

# E-Pedagogic Methods on use in Learning of English Language in Public Secondary Schools in Kakamega County, Kenya

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## ABSTRACT

Electronic resource pedagogic methods (E-pedagogic methods) increase collaboration, learner autonomy, peer teaching/learning, creativity and participation in the curriculum. Student's centred activities motivate goal oriented behaviour amongst learners hence improve learner's achievement. Interactive pedagogies foster cooperation which leads to better teacher/student relationship during learning. Despite technological developments in education, there was little empirical evidence on use of e-pedagogic methods in learning of English language in Kakamega County, Kenya. These methods include learner-centred method, teacher-centred method and mixed method. Specific objective of the study was to: Examine e-pedagogic methods on use in learning of English language in public secondary schools in Kakamega County, Kenya. The study found out that 72.4% teachers of English supported that learner-centred method which used e-resources improved learning outcomes. Moreover, classroom communication, collaboration, cooperation and interaction were more effective than knowledge reproduction approaches. Based on the findings the study recommended that secondary schools should emphasize on learner – centred method which uses electronic resources (e-resources) in learning process. The study would contribute to development of the teacher in regard to learner – centred method which uses e-resources so as the teacher acts as a facilitator of communication process by creating opportunities for learner to participate. It will also provide additional information in formulating policies to enhance formation of societies such as E-resource Pedagogic Methods Society (EPMS) to showcase self – learning, peer – learning and discovery learning to encourage learners to develop critical thinking skills, creativity and autonomy in learning process.

**Keyword:** E-pedagogic methods, electronic resources, use, learning

## INTRODUCTION

Constructivist Theory emphasizes e-pedagogic methods that increase learner autonomy and creativity in the curriculum. This encourages learner to place importance on regular interaction with other learners and teacher. The study focused on effective pedagogic approaches for online workplace training and it adopted case study research design (Ian, Mark & Kozak, 2007). Additionally, learner – centred strategies which use e-resources appropriately include: cooperative learning, inquiry – based instruction, interactive learning and differentiated instruction. These are regarded effective since they do not centralize the flow of knowledge from the teacher to the students. Thus, e-pedagogic methods help learners to get meaning of something from new experiences they have encountered in life. This was an observation on teaching strategies in education (Janelle, 2018). Based on Rita and Birgit (2005) study, multimedia pedagogic based stories and discussions in classroom supported change in education sector. From e-pedagogical point of view, when learners are involved, better results are obtained. Nevertheless, their study targeted blended learning in a teacher training course. The students also completed two online questionnaires in their study; unlike this research.

According to Wasilwa (2016) study teacher's positive attitude towards computer, technology pedagogic experience and personal entrepreneurship of the teacher had a direct positive influence on innovative use of ICT by the teacher. The study focused on teacher factors influencing application of ICT in learning of History and Government in secondary schools in Bungoma South Sub-County, Kenya. It used quantitative tools only to collect data. On the authority of Cheruiyot (2017) study revealed that the mode of learning was ICT enhanced thus simplified abstract content. Cheruiyot's study targeted extent of ICT integration in public secondary schools in Westlands Sub-County, Kenya. He used the Theory of diffusion and innovation by DeGross (2008) which involved communication, time, innovation and social system.

In spite of that, Manaszumbah and Magoma (2015) research noted that integration of ICT in Physics instruction in schools in Nairobi was still very low. Consequently, physics subject recorded low performance. They determined integration of ICT in teaching secondary school Physics. It used simple random sampling method to select sample size of 18 schools and 52 Physics teachers; purposive sampling was used to select 18 principals. Furthermore, the study of Miima (2014) observed that Kakamega County is one of the largest counties with many public schools equipped with e-resources. On the contrary, the use of ICT pedagogic methods in learning of Kiswahili language was inadequate. Thus, it was from this background this study examined e-pedagogic methods for use in learning of English language in public secondary schools in Kakamega County, Kenya. The key question this study aimed to answer was: Which are the e-pedagogic methods used in learning of English language in public secondary schools in Kakamega County, Kenya?

