ISSN: 2328-4870
Vol.1 No.1, June 2023

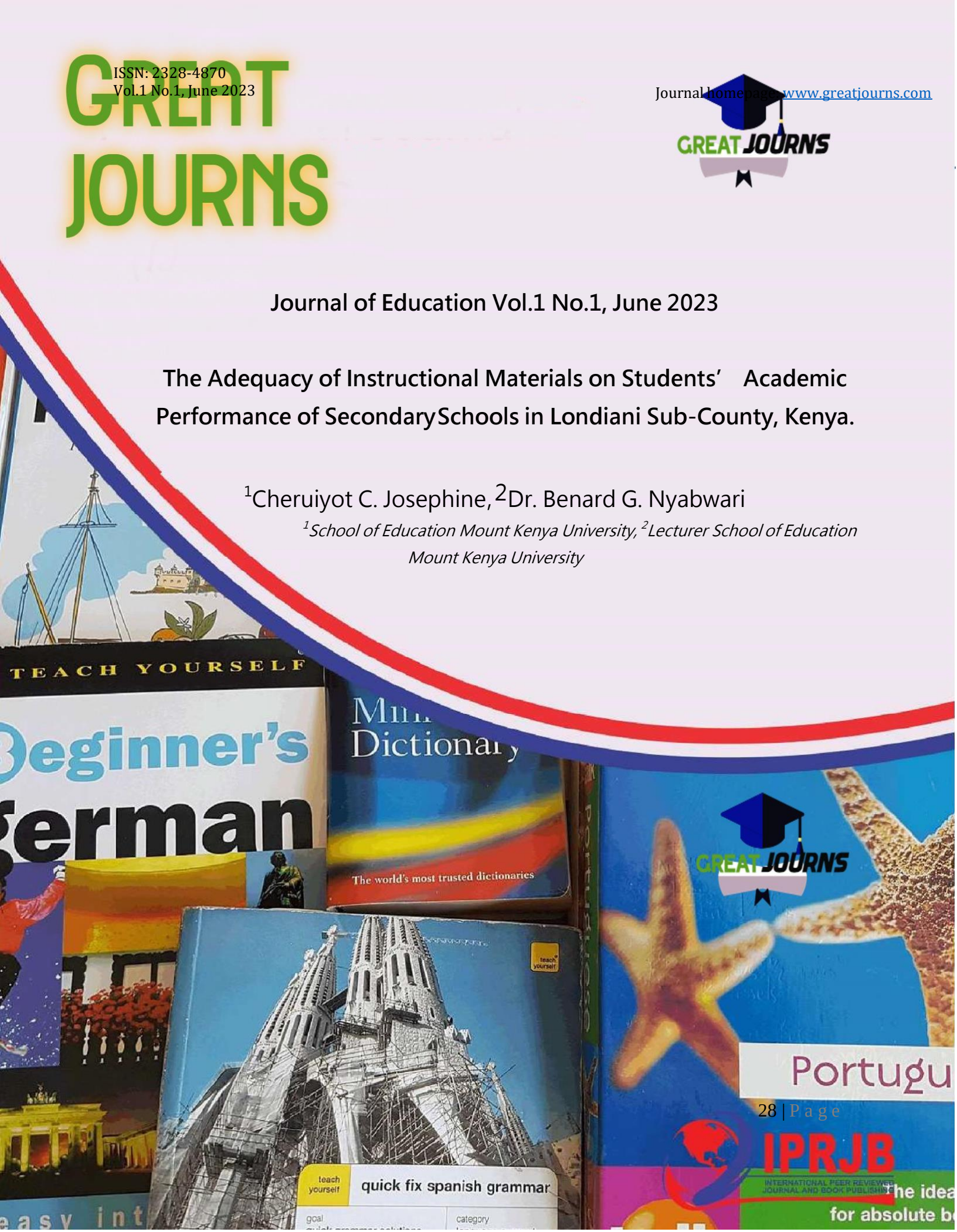
Journal homepage: www.greatjourns.com

Journal of Education Vol.1 No.1, June 2023

# The Adequacy of Instructional Materials on Students' Academic Performance of Secondary Schools in Londiani Sub-County, Kenya.

[1]Cheruiyot C. Josephine, [2]Dr. Benard G. Nyabwari

*[1]School of Education Mount Kenya University, [2]Lecturer School of Education Mount Kenya University*



