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## Influence of Teachers' Use of Projectors on the Development of Learners' Kiswahili Language Skills in Public Junior Schools in Luanda Sub-County, Kenya

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### Abstract

This study examined the influence of teachers' use of projectors on the development of learners' Kiswahili language skills in public junior schools in Luanda Sub-County, Kenya. The use of projectors in Kiswahili teaching is essential for the balanced development of learners' Kiswahili skills in junior schools; therefore, there is a need to appropriately apply projectors in teaching Kiswahili. Guided by Bruner's Constructivism Theory of 1960, the study adopted a convergent parallel mixed-methods research design, targeting a population of 2681, of which the sample size was 393 respondents comprising Kiswahili teachers, Grade 8 learners, heads of institutions selected by simple random sampling and Sub-county Directors of Education using purposive sampling. Data were collected using structured questionnaires, interviews and observations. The pilot study confirmed the instrument's reliability with a correlation coefficient of 0.78. Quantitative data were analysed using SPSS version 29, while linear regression was used to show the influence between the variables and qualitative data from interviews and observations underwent thematic analysis. Findings revealed that teachers' use of projectors in classroom teaching had a significant positive influence on learners' development of reading and writing language skills ( $\beta = .451$ ,  $t = 5.557$ ,  $p < .001$ ). The study concluded that effective integration of projectors in classroom teaching increases learners' Kiswahili skills development in line with CBE goals. Ministry of Education should cultivate a culture of ICT integration practices and prioritise the provision of ICT equipment as well as technical training for Kiswahili teachers to enhance the efficient development of learners' Kiswahili language skills in junior schools.

**Key words:** ICT integration, Kiswahili language skills, projectors, public junior schools, language skills development.



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## INTRODUCTION

Kiswahili plays a significant role in communication and fostering unity among nations since it serves as a national language in Tanzania and Kenya. Countries such as Tanzania use Kiswahili as their official and instructional language (Shikomera, 2024). Kiswahili is a compulsory subject and widely used as an instructional language in junior secondary schools in Kenya. Thus, there is an increased urge from education practitioners towards the integration of ICT in teaching Kiswahili language skills to create a conducive learning environment that matches the need for a competency-based curriculum (Githinji et al., 2022). Assar (2019) defines Information and Communication Technology (ICT) as the use of digital tools in teaching instructional methods. Digital tools are categorised into software and hardware tools (Assar, 2019). Hardware tools include laptops, projectors, interactive whiteboards, and smartphones, while software tools include word processors, YouTube, educational games, audio and video editing software, and online dictionaries (Assar, 2019).

In Kenya, the KICD outlines the importance of the use of ICT tools in the teaching, learning and management process. Further, ICT tools are enablers in the acquisition of twenty-first-century skills in the implementation of Competency-Based Education and Training, and thereby efficient integration of ICT in teaching Kiswahili language skills improves their acquisition across all levels; policy formulation, ICT infrastructure and training form critical issues for efficient ICT integration (KICD 2022). The research study focused on how teachers integrate projectors in the instruction process and how they influence the Kiswahili language skills development of junior school learners. The integration of ICT in teaching Kiswahili language skills in public junior secondary schools is a critical aspect of effective learning, imparting knowledge and skills to students to help them navigate real-world problems and achieve Vision 2030 national goals and objectives (BECF, 2019).

In South Asia, Islam and Hossain (2022) carried out a survey study in Bangladesh to evaluate the effectiveness of a projector-based learning approach in developing English language skills at the High school level. The study found that projector-based learning helped students develop English language skills efficiently. Further, Islam and Hossain (2022) assert that projector-based teaching is the most effective in developing students' English language proficiency. Projectors therefore form

an integral part of ICT integration in developing learners' Kiswahili language skills. Fauziah et al. (2024) conducted a research study in Indonesia on the influence of projectors and laptop technology in improving language skills in children aged 7-12 years; it showed that the use of laptop tools under the supervision of parents at home improves children's language skills and that, if teachers can integrate laptops into teaching and learning, it can have a significant impact on the language skills of children, including writing, reading, listening and speaking skills.