## **METHODOLOGY**

The study was guided by Bruner's Constructivism Theory (1990) and adopted descriptive survey design. The study population included 150 principals, 10,000 Form Two students and 250 teachers of English. Simple random sampling technique was used to select a sample of 108 principals, 152 teachers of English and 370 Form Two students (The Research Advisors, 2006). Stratified proportional sampling was used to represent schools in the county in four categories namely national, extra-county, county and sub – county. Research instruments included: questionnaire for principals, teachers of English and Form Two students; interview schedule and observation checklist were for teachers of English. The study selected public secondary schools by virtue of their uniformity in acquisition, selection and use of e-resources. Principals were chosen as a result of implementing and supervising integration of e-resources in schools. They also enforced government policy on ICT Training amongst teachers. The study purposively sampled out Form Two cohorts by reason of it was at this level where intensive teaching and learning was done. Finally, based on the nature of the problem under the study; teachers of English were selected as a unit of study due to the fact were point of focus and influential in teaching process in schools, thereupon cause change easily in the curriculum. Face validity of research instruments was established by judgement of three experts in the Department of Educational Communication, Technology and Curriculum Studies. Reliability of research instruments was established through pilot study on 10 head teachers, 20 teachers of English and 30 Form Two students. The study used test-retest method to estimate degree of reliability of the instruments. The small scale preliminary study evaluated feasibility, cost, duration, adverse events and improved upon the study design prior to performance of full-scale research. Data was analysed through descriptive statistics that included frequencies, means and percentages. Statistical Package for Social Sciences (SPSS) was used to analyse the quantitative data.

## **RESULTS AND DISCUSSIONS**

### **E- Pedagogic Methods**

This involved planning, presentation of information, guiding learner's practice and assessment of learning progress using e-resources. Serious planning for teaching starts with preparation of schemes of work followed by a lesson plan. A lesson plan translates objectives in the schemes of work into specific instructional objectives to be achieved within a lesson. It stimulates the teacher to think in an organised way and to match the ideal standard of teaching more quickly than ever. Thus, Principals' Questionnaire (PQ) sought out how often principals checked and certified lesson plans during and after learning process. The findings summarized in Table 1.

Table 1: Checking and Certification of Lesson Plans

$n=108$  Principals

Extent Lesson Plans Checked and Certified	Number of Principals (f)	Percentage (%)
Daily	6	5.6
Weekly	21	19.4
Fortnightly	28	25.9
Monthly	49	45.4
Never at all	4	3.7
Total	108	100

In Table 1, only 6 (5.6%) principals checked and certified lesson plans daily. Although English language was taught everyday (ROK, 2015), the expectation was that principals should check and certify lesson plans daily. To the contrary, the results indicated laxity of principals in checking and certifying lesson plans regularly. According to Otunga, Odeo and Barasa (2011) observations, regular check and certification of lesson plans improved learning process in the curriculum.

Further, 21 (19.4%), 28 (25.9%), 49 (45.4%) and 4 (3.7%) principals ensured that lesson plans were checked and certified weekly, fortnightly, monthly and never at all for learning of English language respectively. Therefore, lesson plans were insufficiently checked and certified by the principals.

Alternatively, principals must empower Head of Department (HOD) languages to ensure regular check and certification of lesson plans. Lesson plans indicate how learners use their past experiences/knowledge and available e-resources creatively to gain new knowledge through the teacher. This shows how students learn by doing and discovering concepts during learning session. Interactive lesson plan transforms teacher's role from controller of information to counsellor, guide and co-learner in the curriculum. This observation concurred with Muvango, Indoshi and Okwara (2025) research. They insisted that lesson plans must be checked and certified continuously to ensure that learners learn from the curriculum and content of the key learning areas. It assisted teachers to manage learners' boredom through planning adequately in advance.

E-Pedagogical methods to be used in class must be decided upon before hand, not when the teacher enters the classroom. Thus, PQ sought to find out from principals e-pedagogic methods used in learning of English language. Findings were summarised in Figure 1.