ISSN: 2328-4870
Vol.1 No.1, June 2023
Journal homepage: www.greatjourns.com

**ABSTRACT:** The purpose of this study is to examine the Adequacy of Instructional Materials on Students' Academic Performance of Secondary Schools in Londiani Sub-County, Kenya.The study particularly determined the significance of instructional materials in teaching secondary school students; establish relationship between instructional materials and academic performance of secondary school students. Further, the study investigated challenges facing implementation of the use of instructional materials in secondary school in order to find out ways through which secondary school teachers can effectively use instructional materials for improvement of academic performance. Literature was reviewed according the study objectives. The study adopthed mixed research approach and a descriptive research design. Structured questionnaires and interview guide schedule were used to collect data from the respondents. Key informants to the study included the 38 principals, 274 teachers and 12254 students to give a total target population of 12566 respondents. The study will target the thirty-eight secondary schools in Londiani Sub-County. The selected samples for the primary data collection comprised 1 principal, 9 class teachers and 378 students from the secondary schools to give a total sample of 388 respondents. The collected data were analyzed by the descriptive statistics, correlation analysis and narrative analysis. The data that was analyzed with an aid of SPSS were presented by the use of tables, charts and graphs. According to the study findings, there was a statistically significant influence of adequacy of instructional materials on students' academic performance (r=0.574, p=0.000). The study concluded the teaching materials promote efficiency of the teacher as well as improve the learners' performance index. Materials used in teaching assist the teachers to deliver content logically and sequentially in class rooms. Instructional materials are key in guiding leaning and the teacher's presentations in class and that teaching materials support, influence and facilitate delivery of knowledge consequently making students to achieve the objectives of learning in school.The study recommends appropriate utilization of the instructional resources and maintenance of the resources to facilitate adequate teaching and learning in school.

***Key Words:*** *Adequacy, Instructional Materials, Students, Academic Performance & Secondary Schools*

## I. INTRODUCTION

Instructional materials as Woolfolk (2016) states refer to a spectrum of resources teachers use in classrooms to support or enhance the learning objectives in the lesson plans. Postlewaithe, (2011) says that use of different types of instructional materials help learners to get direct experiences which make learning easier. Benell (2015) describes learning as a gradual process meant to present leaning concepts to learners in institutions of learning. Most scholars worldwide agree that learners are of different leaning levels. The different levels in learning are as a result of the social backgrounds as well as age diversities. Due to these diversities among learners, it is important that teachers use different methods and approaches to present contents taught in class. Further, teachers are expected to use approaches and methods interesting to the learners to boost their learning and class participations. Abdu-Raheem (2016) is of the view that for successfully delivery of content to the learners, different materials in form of teaching aids must be used in classroom during lesson presentations. The teaching, materials promote efficiency of the teacher as well as improves the learners' performance index. Isola (2010) says that materials used in teaching assist the teachers to deliver content logically and sequentially in class rooms. Instructional aids are key in guiding leaning and the teacher's presentations in class. Abiodun-Oyebanji and Adu (2007) argue that

teaching materials support, influence and facilitate delivery of knowledge consequently making students to achieve the objectives of learning in school. Learning objects or materials make learning simple and easy. They also aid retention of knowledge, learning as well as boosts the learner's ability to recall content whenever it is required particularly during examinations and application of knowledge once learnt. Operative instruction or instructional requires teaching of learners with learning materials as well as use concrete activities to make learning vibrant, rational representative and practical (Akinleye, 2010).

When serving individual SEN students, the practice in the USA was actually the opposite of what should be happening in the resource room. A study that was conducted revealed that 10% of the eight sample schools did not have a resource room, which meant that the Individualized Education Plan (IEP) was not taught, and 1% of the respondents were unaware of what happened in the resource room. Despite the government's efforts to build infrastructure in Nigeria, the facilities lacked and were insufficient. In order to achieve quality education, it was therefore necessary for people, organizations, and anyone else with good intentions to support schools in terms of infrastructure (Uzokwe, 2006). Additionally, Chavuta, Itimu-Phiri, Chiwaya, Sikero, and Alindiamao (2008) noted that Malawi had a similar issue with students in terms of skilled human resource, as there were only 650 trained teachers in Malawi for every 69, 943 students.

Resources shortages impair instruction and reduce student performance, according to the Programme for International Student Assessment (PISA) of the Organization for Economic Cooperation and Development (OECD) (OECD, 2007). Additionally, variations in the resources allocated to schools are frequently reflected in differences in students' academic performance (OECD, 2007). According to Johan (2004), educational outcomes in schools are closely related to the use and sufficiency of teaching and learning resources in a variety of ways; poor use, underuse, and unqualified teachers result in low educational achievement. One of the main causes of students' poor learning outcomes in schools is the lack of adequate physical and material resources. Schools that lack the necessary classrooms, workshops, laboratories, and teaching and learning resources are unlikely to achieve satisfactory results. The physical resources, human resources, and financial resources invested in schools have an impact on the educational outcomes by influencing not only the education given to students but also certain aspects of teacher and student motivation.

Effective use of learning and teaching resources or activities enhances learning of the students. They make learning easy, lively, enjoyable and informative. Through them, the teachers are able to transmit knowledge, skills and attitudes in organized manner in class. Nwachukwu, (2006) states that learning materials are best in illustrating content in learning, consequently, making learning less abstract to the students. The more students interact with learning activities and materials the more they are likely to grasp knowledge transmitted by the teachers and that improve academic performance. Such improved performance itself motivates the teachers and learners in equal measures.
The UN, (2015) report underlined the centrality of application of learning materials in schools particularly primary and secondary schools. The levels of learners in such levels require teaching which engages their minds during facilitation of lessons. The report further illuminates that poorly performing schools are linked to unavailability of resources that support learning. Stakeholders of schools such as educational authorities are urged in the report to insist on use of learning resources in schools to increase the learning levels of the students. To increase access and use of instructional