The Ministry of Education (MOE, 2021) introduced a national ICT policy framework that mandated each public junior secondary school nationwide to be provided with one projector, two laptops, and adequate learner tablets for teachers to utilise the digital tools to enhance digital literacy skills among junior school learners, improve content delivery and enhance learners' achievement of desired outcomes by ensuring suitable practice on integration of ICT in teaching (MoE ICT Policy, 2021). The National ICT Policy, as of 2021, aimed at enhancing the capacity of teachers, trainers, and lecturers and enhancing research and innovation. The ultimate goal of the policy is to develop digital literacy and competencies among learners and trainees (Eyole et al., 2022).

Despite many studies on how projectors can be integrated into language lessons in classrooms and that projectors are known to influence writing, reading, listening and speaking skills in Kiswahili (Amin et al., 2018), there is limited empirical data on their influence on learners' development of Kiswahili language skills in junior schools across the country and, in particular, Luanda sub-county, Kenya. This study fills this gap by examining how teachers' integration of projectors influences the development of learners' Kiswahili language skills in public junior schools in Luanda sub-county, Kenya.

Information and Communication Technology (ICT) has brought immense changes in the education system since its promulgation in 2006 in Kenya, mainly in teaching pedagogies. The introduction of the Competence Based Education (CBE) in Kenya in 2017 emphasises the use of digital tools in teaching in junior secondary schools for learners to acquire digital literacy skills and develop into holistic individuals (BECF, 2019). The use of traditional teaching pedagogies in teaching Kiswahili language skills has been observed to limit learners' Kiswahili

language skills acquisition ( Presidential Working Party on Education Reforms, 2023). Although the Ministry of Education has distributed ICT tools, including laptops, tablets and projectors, to public junior schools and introduced policies to encourage their use, there is limited evidence on how these ICT tools, especially projectors, influence Kiswahili language skills development of learners in public junior secondary schools in Luanda Sub-County, Kenya. Specifically, in Kiswahili, challenges such as speaking, writing, reading, and listening skills in public junior schools and the integration of ICT remain persistent challenges limiting learners' digital literacy. Without effective ICT integration in teaching Kiswahili language skills, learners may not develop effective Kiswahili language skills, may have poor communication in workplaces, or achieve CBE competencies or align with the goals of Vision 2030.

The study aimed to examine the influence of teachers' use of projectors on the development of learners' Kiswahili language skills in public junior secondary schools in Luanda Sub-County, Kenya. The study was guided by the research question: How does teachers' use of projectors influence the development of learners' Kiswahili language skills in public junior secondary schools in Luanda Sub-County, Kenya?

The findings of the study are important to several key educational stakeholders. The findings may provide the Ministry of Education with insights into effective strategies for integrating ICT in the teaching of Kiswahili language skills and highlight the challenges that teachers and learners face when using ICT tools in teaching and learning, thereby guiding resource allocation and policy development. The findings may also assist school administrators in creating an enabling environment for the use of digital tools in teaching Kiswahili language skills and providing the necessary ICT infrastructure and teacher support in Luanda Sub-County, Kenya.

The Kenya Institute of Curriculum Development (KICD) may benefit from the findings and recommendations by using them to refine guidelines on the integration of ICT in language teaching and the development of user-friendly digital tools for classroom settings. Researchers and scholars may also use the findings as a basis for further studies in other regions of Kenya and beyond, contributing to the national and global discourse on ICT integration in education.