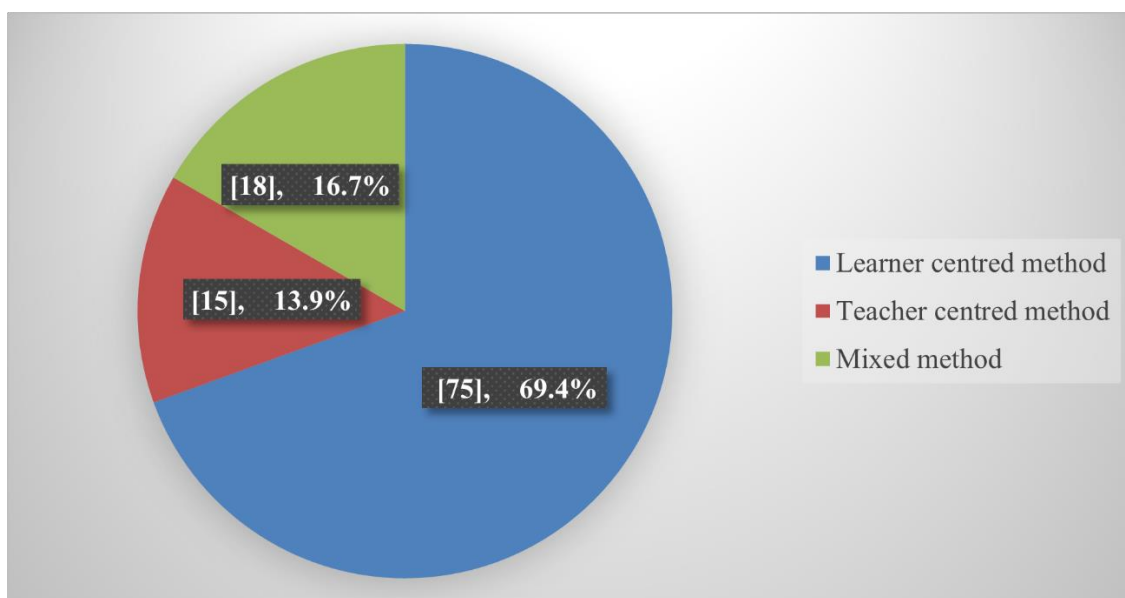


Figure 1: Principals' Choice of E-Pedagogic Methods used

Figure 1 showed that 75 (69.4%), 15 (13.9%) and 18 (16.7%) principals suggested that teachers/schools used learner-centred method, teacher-centred method and mixed method in learning of English language respectively. The results indicated that teachers embraced learner-centred method in learning process. Teacher-centred instruction (13.9%) was no longer the dominant teaching method in the curriculum. Therefore, integration of e-resources has brought a shift from a teacher-centred didactic model to a learner-centred constructivist model.

Learner – centred method supported with e-resources enhanced learner to learner and learner to teacher interaction during learning session. Outmoded teacher-centred method relied on strategies such as whole-class lecture, rote memorization and chorus answers (call – and - response) which inhibited interactive learning in the classroom. The aforesaid results concurred with Westbrook, Durrani, Brown, Orr, Pryor, Boddy and Salvi (2013); Muvango *et al.*, (2025) studies. Significantly, Westbrook *et al.*, (2013) did rigorous literature review on pedagogy, curriculum, teaching practices and teacher education in developing countries.

Consistent with Miranda, Morais and Dias (2008) study computer supported technology favoured student-centred learning activities in the curriculum. Their study focused on pedagogical approaches for online environment at University of Minho, Portugal. More so, teaching with computer built both the skills and the ability to apply skills to perform a particular task. So, PQ aimed to find out from principals how often teachers of English incorporated computer(s) in lesson plans. The findings summarized in Table 2.

Table 2: Computer Pre-Pedagogic Activities

*n*= 108 Principals

Extent of Incorporation of Computer in Lesson Plans	Number of Principals (f)	Percentage (%)
Very often	2	1.9
Often	12	11.1
Fairly often	78	72.2
Rarely often	11	10.2
Never at all	5	4.6
Total	108	100

Table 2 revealed that English language was taught every day consequently, teachers were expected to incorporate computer(s) in lesson plans very often. However, 2 (1.9%), 12 (11.1%), 78 (72.2%), 11 (10.2%) and 5 (4.6%) principals showed that teachers incorporated computer(s) in their lesson plans very often, often, fairly often, rarely often and never at all respectively.