resources, schools in the report are advised to put in place facilities such as textbooks, journals, encyclopedia, reference books, internet facilities and locally available teaching aids.
Learners are more probable to learn more, maintain what they learn, and enhance their academic performance when they use a variety of media tools. The accessibility of inadequate instructional materials possesses an immediate effect on the level of education received by students. In their 2011 study on the learning outcomes factors for the Kenyan Certificate of Secondary Education in Mathematics, Philias and Wanjobi noted that schools' teaching and learning resources. Offloading, adopting, and improvising are on a scale for the types and intensity of material appropriation. The scale indicating how much authority is shared between teachers and how instructional materials are used. In the opinion of Berhane (2014), the value of particular resources and the teacher's objectives can both be taken into consideration when deciding how to use curriculum materials. Additionally, because teaching is dynamic, it is possible to adopt and improvise in a single class. Brown's framework is useful for describing the type of teacher-student interaction in a particular resource, but it does not evaluate how this interaction affects students' learning. Adunola (2011) asserts that this kind of material usage is typical when teaching staff are unfamiliar with the context used in the materials or the materials themselves. Examples of offloading include logical pedagogical choices like assigning learning stations to some students while using ready-made materials with another group of students. Teachers may also hand off materials they believe to be written and related to their own desires, curriculum standards, and student expectations.

According to Nworgu (1980), instructional materials are objects or tools that assist the teacher in making the material being taught simpler and more understandable for students to understand. According to Ajelabi (2001), materials for instruction are building material or tangible items that offer correct visuals, or combination of the senses during teaching. Wright (1976) defines instructional materials as "information-carrying tools that are an essential part of the classroom teaching and learning." They are mainly employed in the hope of providing educational information to the learner swiftly, effectively, and efficiently. Because of the fact that learner individual differences, teachers must take specific steps to make instructing in the classroom easier. Choosing suitable resources which will satisfy the prerequisites of different learners in the class is one of these measures.

Education stakeholders have expressed their concerns about the state of schools by challenging the school-based resources as a result of the need for improved performance among students with special needs. The importance of school-based resources has increased in light of the likelihood that student performance at many special educational institutions will be influenced by these resources (ElZein, 2009). Learning resources are therefore essential to the teaching and learning processes. However, despite being essential, government strategies to provide school facilities, such as partnerships with the private sector and independent organizations as well as cost-sharing with parents and communities, had not entirely met the demands for physical facilities (Okeno, 2011).

Akungu, (2014) categorizes learning/teaching resources as materials resources, physical facilities and human resources. Material resources are things like computers, chats, projectors, kooks, chats, and chemicals among others. The physical facilities include libraries and laboratories while human resources involve teachers and learners themselves. Other teaching materials are the audio-visual aids like radio and Tele-Vision (TV). The (MoEST) (2011) encouraged Kenya’s educational

institutions of learning to put more emphasis on use of instructional materials in class room teaching. The ministry directed stakeholders to ensure adequate availability of chalkboards, books, periodicals, wall sheets, chats, maps, atlases, and globs. These instructional facilities were in most cases freely provided to the schools or were bought at subsides coast by the Government of Kenya (GoK). This was to ensure that all Kenyan children got the right to education in both private and public schools.

In 2007, free primary education was made available in Kenya, children enrolled in primary and secondary schools in large numbers. This was when the former president Emilio Mwai Kibaki took over presidency from the former president Daniel Arap Moi. Primary and secondary schools experienced shortage of physical, material and human resources. The nation's Ministry of Education recognized that the country's educational performance was declining in comparison to previous years when there were fewer students in schools. The MOE (2012) report noted that there were increased enrollments which strained classrooms thus instructional resources affecting the quality.

The problems encountered in Kenya in relation to inadequacy of instructional resources have been noted in other African countries. Abdo and Semela (2010) states that in Ethiopia, inadequacy of instructional resources poses serious challenges to the education system of that country. In Botswana, Dahar and Faize (2011) observe that that poor performance in the schools in the country was majorly contributed by lack of effective use of instructional resources. African schools are incompetent compared to the schools in the western countries majorly because of lack or improper use of the instructional resources. Wasanga and Kyala (2007) note the correlation between effective uses of learning/teaching resources to the students' performance academically.

According to Hoop (2010), a majority of Sub-Saharan African countries face a constant lack of human as well as physical resources for education. According to him, numerous governments allocate a disproportionately large portion of the resources on hand to just a handful of high schools rather than distributing the few secondary education resources evenly among all schools. The World Bank found similar results in its 2008 study on textbook availability and physical assets in secondary schools in each of the following Sub-Saharan African countries: the Botswana the Cameroon Coted'vore, Kenya, Ghana, and Malawi, Rwanda, Tanzania, and Togo. According to the study's findings, urban high schools possess greater textbooks supplies as well as physical facilities than rural secondary schools. Similarly, in a previous inquiry on differential distribution of resources for education and secondary school academic achievement in Edo state, Nigeria, Fabunmi (1997) found an ongoing pattern of variations in the distribution of facilities to schools.

The Department for International Development (DFID), (2007) report revealed that improved academic performance was based on a number of factors; use of instructional resources, trained teachers and enough use of teaching aids. The report further singled out African countries such as Malawi and Zimbabwe as the only countries in the continent trying to implement consistent use of teaching /learning resources - thought they also had their internal challenges. Uganda and Tanzania are seriously affected with lack of enough textbooks and training institutions for the teachers in primary and secondary schools. With such wanting need the countries have been supplied by textbooks by the Development Partners (DPs). The physical resources, human resources, and financial resources invested in schools have an impact on the educational outcomes by influencing not only the education given to students but also certain aspects of teacher and student motivation. The organization supplies books which are not sufficient to offer variety and quality education fitting the learners needs in those particular countries. The DFID, (2007) report

shows that the single sourcing by Tanzania, Uganda and Ethiopia from the DPs affected the quality of learning of the students in the schools. The report encouraged schools in the affected countries to increase efforts to embrace other sources of instructional resources for varieties' sake.