## LITERATURE REVIEW

### Theoretical Review

This study can be linked with various theories to show the development of learners' Kiswahili language skills and the influence of teachers' use of projectors. This study adopted Bruner's constructivism theory of 1960 as its guiding framework. This theory suggests that learning is an active process where individuals construct their own understanding and knowledge by engaging with experiences and reflecting upon them (Petraglia, 1998). In essence, learners are not passive recipients of information but actively participate in building their knowledge (Schunk, 2003). The integration of ICT tools by teachers in the Kiswahili classroom aligns with the constructivism principle by providing opportunities for learners to actively explore, experience and interact with the language in meaningful ways. This active engagement through ICT is expected to foster the development of higher-order thinking skills, such as critical thinking and problem-solving skills, in the acquisition of Kiswahili language skills. Unlike a traditional, passive learning environment, a constructivist approach, facilitated by ICT, emphasises sensory input and learner-centred activities, thereby promoting a more active and engaging learning process in Kiswahili language education (Schunk, 2003).

The research study was grounded in constructivist theory because learners are expected to use the knowledge they already have in order to create new knowledge through learning. Constructivist theory requires teachers to actively engage learners in the learning process through different teaching strategies. Integration of ICT tools into teaching Kiswahili language skills was found to effectively enable teachers to actively engage students, fostering better communication and collaboration in learning Kiswahili language skills.

### Influence of Teachers' Use of Projectors on Development of Learners' Kiswahili Language Skills

The integration of technology in education has become a central theme in modern pedagogical discourse, particularly in considering its potential in enhancing language learning. Projectors, a form of Information and Communication Technology (ICT), are increasingly being adopted in Kenyan junior schools to complement existing traditional methods of teaching (Mwangi, 2018). Research by Kariuki and Waweru (2019) suggested that the use of visual aids, such as those provided by projectors, significantly improves student engagement

and comprehension. By allowing teachers to display images, videos and interactive presentations, projectors help in the creation of a dynamic and active learning environment that moves away from passive learning (UNESCO, 2013). This is particularly relevant to Kiswahili, a language that can be supplemented through multimedia presentations that will demonstrate cultural context, proper language comprehension, pronunciation and real-life usage (Omondi & Chege, 2021). Previous studies looked at a broader context of Kenyan schools and broad teaching of all subjects, creating a gap in the specific context of Luanda and the specific development of Kiswahili language skills in public junior schools, which the current study filled.

A significant body of literature highlights that the development of ICT has made the learning process easier and more convenient. Sara et al. (2024) conducted a study on the utilisation of projectors in <sup>21st-century</sup> learning in Indonesia; they applied a descriptive qualitative study with a target population of 400 students. The study indicated that the learning process carried out with the use of a multimedia projector encouraged students to become better and more focused on the materials being taught and that the use of projectors improved language skills, such as writing, reading, and listening. A study by Sara et al. (2024) applied a descriptive qualitative study with a population of 400, while the current study applied a convergent parallel mixed-methods research design with a target population of 2681, focusing on public junior schools in Luanda sub-county, Kenya, a context different from Indonesia.

Language teachers use multimedia to facilitate the learning process, along with textbooks. Alternatively, language teachers may use pictures, audio-visual clips, videos and PowerPoint slides in language classrooms. Amin et al. (2018) carried out research in Bangladesh to examine the benefits that language teachers and learners get from using multimedia projectors in learning the English language. Amin et al. (2018) found that the use of multimedia projectors supported both the teacher and the students in the acquisition of language skills and that projectors acted as a visual aid supporting learners' language skills acquisition.

Ojedeke and Gbegbin (2020) researched the “impact of multimedia projectors as instructional media on secondary schools’ academic performance in chemistry in Nigeria”; the study established that there was a

significant difference between the mean scores of students exposed to conventional methods, which meant that the use of multimedia projectors heightened students' understanding of chemistry. Studies by Ojedeke and Gbegbin (2020) and Amin et al. (2018) researched the impact of projectors in learning English and chemistry in secondary schools, respectively, while the current study focused on public junior schools and how projectors influence the development of learners' Kiswahili language skills.

Mwangi (2022) carried out research in Kenya to “*Examine Classroom use of Projector Resources in Teaching and learning of English language in secondary schools in Nyeri*”. The research study applied descriptive data analysis with a sampling target of 45 English teachers and 135 Form Three students; the findings of the research assert that the use of digital resources was popular among English teachers, mostly with students who found it more interesting, thus instilling a positive attitude towards the use of digital devices in teaching English lessons and increasing interactive learning in the classroom (Mwangi, 2022). The study focused on secondary schools and how projectors are applied in English teaching, creating a gap where the current study focuses on junior public schools and how projectors influence the development of learners' Kiswahili skills.