85.2% principals very often (1.9%) often (11.1%) fairly often (72.2%) suggested that teachers emphasized what learners were expected to do rather than focusing on what they were expected to know using computers. Incorporation of computers in lesson plans individualized learning. Computers enabled teachers to practise collaborative and project – based teaching which improved learning process. Importantly, to empower learning through guided inquiry, learners must access e-resources in the curriculum frequently. These results agreed with the study of Ogange (2011). She analysed ICT policy development and practice in teacher education in Kenya 1997 – 2007.

Contrarily, in Table 2, 14 (13%) principals implied that teachers integrated computers in their lesson plans very often (1.9%) and often (11.1%). These results resonated with the studies of Muvango, Indoshi and Okwara (2019); Muvango, Kowino, Ajuoga and Okono (2020). They identified that computer laboratories/computer rooms were inadequately used for teaching English language. This was an indicator that teachers of English did not incorporate computers in their lesson plans frequently. Also, they insufficiently used computer games in teaching and learning of English language (Muvango *et al.*, 2020) whereas Muvango *et al.*, (2019) research did not register computer mediated material for use in classrooms. To conclude, their pedagogic method was not yet computer enhanced. The research of Muvango *et al.*, (2020) examined availability of e-resources for use in teaching and learning of English language in public secondary schools in Kakamega County, Kenya whilst Muvango *et al.*, (2019) determined factors influencing the use of media in teaching and learning of English in secondary schools in Kakamega East Sub-County, Kenya.

The PQ sought from principals how often their teachers of English incorporated CD-ROM in lesson plans. The findings were summarized in Table 3.

Table 3: CD - ROM Pre – Pedagogic Process

$n=$  108 Principals

Extent of Incorporation of CD – ROM in Lesson Plans	Number of Principals (f)	Percentage (%)
Very often	5	4.6
Often	7	6.5
Fairly often	64	59.3
Rarely often	19	17.6
Never at all	13	12
Total	108	100

Based on Table 3, 13 (12%) principals indicated CD-ROM was never incorporated in lesson plans. However, as stated by Ray and Day (1998) study, CD-ROMs were easily prepared and used in learning; in consequence, the current study expected frequent incorporation of CD-ROM in lesson plans. Ray and Day focused on students attitudes towards electronic information resources.

Moreover, CD – ROMs influenced mode of lesson presentation. Hence, non – integration of CD-ROM in lesson plans encouraged teacher-centred activities which hindered learner’s participation in learning process. 70.4% principals very often (4.6%) often (6.5%) fairly often (59.3%) suggested that teachers placed responsibility for learning path in the hands of the learner and shifted focus of instruction from themselves. They facilitated the opportunity for student-centred teaching and self-learning activities in education. They illustrated ways students learn by creating and co-creating thus enhancing constructive learning through e-resources.

On the contrary, the results very often (4.6%) and often (6.5%) clearly showed insufficient integration of CD-ROM in lesson plans. These results are in tandem with the study of Muvango *et al.*, (2020). It exposed that CD-ROM Discs were inadequately utilised in learning of English language. Further, CD-ROM storybooks (30.9%) were unsatisfactorily used in the classrooms. However, learners still appreciated using them for learning; this divulged learner’s positive attitude towards CD - ROM use in learning process. Teachers need



to use CD-ROM Discs constantly so as to enhance their e-pedagogic skills thus increasing productivity and content retention rate amongst learners. Nonetheless, their study examined availability of e-resources for use in teaching and learning of English language in public secondary schools in Kakamega County, Kenya.

The quality of lessons depends on preparation and presentation of teaching and learning resources in the classroom. Thereupon, Observation Checklist was administered to find out ICT teacher compliant with preparation of professional documents and teaching - learning resources. Findings summarised in Table 4.