For the past few years, Tanzanian secondary school graduates' performance has been declining. Despite government initiatives, Tanzania's secondary school education status has not been consistent since 2001, as seen by the results of the National Form Four Examinations, which show low academic proficiency. For example, the proportion of learners excelling successfully in category one, two, or three has been decreasing since 2008, reaching a tipping point in the year 2012 (BEST, 2013). Although there are numerous factors that can affect a student's performance, learning resources and physical resources are critical components that should not be overlooked. Mbwambo (1990) discovered that English instructors in Tanzanian secondary educational institutions, for example, had difficulty teaching verb tenses, grammar, word pronunciation, the syntax of writings, composing descriptions, irregular verbs, punctuation, order of words, and conditionals. Furthermore, he believes that these issues are caused by a lack of instructional resources for both instruction and comprehension.
Instructional materials' main goal is to make learning easier. It also aims to address issues that students run into when learning abstract concepts. As as a consequence of efficient utilization of instructional materials, students' ability to conceptualize literally and fully understand basic ideas grows. The benefits that instructional materials have already distinguished them in the social studies setting. Williams (2005) defined social studies as "an academic field in which the instruction and development of beliefs, principles, and abilities overpower the acquiring of information and facts." Mezieobi (2000) defined social studies as "an examination into the relations between man and his cultural and physical surroundings, of the problems and difficulties presented by these relationships, and of the manner in which man wishes to remedy and clarify them."

Academic performance in Kenya has been undermined by ineffective use of learning resources. Most schools in Kenya as Likoko, Mutsotso & Nasongo (2013) states do not conduct workshops and in-service trainings for teachers to help them update their teaching methodologies and use of the instructional resources of the modern period. Laboratories, classrooms and materials used in teaching lack capacities to influence improved academic performance in the schools. Eshiwani (1996) cites poor teaching environments, unskillful preparation of teaching materials and weak government policies on teaching as serious hindrances to academic performance in the county.

Secondary school students' KCSE performance in Londiani Sub County has been declining since 2014 (County Director of Education, 2017). The dismal performance is due to ineffective use of the instructional resources in the Sub-County. Teachers in the zones are not motivated by the evaluating bodies such as the QASO and the county agents of education in conjunction with the MoEST. Due to the laxity in implementation of the curriculum and use of the instructional resources, academic performance of the student keeps dropping. It is on basis of this that the study investigates influences of instructional materials on academic performance of secondary school students in Londiani Sub-County, Kenya.

## II: LITERATURE REVIEW

Mustapha et al (2002) and Azikiwe (2007) classify instructional materials commonly used in schools. These authors point out that each level of learning calls for specific, unique and applicable instructional materials. The learning materials vary according to age, place, and content taught type of learners and availability to the teachers and learners. Below is a literature review of the commonly set of used instructional materials.

Azikiwe (2007) argue that the visual aids are the materials teachers use in delivery of lessons taught to appeal to the learner's senses consequently booting their level of understanding of the concepts taught. Chalkboards, pictorial aids, chats, pictures, three dimensional aids, projected materials, films, slides pictures, posters books among others are the commonly applied visual aids in schools. These set of learning and teaching material are aid to appeal to the learners' senses of sight. They also involve the sense of hearing and tough. Tape recorders, films, sound films, television, language laboratories, radio, and recorders are significantly important in teaching all classes of students.

When serving individual SEN students, the practice in the USA was actually the opposite of what should be happening in the resource room. A study that was conducted revealed that 10% of the eight sample schools did not have a resource room, which meant that the Individualized Education Plan (IEP) was not taught, and 1% of the respondents were unaware of what happened in the resource room. Despite the government's efforts to build infrastructure in Nigeria, the facilities lacked and were insufficient. In order to achieve quality education, it was therefore necessary for people, organizations, and anyone else with good intentions to help schools in terms of infrastructure (Uzokwe, 2006). Additionally, Chavuta, Itimu-Phiri, Chiwaya, Sikero, and Alindiamao (2008) noted that Malawi had a similar issue with learners in terms of competent human resource, since there were 650 trained teachers in Malawi compared to 69, 943 learners.

The teaching and learning processes are impacted by instructional materials, which also have a significant impact on educational quality and standards. The objects, people, and other environmental elements that can be used to influence or support any learning activity are connected to instructional materials and learning resources. In order to make the learning objectives more clear and the teaching process simpler, instructional materials are intermediate or mediating materials used in instruction or teaching learners. While the use of teaching aids or instructional materials offers clarity on topics that are of learning interest to adults, a careful explanation of a subject may not always result in a better understanding of that particular subject by adults (Knowles, 1996). Geography teaching is generally made simpler by the use of instructional materials. It is important for teachers to create and use a variety of teaching resources in order for geography lessons to be effective. The use of instructional materials is crucial in both teaching and learning because geography places a strong emphasis on disciplinary change and paradigm shift. When appropriate and pertinent instructional materials are created and used during its teaching and learning, geography as one of the secondary school subjects will be better facilitated (Dhakal, 2014).