While the potential benefits of projectors are clear, it is important to acknowledge the challenges and contextual factors that influence the use of projectors. Numerous studies done in other parts of Kenya have identified a number of obstacles such as limited digital literacy among teachers, unavailability of instructional media, and lack of infrastructure (Otieno & Wanjala, 2016). For a sub-county like Luanda, such challenges could be particularly pronounced, and if the projectors are available, projector impact may be limited if teachers lack the necessary digital literacy skills to integrate them effectively in teaching Kiswahili language skills (Karanja, 2019). Successful implementation of ICT is vital in addressing practical constraints as well as enhancing language proficiency among learners. The studies done focused more on challenges which influenced the use of projectors in teaching and learning in a broad context, while the current study focused on how teachers' integration of projectors influenced the development of learners' Kiswahili language skills in public junior schools in the context of Luanda sub-county.

### Conceptual Framework

In relation to the variables, the study adopted the following framework. In the framework, the study aimed

to establish the influence of teachers' use of projectors on the development of learners' Kiswahili language skills in Luanda Sub-County, Kenya.

### INDEPENDENT VARIABLE

Teachers' use of projectors

### DEPENDENT VARIABLE

Development of  
Learners' Kiswahili  
Language Skills

- Increased vocabulary and volume of words
- Improved word to speech alignment
- Improved writing skills
- Extended learners focus in classroom

- Teacher ICT competency
- ICT infrastructure

### INTERVENING VARIABLES

**Figure 1: Conceptual Framework Showing Relationship between Teachers' Use of Projectors and Development of Learners' Kiswahili Language Skills**

This conceptual framework shows the interaction between teachers' use of projectors and the development of learners' Kiswahili language skills in junior schools. When teachers effectively integrate or use projectors in classroom Kiswahili teaching, there is development and improvement of learners' Kiswahili vocabulary and volume of words, improved Kiswahili word-to-speech alignment, improved writing skills and extended learners' focus in the classroom. This use of projectors and learners' development of Kiswahili language skills may be affected by teachers' ICT competencies and ICT infrastructure.

### Research Gap

The Kenyan government's 2021 Ministry of Education ICT policy emphasises the importance of integrating ICT in teaching to improve education quality, equip learners with essential digital literacy skills, and prepare learners for global citizenship (MOE ICT Policy, 2021). Although existing literature documents some level of ICT integration in primary and secondary education in Kenya and globally, there is a significant research gap regarding its specific influence on learners' Kiswahili language skills development. Notably, there are limited localised studies that show how teachers' use of projectors influences the development of learners' Kiswahili language skills in diverse educational settings in junior schools, especially in Luanda Sub-County, Kenya. Furthermore, empirical evidence on the influence of teachers' use of ICT tools, particularly projectors, on the

development of learners' Kiswahili language skills in public junior schools implementing the current curriculum in Luanda Sub-County, Kenya, remains limited. This calls for the research to document how teachers' use of projectors influences the development of learners' language skills in the context of Luanda Sub-County, Kenya.

### METHODOLOGY

The study adopted a convergent parallel mixed-methods research design. Convergent parallel mixed-method research design employs both quantitative and qualitative approaches to provide a more comprehensive understanding of the research findings and allow acquisition of a wide range of information, thereby allowing a better understanding of the influence of integrating projectors on the development of learners' Kiswahili language skills (Githinji et al., 2022). The study population is defined as a class of people, objects, places and events selected because they are relevant to the research question (Shah, 2023), while the target population, according to Willie (2022), is a subset of the broader population being investigated, characterised by specific attributes or criteria directly relevant to the research inquiry. This study targeted a population of 2681 comprising 130 Kiswahili junior school teachers, 2500 Grade 8 learners, 50 heads of institutions and 1 sub-county director of education in public junior schools of Luanda sub-county, Kenya.