Table 4: Professional E-Pedagogic Resources

$n=$  108 Teachers of English

Professional Documents and Resources	ICT Teacher Compliant		ICT Teacher Non-compliant	
	F	%	F	%
Schemes of work	51	47.2	57	52.8
Lesson plans	20	18.5	88	81.5
Records of work covered	45	41.7	63	58.3
Lesson notes	52	48.1	56	51.9
Teaching - learning resources	47	43.5	61	56.5

In Table 4, 51 (47.2%), 20 (18.5%), 45 (41.7%), 52 (48.1%) and 47 (43.5%) teachers were ICT compliant with preparation of schemes of work, lesson plans, records of work covered, lesson notes and teaching and learning resources respectively. The results hinted that most teachers were ICT non-compliant with preparation of professional documents and teaching - learning resources. Consequently, mode of teaching and learning was not yet ICT enhanced in many schools.

Further, teachers lacked e-pedagogical competence which was attributed to insufficient: organisational precondition (vision, policy and culture) and personal support initiative (knowledge, skills and attitudes) in public schools. The principals' e-resources leadership must be expressed through organisational precondition aimed to improve learning process. The research of Indembukhani (2021) was in line with the above mentioned results. He targeted integration of ICT and its contribution to the teaching of English in secondary schools in Kisumu County, Kenya. The study considered teachers, principals and CQA&SO only.

For this reason, teachers reported that 44.1% HOD of languages ensured that professional documents and teaching - learning resources were ICT compliant. This improved pre-planning of pedagogic activities such as preparation of: Schemes of Work (SOW), lesson plans and lesson notes supported with application packages such as word processors and power point presentations. In addition, records of work were electronically kept properly. They corresponded with the syllabus, SOW and lesson plans. This helped teachers to discover the amount of content covered and how well it was covered.

It is important to note that different topics or areas of language required the teacher to use different e-pedagogic methods such as teacher-centred method, learner-centred method and mixed method (teacher-student interactive method) that blended teacher's personality and interests with students' needs. Accordingly, English Teachers' Questionnaire (ETQ) sought out various e-pedagogic methods used in learning of English language. The findings were summarised in Figure 2.

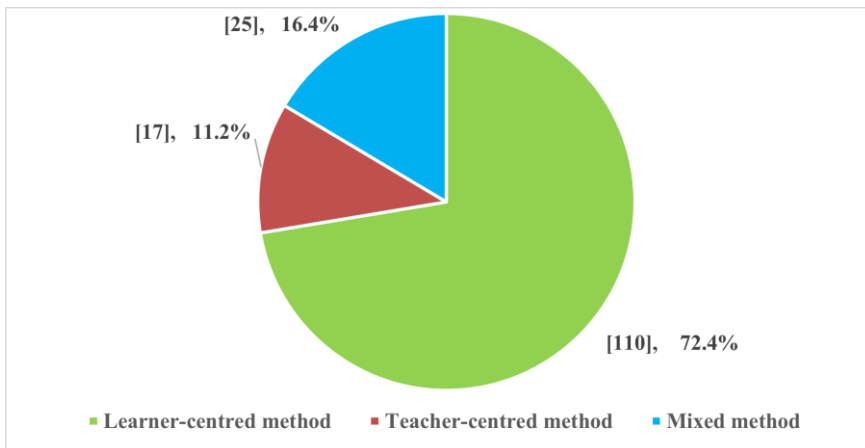


Figure 2: E-Pedagogic Methods used in Learning of English

Figure 2 alluded that 110 (72.4%), 25 (16.4%) and 17 (11.2%) teachers used learner-centred method, mixed method and teacher-centred method in learning of English language respectively. The results showed that teachers enjoyed using learner-centred method which used e-resources in learning process. This is because learner-centred method is hands – on, minds – on, and heart – on activities that stir up learner’s interests in learning process. The method encouraged use of discussions, experimentation, teamwork, role play, dialogue, dramatisation, debates, explanations and questions and answers strategies which improved learning outcomes. In consequence, communication, collaboration, cooperation and interaction are more effective than knowledge reproduction approaches. Wherefore, teachers are able to evaluate their own e-pedagogic methods and criticise themselves effectively. They are able to identify what was done well or badly in their course of teaching and find out the reasons for this.