Blythe lord, 2001 and Kemp & Smellie, (2009) present Print Materials as the oldest form of instructional materials. Print materials work well in circumstances where the teacher intends to motivate the learners. The print materials and the aforementioned scholars argue are used to convey verbal communication in printed forms. The commonly used print materials in schools of

today include encyclopedia, periodicals, newspaper and magazine; textbooks file record minutes among others. These set of teaching aids help the teacher first during preparation, secondly, during the actual class teaching. Print media can also borrow from other teaching materials such as books, textbook, maps, atlases and graphic materials. Teaching materials do not work or operate on their own.

According to Woessman (2003), students are encouraged to perform below the average in class because doing so allows them to earn the same grades with less effort. The consensus among students is that everyone should not study very hard in order to maximize their collective welfare. According to Bishop (1999), learners frequently have motivation to put pressure on other students to be more diligent in their academic performance in regard to their peers in the class and to divert teachers' attention away from imparting knowledge to a high standard. When Dzama and Osborne (1999) investigated the relation among cultural traditions and research as one of the variables that contributed to African students' poor science performance, they discovered that it was more important than the dispute between research and conventional African values and beliefs. They argue that Africans aren't the only ones who struggle to reconcile sciences and conventional beliefs and values. They show that as research progressed in developed nations, improvements in student performance occurred after, rather than before, the progress of technology and industry.

Momoh (2010) studied the effects of teaching materials on how students performed in the West African School Certificate Examinations (WASCE). The available teaching resources had an effect on their WASCE performance. He came to the conclusion that educational resources have a significant impact on students' achievement because they make it easier for learners to learn concepts and ideas that are abstract and discourage rote learning. When TLR are insufficient, education is jeopardized, as evidenced by poor performance in school, high rates of dropout, issues with behavior, low motivation among educators, and unmet goals in education. The research project focuses on the way teacher learning resources has affected students' KCSE performance in the Embakasi District since the free day secondary education was implemented.

Fuchs and Wossmann (2008) discover some intriguing findings using PISA-2000 results. Firstly, boys outperform girls in science and math but not in reading skills; secondly, there is a correlation between the the country's spending on education per student and test results in math and science. Thirdly, science student performance is improved when teachers and teaching materials are of higher quality. Fourth, students attending public schools perform less well than those attending private schools. Ordinary least squares is used in the estimation process to solve endogeneity with the help of instrumental variables. Clustering robust linear regression is then used to estimate standard errors that take into account the clustering of the student-level data in schools. A particular methodology that increased the sample size is used to analyze and reduce missing values, and it is regulated by models in the end estimate (Fuchs and Wossman, 2008).

Kemp & Smellie, 2009 and Wittich & Schuller, (2003) views audio materials as avenues to effective instructional in secondary schools. The materials offer students opportunities to get teaching instructions through audio materials such as cassettes, audio medium, recorded CDs. Further, the audio materials help learners to sharpen their intellectual and motor skills necessary to grasp content leant in classrooms. Listening to store or record information learn is retained longest in the mind of the learners as Schuller, (2003) opines. Audio materials in most cases supplement other forms of instructional methods, therefore, introducing variety to learning experiences. The according to Smellie, (2009) audio materials add up or supplement to filmstrips

and slides in learning. In Mathematics for example, audio media increases competence in drills and technical language in the subject.

In this regard, some studies have been conducted. Ikioya (2008) investigated the variations in the accessibility, sufficiency, and usability of physical education facilities in the state of Edo. A survey served as the research design.The study's population included teachers, administrators, and representatives of the school board, as well as community members and parent leaders. 150 respondents were chosen at random from the aforementioned population for the sampling. A questionnaire served as the data collection tool. The average and T-test was utilized for analyzing the data from the study. The study's findings revealed that decentralized governance boosts the availability, availability, and usability of physical education facilities in schools.

Aina (2000) defines instructional materials as "those resources that are used in any teaching exercise that foster a deeper comprehension of the learning experiences" and as "the most prosperous attainable learning environment, which helps students and educators achieve specific goals." In the educational system, materials that serve as educational inputs are critical to the teaching of any subject. Wales (1995) belonged to the opium school. According to Obebe and Olatunde (2005), a carefully designed and innovative use of visuals in courses should help to combat apathy, compensate for the weaknesses of textbooks, and interest learners by offering them with something tangible to see and do while also encouraging their capacity to reason independently.

The instruction and comprehension of social studies cannot be accomplished effectively without the aid of instructional materials, just like any other instructional subjects in the school curriculum. Obebe and Olatunde (2005) assert that learning resources have not been effectively used in schools for a very long time. Without really utilizing the few materials that are available, the majority of instruction is verbal. It is appropriate for teachers to use the teaching resources required in every circumstance. Obebe and Olatunde (2005) proposed a list of helpful visual aids, such as photographs, post cards, diagrams, maps, filmstrips, and models, that are good for teaching social studies. Statistics additionally demonstrate that the majority of secondary school’s lack both these teaching resources and qualified teachers who can use them.