**Table 1: Target Population of Kiswahili Teachers', Grade 8 Learners' and Heads of Institutions in Luanda Sub-County, Kenya**

| Wards           | Kiswahili teachers | Heads of institution | Grade 8 learners | Total Population |
|-----------------|--------------------|----------------------|------------------|------------------|
| Wemilabi        | 42                 | 16                   | 500              | 558              |
| Emabungo        | 29                 | 11                   | 550              | 590              |
| Luanda Township | 21                 | 8                    | 600              | 629              |
| Luanda South    | 25                 | 10                   | 400              | 435              |
| Mwibona         | 13                 | 5                    | 450              | 468              |
| Totals          | 130                | 50                   | 2500             | 2680             |

Source: (Luanda Sub-County Education Office, 2025).

This study adopted simple random sampling to select Kiswahili teachers, Heads of Institutions and Grade 8 learners by grouping them into strata and selecting them to ensure there is equal opportunity for inclusion in the study. Hossan et al. (2023) emphasise that random sampling is essential to ensure that models and researchers do not inherit systemic biasness achieving required representations.

The sub-county director of education was purposively sampled because he is the custodian of the data and hence provides reliable and verifiable data. Yamane's

formula of 1967 was used to determine the sample size by the formula;

$$n = N / (1 + N(e)^2)$$

Where: n = the sample size, N = the total number of individuals in the population being studied, and e = the level of precision (margin of error) or desired level of accuracy, expressed as a proportion (0.05 or 5%). Using the Yamane formula of 1967, the sample size for the study was 393 respondents, comprising 98 Kiswahili teachers, 250 Grade 8 learners, 44 heads of institutions and 1 sub-county director of education.

**Table 2: Sample Size for Kiswahili Teachers', Heads of Institutions and Grade 8 Learners'**

| Wards           | Kiswahili teachers | Heads of institution | Grade 8 learners | SCDE | Total Population |
|-----------------|--------------------|----------------------|------------------|------|------------------|
| Wemilabi        | 31                 | 14                   | 50               |      | 95               |
| Emabungo        | 22                 | 10                   | 52               |      | 84               |
| Luanda Township | 15                 | 07                   | 60               | 01   | 82               |
| Luanda South    | 20                 | 09                   | 56               |      | 85               |
| Mwibona         | 10                 | 04                   | 32               |      | 46               |
| Totals          | 98                 | 44                   | 250              | 01   | 393              |

Source: (Luanda Sub-County Education Office, 2025).

The study used questionnaires, interviews and classroom observations to collect data. Questionnaires were used to collect data from Kiswahili teachers and Grade 8 learners. Questionnaires are a structured series of questions presented to respondents with a clear detailing of the sequence and selection criteria, which offers respondents a chance to provide answers in their own words, eliminating biases and ensuring depth of data collected (Rashid, 2022). Interviews were specifically used to get insights from Heads of Institutions and sub-county directors of education, while observations were used to collect data from classrooms during Kiswahili

lessons. A pilot study was used to test the validity and reliability of the data collection instruments (Creswell & Creswell, 2018), and during the pilot, 10 per cent of the sample with the same homogeneous characteristics is appropriate (Mugenda and Mugenda, 2003); thus, 4 heads of institutions and 8 Kiswahili teachers from Luanda sub-county were used for the pilot test.

Validity is the extent to which a test measures what it claims to measure and ensures research outcomes are accurate and meaningful (Andersson et al., 2024). Questionnaires and interviews were validated through

content, face and construct validity by researchers and supervisors from Kabarak University in the field of Education and Curriculum Studies. Andersson et al. (2024) assert that reliability is the consistency and stability of a measurement across time and that it can yield the same results under the same conditions. The researcher used the test-retest reliability method to check the data instruments, which were administered twice at an interval of one week, and the correlation coefficient was found to be 0.785, computed using the Cronbach's alpha formula, hence considered to be reliable.

