schools. This seems to indicate that the number of students enrolling in Geography is minimal due to inadequate exposure to concepts in the subject, as a result of inadequate resources, such as charts.

The study also sought to understand whether the school had a Laboratory for Geography subject, and 69 (23.9%) of them strongly agreed, 143(49.5%) agreed, 9(3.1%) undecided, 56(19.4%) disagreed, and 12(4.2%) strongly disagreed. This was a clear indication that most schools do not have laboratories for the subject, making it less appealing to students, implying a possible reduction in the enrollment of students in the subject.

As to whether field work is used for teaching Geography in their schools, 43(14.9%) strongly agreed, 50(17.3%) agreed, 10(3.4%) undecided, 97(33.6%), disagreed, and 89(30.8%) strongly disagreed. The findings revealed that the school uses field work and is recognized that it breaks the monotony of the classroom as learning is made real to the students.

Results from the interview schedule on the possible reasons for the current state of Geography enrolment in the school showed that the majority of the principals cited the following: inadequate personnel, the subject was not interesting, and students did not link good careers to Geography. This indicates that students drop Geography for various reasons connected with the school and their career. When asked to indicate the extent to which the availability of teaching and learning Geography resources influences the students' choice of the subject in form 3, half of the principals supported, while the other half were somewhat unclear. However, most principals complained that they lacked the resources to purchase the required support for teaching Geography in their school. On their part, the majority of the teachers responded that teaching Geography required many facilities, including videos and trips. Some of the schools lack even a transport system to enable teachers and students to go on Geography study trips. Although currently, schools have adequate book resources supplied by the government, the lack of other such resources, especially digital resources, has tended to discourage students from taking Geography.



Additionally, the study showed that most of the teachers who were interviewed indicated that most schools lacked the necessary facilities for serious teaching of Geography as a subject. Some of the schools even have inadequate Geography teachers, which discourages students from continuing with Geography after form two. The principals were of the view that the Geography learning resources had a big role to play in making the subject interesting and hence orienting most students to choose it for enrolment in K.C.S.E. The implication has led to reduced interest and motivation in the subject. This has generally led to a decline in enrolment in Geography.

## 5. Discussion of Results

The influence of teaching-learning resources on students' choice of Geography, the study found that most schools did not have adequate teaching-learning resources for teaching Geography. The study established that Geography reference books and globes were adequate, for atlases 136(47.1%) strongly agree and 59(20.4%) agree, while those who said they were inadequate were 69 (23.9%) strongly agree and 143 (49.5%) agree that there was no laboratory for the Geography subject. In addition, the majority of the schools did not have more than one Geography teacher. However, the teaching of Geography was rated well in most schools, meaning that students found the teaching of Geography interesting. The interviewed principals revealed that some of the schools lacked the basic facilities and resources for effective teaching of Geography. Furthermore, some schools were understaffed with regard to the Geography subject, leading to low enrollment of students in the Geography subject.

The findings agree with Fouriel (2012), Otwori (2007) that most schools do not have adequate geography teaching and learning resources. The findings further agree with Falode *et al.* (2016), who noted that instructional resources stimulate students' positive attitude towards the learning process in Geography. This is evidenced in the fact that learners who learn without textbooks perform lower in their test grades compared to those who learn while having textbooks (Mwikali *et al.*, 2024). The results are also supported by a study conducted by UNESCO (2012), which found out that the diversity of instructional resources was not sufficiently provided in rural schools of Eastern and Southern Africa.

## 6. Conclusion

The study concludes that the availability and adequacy of teaching and learning materials play a significant role in shaping students' choice of Geography in secondary schools. Insufficient textbooks, reference materials, atlases, and charts, coupled with limited fieldwork opportunities and the absence of well-equipped Geography laboratories, negatively affected students' interest in the subject. These resource gaps not only limit students' exposure to practical learning experiences but also reduce the appeal of Geography as a subject choice. Therefore, improving access to adequate instructional

resources and enhancing practical learning opportunities is essential to increase students' engagement and enrollment in Geography.

### **6.1 Implications to Practice**

For practice, the study highlights the critical role of education stakeholders in ensuring equitable distribution and effective use of teaching and learning resources in secondary schools.

- 1) The Ministry of Education should use the findings to inform policies on teacher training, deployment, and resource allocation to promote Geography as a key subject.
- 2) School managers should develop strategies such as career guidance programs, subject awareness campaigns, and targeted resource investments to encourage student enrolment in Geography.
- 3) The Kenya Institute of Curriculum Development (KICD) and Kenya National Examinations Council (KNEC) should integrate the findings into curriculum design, assessment frameworks, and instructional material development, ensuring that Geography teaching aligns with students' interests and learning needs.
- 4) Collaboration between education administrators, teachers, and policymakers will be essential in designing interventions that make Geography more engaging and relevant to learners' futures.

### **6.2 Recommendations**

- 1) That school management should work closely with parents, Ministry of Education Officials and well-wishers to source and provide the much-needed teaching and learning resources in the Geography subject area.
- 2) The principal should be encouraged to set aside funds to facilitate the procurement of teaching and learning resources required to support the teaching and learning of Geography. The study felt that this would create motivation and interest in students to enrol on the Geography subject

### **6.3 Recommendations for Further Research**

The findings of this study underscore the need for further research on the relationship between teaching and learning resources and students' subject choices. Future studies could employ longitudinal designs to examine how the availability, accessibility, and utilization of resources influence enrolment trends in Geography over time. Moreover, comparative studies across different counties or regions in Kenya would provide a broader understanding of whether the trends observed in West Pokot reflect a national or localized phenomenon. Research could also explore the qualitative perspectives of learners, teachers, and school managers to capture the underlying attitudes and motivations influencing Geography enrolment decisions.

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### **Conflict of Interest Statement**

The author(s) declares no conflict of interest related to this manuscript. The author also confirms that all intellectual property rights, including but not limited to copyrights, have been appropriately assigned or licensed to the publisher, and that there are no competing interests in the publication, dissemination, or commercial use of the research findings.

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