On an investigation on how educational materials impacted students in secondary schools in Makueni County, Kenya, a descriptive survey research approach was used Based on the research's findings, it was concluded that classrooms, laboratory equipment, and chemicals were used as teaching and learning materials in addition to textbooks for both students and teachers, charts, chalkboards, and chalk, as well as classrooms and chalk (Kimeu, Tanui, and Rono 2015). Despite the results, the study's main focus was on how instructional resources generally affected secondary school students' academic performance. A descriptive survey method was used in a study on the variables influencing students' subpar math performance in public secondary schools in Kenya's Tharaka South District. The study found that low teacher-to-student ratios and insufficient learning materials were significant contributors to poor performance. Despite the results, the study concentrated on the causes of students' subpar mathematics performance.

The accessibility, use, and upkeep of physical amenities in secondary educational institutions in Anambra State were assessed by Ofojebe (2003). The survey research design was chosen as the methodology. Principals and educators of secondary educational institutions in Anambra State made up the study's population. Ten per cent of all the secondary educational institutions in Awka,

Anambra State, made up the study's sample. The data was gathered using questionnaires, an interview, records from students, and observation logs. The test-retest method was used to determine the instrument's reliability. The data was analyzed using cluster mean scores. The findings revealed that Anambra State's secondary educational institutions did not have adequate physical facilities.

## III: RESEARCH METHODOLOGY

### 3.1 Research Design

Descriptive research survey guided the study as Orodho (2005) says gives the researcher the chance to use questionnaires, oral interviews and participant observation to deduce feelings, attitudes and feelings about a phenomenon. The design established the inadequate use of teaching/leaning resources or materials contribute to incompetent performance in the thirty-eight (38) secondary schools in Kapseger Zone. Krishnaswami (2001) views that the design also permits the researcher to get responses from the responses directly at a particular time without necessarily comparing it to other occurrences in other places. Descriptive research design therefore was ideal because it was conducted in Londiani Sub-County that called for immediate responses from the respondents about the role of instructional materials in relation to academic performance.

### 3.2 Target Population

Nachmias & Nachmias (2009) defines it is the entire total of the units of data analysis. The definition is emphasized by Orodho (2005) says that the target population is entire total of unit. The current study took a target population from the thirty- eight secondary schools in Londiani Sub-County in Kericho County. From the schools, principals, teachers and students were the majorly targeted because they are directly involved in the instructional experiences of the school. They are either the users or beneficiaries of the use of instructional resources. Table 1 shows the target population.

**Table 1: Target Population**

| Respondents | Target Population | Percentage (%) |
|---|---|---|
| Principals | 38 | 0.3 |
| Teachers | 274 | 2.2 |
| Students | 12254 | 97.5 |
| **Total** | **12566** | **100** |

Source: Sub-County Educational Office (2019)

### 3.3 Sampling Techniques and Sample Size

It is also a method for selecting sample members from a population with similar characteristics in research (Kombo & Tromp, 2005).

The study used Israel (2009) scientific formula as follows;

$$n = \frac{N}{\quad}$$

$$1 + N (e)^2$$

Where n = sample size,

N = target population (12566)

e= confidence level (0.05%)

$$n = \frac{12566}{1 + 12566 (0.05)^2}$$

$$n = \frac{12566}{32.415}$$

$$= 387.6$$

This gave a sample of 388 which distributed across all schools as per table 2.

**Table 2: Sample Size**

| **Respondents** | **Target Population** |
|---|---|
| Principals | 1 |
| Teachers | 9 |
| Students | 378 |
| **Total** | **388** |

Source: Researcher (2019)

### 3.4 Data Collection Instruments

The study used various data collection instruments from the teachers, principals, subject teachers, QASO, county education officials and learners. Mugenda and Mugenda (2003) view that questionnaires form the most popular method of data collection in research. Particularly, the researcher used structured and unstructured questionnaire as instruments of data collection. The researcher administered the questionnaires in person to ensure that there is high degree of accuracy during the administration of questionnaires. The research instrument contained research questions concerning the study variables.

### 3.4.1 Validity of the Instrument

The major instruments were questionnaires, oral interview schedules, focused group discussion schedules and participant observation checklists. Mugenda and Mugenda (2003) opines that accuracy in data collection and data management is the secret of successful research practice. The quality of the research instruments was checked before their distribution and administration. Through use of the research assistants, the instruments translated to the language of the respondents. The student's questionnaires translated from the English language to easy English for the students to understand. The researcher ensured that the research questions are straight to

the point and investigating the content required in the study. Before the actual study, the pilot survey was done in the neighboring zone to establish the validity before the actual data collections.

### 3.4.2 Reliability of the Instrument

Reliability in research attempts to assess the constancy of measures, internal consistency of measurement instruments. Orodho, (2009) singles out reliability as a factor in research which ensures collection of data which is relevant to the study objectives. In this study, the researcher used the test retest method where the questionnaire was administered twice to establish the consistency. The first administration of the questionnaires entailed the administration the questionnaire in its initial order of statements and the second administration involved the reshuffling the questionnaire statements. The test of the reliability was done in the pilot surveys in the neighboring zones. The study used SPSS software.