### Data Analysis and Presentation

Collected data were cleaned and reviewed, coded and keyed into a computer for analysis. Quantitative data were analysed using the Statistical Package for the Social Sciences (SPSS) version 29. Quantitative data were presented by use of frequency tables and percentages. Qualitative data underwent thematic analysis in relation to the objectives of the study and research questions. Excerpts were used in presenting analysed qualitative data. Regression analysis, that is, the Pearson coefficient, was used to determine the influence of independent variables on the dependent variable.

## FINDINGS AND DISCUSSION

### Pilot Study Results

**Table 3: Reliability Analysis**

| Cronbach's Alpha | No. of Items |
|------------------|--------------|
| 0.785            | 5            |

Table 3 indicates the results of the pilot study for objective one, which indicate the influence of teachers' use of projectors and the development of learners' Kiswahili language skills in Luanda sub-county. The Cronbach's Alpha resulted in 0.785, which is higher than

0.7. This implies that the research instruments for data collection were reliable and consistent (Obilor & Amadi, 2018).

### Instrument Response Rate

**Table 4: Results of Instruments Response Rate**

| Category of Respondents            | Expected Respondents | Actual Responses | Response Rate % |
|------------------------------------|----------------------|------------------|-----------------|
| Kiswahili Teachers' Questionnaires | 98                   | 77               | 79%             |
| Learners' Questionnaires           | 250                  | 250              | 100%            |
| Heads of Institutions Interviews   | 44                   | 42               | 96%             |
| Sub-County Director Interview      | 1                    | 1                | 100%            |
| Totals                             | 393                  | 370              | 94.8%           |

Table 4 shows the instrument return rate. The study had a sample size of 393 respondents consisting of 98 Kiswahili teachers, 250 Grade 8 learners, 44 heads of institutions, and 1 Sub-county Director of Education. Out of the sample size, 79 per cent of Kiswahili teachers and 100 per cent of learners responded to questionnaires, while 96 per cent of heads of institutions and 100 per cent of the sub-county director of education responded to interview schedules, giving an average instrument return rate of 94.8 per cent. Robinson and Leonard (2024) assert that an instrument return rate of more than 60 per cent is considered appropriate. The response rate falls above the

threshold, hence acceptable, allowing for the acceptability of the data collected and analysis.

The high response rate in this study could be attributed to good logistical preparations prior to and during data collection, enhancing respondents' social acceptability of the researcher.

**Determining the Influence of Teachers' Use of Projectors on the Development of Learners' Kiswahili Language Skills in Public Junior Secondary Schools in Luanda Sub-County, Kenya**

In this section, we discuss the influence of teachers' use of projectors on the development of learners' Kiswahili language skills in public junior secondary schools in Luanda Sub-County. The section has data collected from Kiswahili teachers, Grade 8 learners, heads of institutions and the sub-county director of education, as well as regression analysis showing the influence of teachers'

use of projectors on learners' development of Kiswahili language skills in junior schools in Luanda Sub-County. The findings are discussed in Tables 5 and 6.

Teachers were issued with Questionnaires to tick multiple options which they deemed appropriate based on a 5-point Likert scale of 1 (not at all effective ), 2 (partially effective), 3 (neutral), 4 (effective), 5 (very effective) on the effectiveness of projectors in developing learners' Kiswahili language skills.

**Table 5: Teachers Response on Effectiveness of Projectors in Developing Learners Kiswahili Language Skills**

| Statement                                                      | NE<br>% | PE<br>% | N<br>% | E<br>% | VE<br>% |
|----------------------------------------------------------------|---------|---------|--------|--------|---------|
| Projector develop learners Kiswahili language listening skills | 36      | 50      | 0      | 13     | 9       |
| Projector develop learners Kiswahili language speaking skills  | 34      | 31      | 0      | 19     | 16      |
| Projector develop learners Kiswahili language reading skills   | 29      | 39      | 0      | 18     | 14      |
| Projector develop learners Kiswahili language writing skills   | 22      | 47      | 0      | 20     | 12      |

%=percentage

Learners were presented with a questionnaire to tick options which they deemed appropriate based on a 5-point Likert scale of 1 (not at all effective ), 2 (partially

effective), 3 (neutral), 4 (effective), 5 (very effective) on the effectiveness of projectors in developing learners' Kiswahili language skills.

**Table 6: Learners Responses on Effectiveness of Projectors in Developing Learners Kiswahili Language Skills**

| Statement                                                      | NE<br>% | PE<br>% | N<br>% | E<br>% | VE<br>% |
|----------------------------------------------------------------|---------|---------|--------|--------|---------|
| Projector develop learners Kiswahili language listening skills | 46      | 34      | 0      | 12     | 08      |
| Projector develop learners Kiswahili language speaking skills  | 37      | 39      | 0      | 13     | 11      |
| Projector develop learners Kiswahili language reading skills   | 42      | 27      | 0      | 18     | 13      |
| Projector develop learners Kiswahili language writing skills   | 46      | 31      | 0      | 17     | 06      |

%=percentage

Results in Tables 5 and 6 show that Kiswahili language skills developed through teachers' use of projectors are reading, writing, and speaking, although effective development is generally low unless supported by other ICT tools. For reading skills, 18 per cent of teachers and 18 per cent of learners reported the effectiveness of projectors in learners' Kiswahili language skill development, while writing skills also recorded moderate effectiveness, with 20 per cent of teachers and 17 per cent of learners indicating effectiveness. Speaking skills showed 19 per cent of teachers and 13 per cent of learners reporting effectiveness. This suggests that teachers' and learners' beliefs are that projectors, as stand-alone ICT tools, cannot develop learners' Kiswahili language skills unless supported with other ICT tools like audio speakers, interactive whiteboards and guided prompts, as well as learner class presentations, since they can only be used to display content notes and model compositions for learners, limiting learners' interaction with the tool and promoting a teacher-centred teaching approach.

Overall, these findings imply that projectors are more effective in supporting the development of reading and writing than speaking when supported with other tools like laptops, audio-visual materials like speakers, and interactive whiteboards, which foster active learners' classroom interactions as opposed to a passive nature

when projectors are used alone. This highlights the need for teachers to use projectors more interactively with learners, strengthen ICT training to enhance speaking activities, and integrate additional audio-visual resources to improve listening skills and for balanced Kiswahili language development.

From the interviews with the heads of institutions and sub-county director, it was noted that respondents supported that teachers' use of projectors supports the development of reading and writing skills as compared to listening and speaking skills due to limited learners' interaction with the projectors in classroom settings, corroborating the findings. Head of institution 1 noted that:

*Projectors, though they develop learners' reading, writing and speaking skills, cannot be a stand-alone tool and need support from other tools like laptops and audio-visual resources, which will make it more effective to develop balanced language communication competencies.*

Head of institution 2 also supported that:

*Teachers mostly use projectors as a teacher-centred tool, especially when teaching reading and writing skills in Kiswahili, reducing learner interaction. They display passages, notes, and examples. While projectors can be used to develop language skill competencies, they need to be supported by other ICT resources like audio-visual materials, which will help projector integration be more learner-participatory*

Sub-County Director of Education also agreed that:

*Projectors can be effective in improving learners' Kiswahili skills, especially in visualising concepts and engaging learners. Nevertheless, irregular use and teachers using it mostly as a tool for content display in the classroom*

*reduce its effectiveness across schools in the sub-county. Teachers should support it with other resources to make it more effective since it cannot be used as a stand-alone tool.*

These findings agree with Mtebe and Gallagher (2021), whose findings indicated that ICT tools such as projectors are predominantly used for presenting textual and visual content, which enhances learners' reading and writing skills more than oral skills. The researcher further noted that speaking and listening require more interactive and audio-based technologies, which are often lacking in many classroom settings. Also, Ayoti (2024) emphasised that projectors are an auxiliary resource but not a pedagogical replacement, and when teachers use a projector as a stand-alone tool, classroom dynamics shift from interactive language skills learning and development to passive content consumption, limiting language skills development of learners in junior schools.