### 3.5 Data Collection Procedures

The researcher sought authorization to conduct research from Mount Kenya University through the School of Postgraduate Studies. Permission from the National Commission for Science, Technology and Innovation (NACOSTI) was obtained. This was given the researcher the basis to contact the Londiani Sub-County Education Officer (C.E.O) for data collection in the thirty -eight secondary schools in the Sub-County. To get actual data particularly from students and teachers from the schools, the researcher sought consent from individual secondary school principals. The respondents were assured anonymity during and after data collection, analysis and documentation. All cited primary and secondary sources were duly acknowledged.

### 3.6 Data Analysis Techniques

It is a process analytically evaluating collected data with a view to examine each component in the study objectives by use of the research instruments (Orodho 1995). After collection of the primary and secondary data, the researcher analyzed data according to the research objectives. The coded data was analyzed quantitatively. The quantitative data analysis entailed the descriptive statistics such as mean, percentages and standard deviation. Further, correlation analysis was undertaken to establish the relationship between the dependent and independent variable. The quantitative computations were undertaken with an aid of computer by use of Statistical Package for Social Science (SPSS) version 29. The qualitative data were analyzed by narrative analysis. The analyzed data was presented through frequency distribution tables.

### 3.7 Ethical Considerations

First, permission was sought from the authorizing officers before embarking on collecting data from the field. The involvement of the respondents identified was free and voluntary in the research process and participation. The participants were guaranteed of confidentiality and privacy of the information they provided.

### 3.7.1 Ethical Considerations for Minors

The study was scientific because it got information from all stakeholders. Most of the stakeholders in this study were students who are the greatest beneficially of the leaning process which is the research problem. However, ethics of scientific research requires that consent is sought for while conducting the research with minors. Therefore, the study constructed a consent statement in the questionnaires for parents, teachers, class teachers and principals before talking to them to the students.

ISSN: 2328-4870
Vol.1 No.1, June 2023
Journal homepage: www.greatjourns.com

## IV: RESULTS

### 4.1 Adequacy of Instructional Materials and Students' Academic Performance

The study sought to determine the influence of adequacy of instructional materials on students' academic performance. The study responses were as in table 4.4.

**Table 4.1: Adequacy of Instructional Materials and Students' academic Performance**

| Statements | | SD | D | U | A | SA | Total | Mean | Std Dev |
|---|---|---|---|---|---|---|---|---|---|
| Adequate instructional materials are available in the school. | F | 3 | 5 | 10 | 26 | 17 | 62 | 4.52 | 1.165 |
| | % | 5 | 8.6 | 15.9 | 42.4 | 28.1 | 100 | 90.4 | |
| When adequate instructional materials are provided to meet relative needs of teaching process, students will perform much better. | F | 3 | 7 | 9 | 25 | 19 | 62 | 4.51 | 0.275 |
| | % | 5 | 10.8 | 14.4 | 39.6 | 30.2 | 100 | 90.2 | |
| Adequacy of instructional materials makes teachers handle subjects in an effective manner. | F | 0 | 1 | 8 | 38 | 14 | 62 | 4.48 | 0.450 |
| | % | 0 | 2.2 | 13.7 | 61.8 | 22.3 | 100 | 89.6 | |
| Adequacy of instructional facilities is given a high priority in the school. | F | 3 | 5 | 11 | 17 | 26 | 62 | 4.28 | 0.262 |
| | % | 5 | 7.9 | 17.3 | 28.1 | 41.7 | 100 | 85.6 | |
| Inadequacy of instructional resources poses serious challenges to student academic performance. | F | 0 | 1 | 9 | 27 | 24 | 62 | 3.80 | 1.047 |
| | % | 0 | 2.2 | 15.1 | 43.2 | 39.5 | 100 | 76.0 | |

**Source: Research Data (2023)**

**Key: ,**F ,= ,Frequency, ,SD ,= ,Strongly ,Disagree, ,D= ,Disagree, ,U ,= ,Undecided, ,A ,= ,Agree, ,SA ,= ,Strongly ,Agree

The influence of adequacy of instructional materials on students' academic performance revealed that 90.4% (mean=4.52) responded that adequate instructional materials are available in the school, 90.2% (mean=4.51) were of the opinion that when adequate scholastic resources are given to facilitate learners needs during teaching and learning process in school, 89.6% (mean=4.48) were of the opinion that adequacy of instructional materials makes teachers handle subjects in an effective manner, 85.6% (mean=4.28) were of the opinion that adequacy of instructional facilities is given a high priority in the school while 76.0% (mean=3.80) revealed that inadequacy of instructional materials poses serious challenges to student academic performance.

The findings reveal that most of the respondents agreed that teaching materials promote efficiency of the teacher as well as improve the learners' performance index. Materials used in teaching assist the teachers to deliver content logically and sequentially in class rooms. Instructional materials are key in guiding leaning and the teacher's presentations in class and that teaching

materials support, influence and facilitate delivery of knowledge consequently making students to achieve the objectives of learning in school.

These findings are in concurrence with the following excerpt of interview with one of the respondents.

***Interviewer**: "What is the relationship between use of instructional materials and academic performance?"*

***Respondent 34**: "There is a good relationship, actually the usage of instructional materials to teach students in class ensures that the students craps the contents of the lessons in class which eventually helps them to have a good mastery of knowledge, and of course you know with better understanding and mastery of knowledge by students in different subjects helps them to give appropriate responses during exams, this contributes to improved academic performance of students, therefore I can say the relationship between use of instructional materials and academic performance is generally good"*

The findings collaborate with Azikiwe (2007) who posits that the visual aids are the materials teachers use in delivery of lessons taught to appeal to the learner's senses consequently booting their level of understanding of the concepts taught. Chalkboards, pictorial aids, chats, pictures, three dimensional aids, projected materials, films, slides pictures, posters books among others are the commonly applied visual aids in schools. These set of learning and teaching material are aid to appeal to the learners' senses of sight. They also involve the sense of hearing and tough. Tape recorders, films, sound films, television, language laboratories, radio, and recorders are significantly important in teaching all classes of students. Wittich and Schuller (2003) viewed those audio materials as avenues to effective instructional in secondary schools. The materials offer students opportunities to get teaching instructions through audio materials such as cassettes, audio medium, recorded CDs. Further, the audio materials help learners to sharpen their intellectual and motor skills necessary to grasp content leant in classrooms.

## V: SUMMARY, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

The study results on the influence of adequacy of instructional materials on students' academic performance indicated that 90.4% (mean=4.52) agreed that adequate instructional materials are available in the school, 90.2% (mean=4.51) were of the opinion that when adequate instructional materials are provided to meet learners interest , teaching and learning process succeed and improve on their performance, 89.6% (mean=4.48) were of the opinion that adequacy of instructional materials makes teachers handle subjects in an effective manner, 85.6% (mean=4.28) were of the opinion that adequacy of instructional facilities is given a high priority in the school while 76.0% (mean=3.80) agreed that inadequacy of instructional resources poses serious challenges to student academic performance. The findings indicated that most of the respondents were of the view that adequacy of instructional materials helps the company to plan, direct and control operating costs.

### 5.2 Conclusions

The study concluded the teaching materials promote efficiency of the teacher as well as improve the learners' performance index. Materials used in teaching assist the teachers to deliver content logically and sequentially in class rooms. Instructional materials are key in guiding leaning and the teacher's presentations in class and that teaching materials support, influence and facilitate delivery of knowledge consequently making students to achieve the objectives of learning in school.

### 5.3 Recommendations

The study recommends appropriate utilization of the instructional resources and maintenance of the resources to facilitate adequate teaching and learning in school.

## REFERENCES

i. Abdo, M. and Semela, T. (2010). Teachers of Poor Communities: The tale of Instructional Media in Primary Schools of Gedeo zone, Southern Ethiopia. Australian Journal of Teacher Education, 35 (7), 78-92.
ii. Achor, E. E., Tanngahar, B.A. & Musa, S.A. (2011). Relative efficacy of improvised and manufactured analogue voltmeters in the teaching of voltage measurements in secondary school physics. AfricanJournal of Science, Technology and Mathematics Education.
iii. Adeyemi, A. and Olaleye, A. (2010). Effect of Students' Involvement in the Production of Instructional Materials on their Academic Performance in Biology
iv. Agwubike, E.O. &Ogbouma, S., (2010). Adequacy and functionality of fitness equipment and facilities in selected fitness centres in Edo and Delta states of Nigeria. Ozean Journal of Applied Science, 3(3), 5-6
v. Arop, B. A., Umanah, F.E. &Effiong, O.E. (2015). Effect of instructional materials on the teaching and learning of basic science in junior secondary schools in Cross River State, Nigeria. Global Journalof Educational Research, 14, 67- 73
vi. Azikiwe, U. (2007) An Experimental Study Teaching Behaviour and Students Achievement in Science.
vii. Journal of Science Teacher.
viii. Babalola J.B: (2003): Budget Preparation and Expenditure Control in Education (Ed) Basic tex in Educational Planning Ibadan. Ibadah Awemark Industrial Printer
ix. Chavuta, A., Itimu-Phiri, A., Chiwaya, S., Sikero, N., & Alindiamao, G. (2008). Montfort LEARNERS College and Leonard Cheshire Disability International Inclusive Education Project. *Malawi: Shire Highlands Education Division–Malawi Baseline Study Report*.
x. Chiu M.M., Xihua, Z., 2008. Family and Motivation Effects on Mathematics Achievement analyses of Students in 41 Countries. Learning and Instruction 18, 321-336.
xi. Cohen L, Manion L, Morrison K (ed.) (2000). Research methods in education. London:Routledge.
xii. Cohen, D.K: Raudenbush, S.W: & Ball, D.B: (2003): Resources Instruction and Research. Educational Evaluation and Policy Analysis. 25.119-142
xiii. Cresswell, J. (2006). Educational Research: planning, Conducting and Evaluating Quantitative and Qualitative Research. *Upper Saddle River, NJ: Merrill Prentice*.
xiv. Dahar, M.A., Dahar, R.A., Iqbal, M.Z. & Faize, F.A., 2010, "Impact of Per Pupil Expenditures on the Academic Achievement of Students at the Secondary Stage in Pakistan", International Journal of Finance and Economics, Issue 52 (2010).pp. 124-135, ISSN: 1450-2887
xv. Dhakal, R. D., Paudel, D., Shrestha, P., & Adhikari, P. (2021). Knowledge, attitude and practice towards COVID-19 among private school teachers of Chitwan, Nepal. *Kathmandu University Medical Journal*, *19*(1), 22-28.