**Table 7: Correlation Matrix on Teachers' Use of Projectors and Development of Learners' Kiswahili Language Skills**

|                                                    |                     | Teachers' Use of Projectors | Development of Learners' Kiswahili Language Skills |
|----------------------------------------------------|---------------------|-----------------------------|----------------------------------------------------|
| Teachers' Use of Projectors                        | Pearson Correlation | 1                           | .630**                                             |
|                                                    | Sig. (2-tailed)     |                             | .000                                               |
|                                                    | N                   | 98                          | 98                                                 |
| Development of Learners' Kiswahili Language Skills | Pearson Correlation | .630**                      | 1                                                  |
|                                                    | Sig. (2-tailed)     | .000                        |                                                    |
|                                                    | N                   | 98                          | 98                                                 |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The relationship between teachers' use of projectors and the development of learners' Kiswahili language skills was examined using the Pearson Correlation. The results indicate a moderate to strong positive correlation ( $r = .630$ ,  $N = 98$ ), suggesting that increased use of projectors by teachers is associated with greater development of learners' Kiswahili language skills. The significance value ( $p = .000$ ) is below the 0.01 level, indicating that the relationship is statistically significant. This implies

that the use of projectors in teaching may enhance lesson presentation, improve learner engagement, and support the development of Kiswahili language competencies among junior school learners in Luanda sub-county. This is in agreement with Wamokhela and Koross (2025), who establish that teaching resources play a critical role in Kiswahili instructional methods and overall learners' Kiswahili language skills development.

**Table 8: Regression Analysis on Influence of Projectors**

| Predictor         | B     | Std. Error | Beta | t     | Sig. |
|-------------------|-------|------------|------|-------|------|
| Constant          | 0.876 | 0.229      | —    | 3.826 | .000 |
| Use of projectors | 0.372 | 0.067      | .451 | 5.557 | .000 |

The regression coefficients indicate that the use of projectors as a variable positively influenced learners' Kiswahili language skills development. Holding all other variables constant, a one-unit increase in the use of projectors resulted in a 0.372-unit increase in Kiswahili language skills development. This variable emerged as the strongest predictor ( $\beta = .451$ ,  $t = 5.557$ ,  $p < .001$ ), suggesting that regular integration of projectors substantially enhances learners' acquisition of listening, speaking, reading, and writing skills in Kiswahili.

While teachers' use of projectors fosters the development of learners' writing, reading, listening and speaking skills, since they are used in displaying Kiswahili content and other materials in Kiswahili lessons, supporting the development of Kiswahili language skills, resulting in the overall development of learners' Kiswahili skills. Teachers need to use projectors more interactively, strengthen ICT training to enhance speaking activities, and integrate additional audio-visual resources to improve listening skills for balanced Kiswahili language skills development.

## CONCLUSION AND RECOMMENDATIONS

**Conclusion:** Study findings show that there exists a significant relationship between the influence of teachers' use of projectors and the development of

learners' Kiswahili language skills in public junior secondary schools in Luanda Sub-County, Kenya. Projectors are observed to develop learners' reading and writing skills more than speaking and listening skills because they are primarily used to display texts and comprehension materials. Qualitative responses noted that projectors are mainly used for displaying texts and content rather than enhancing learners' interaction with projectors in the classroom, and there is also limited display of rich audio-visual materials; hence, they do not support listening and speaking skills development for learners due to limited resources.

**Recommendations:** The study recommends the need for Kiswahili teachers in junior schools in Luanda sub-county to transition from using projectors as a display tool to using them as a more interactive tool by integrating rich Kiswahili audio-visual materials such as dramatised audios and videos, role-play scenarios, that require learners to speak Kiswahili in explaining in real time so as to bridge the gap and enhance listening and speaking skills development. Policy makers should encourage student-led presentations and the use of collaborative quizzes to make learners active participants, since it is observed from the data that good use of projectors in Kiswahili lessons can support the development of the four language skills equally.

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