The above results contradicted with Muvango, Indoshi and Okwara (2025) results which suggested that mixed method was the most effective method. This discrepancy was caused by the large sample size of 108 public secondary schools selected in this study which provided accurate percentages and small margin error unlike their small sample size of 20 public secondary schools. The study population of Muvango *et al.*, (2025) consisted of 23 headteachers, 46 teachers of English and 1500 Form Two students. Both Muvango *et al.*, (2025) and this study used descriptive survey design. Contrarily, Muvango *et al.*, (2025) used: Romiszowski (1992) Conceptual Framework which established factors influencing media use in teaching and learning of English, saturated sampling technique to select a sample size of 20 headteachers and 40 teachers of English and lastly but not least, simple random sampling technique to select 500 Form Two students. Their study examined instructional media methods for use in learning of English language in public secondary schools in Kakamega East Sub - County, Kenya.

Significantly, both teacher – learner interactive and learner – centred methods enhanced academic self confidence, learner to learner and learner to teacher connectedness during learning process. As a result, interactive learning produced desirable learning outcomes in education. These methods used activities such as discussions, role plays, debates, hot seat, question and answer. Further, interrogation was done to establish why teachers commonly used learner-centred method supported with e-resources in learning of English language; one of the teachers responded that:

*Learner-centred method involves all learners in the classroom. It gives me enough time to attend to individual student’s problems. There is student - student, teacher-student and student-teacher interaction. It uses class presentations, group discussions, debates, dialogue, hot seat and role plays activities to enhance listening and speaking skills, writing and grammar use.....*

Both the learner – centred and teacher-centred methods are integrated to ensure effective learning process hence, mixed method which applies strategies used by both teacher-centred and student-centred methods. The learner learn more by seeing and doing and not merely by memorizing facts from the teacher. This indicates that practical activities support student’s learning. The relationship between e-pedagogic methods and recall

suggests the superiority of visual media over auditory presentations which apparently, are not always readily comprehended by some less able students. The above observations are in line with Muvango, Indoshi and Okwara (2025) research. Yet, they used a small sample size whereby saturated sampling technique was used to select a sample size of 20 public secondary schools. Their study determined instructional methods for use in learning of English language in public secondary schools in Kakamega East Sub – County, Kenya.

Observation Checklist sought to find out e-pedagogic methods used in professional documents. Findings summarised in Table 5

Table 5: E-Pedagogic Methods used in Professional Documents

$n=$  108 Teachers of English

E- Pedagogic methods	Number of teachers (f)	Percentage (%)
Learner centred method	81	75
Teacher centred method	10	9.3
Mixed method	17	15.7
Total	108	100

Table 5 suggested that 81 (75%), 10 (9.3%) and 17 (15.7%) teachers used learner-centred, teacher-centred and mixed methods in professional documents respectively. 81 (75%) teachers indicated using learner-centred method supported with e-resources. The findings signified that teachers preferred learner-centred activities such as classrooms talk, role plays, group discussions and dialogue. Learner – centred activities promoted interest, analytical research, critical thinking and enjoyment amongst students during learning session.

Collaborative, cooperative and interactive learning enhanced individual and group accountability and positive interdependence in the curriculum. Hence interactive pedagogies fostered cooperation which leads to better teacher/learner relationships in education. Nevertheless, teacher – centred method is centred more on teaching than on learning and the teacher is the main reference to the knowledge. It is the least fruitful teaching method. These results concurred with Miranda *et al.*, (2008), Hesson and Shad (2007) studies. Miranda *et al.*, (2008) study focused on pedagogical approaches for online environments in polytechnic institute of Braganca, University of Minho in Portugal whereas Henson and Shad (2007) research targeted student – centred learning model in education.

Learners' Questionnaire (LQ) sought out from learners e-pedagogic methods used in learning of English language. The findings were summarised in Figure 3.

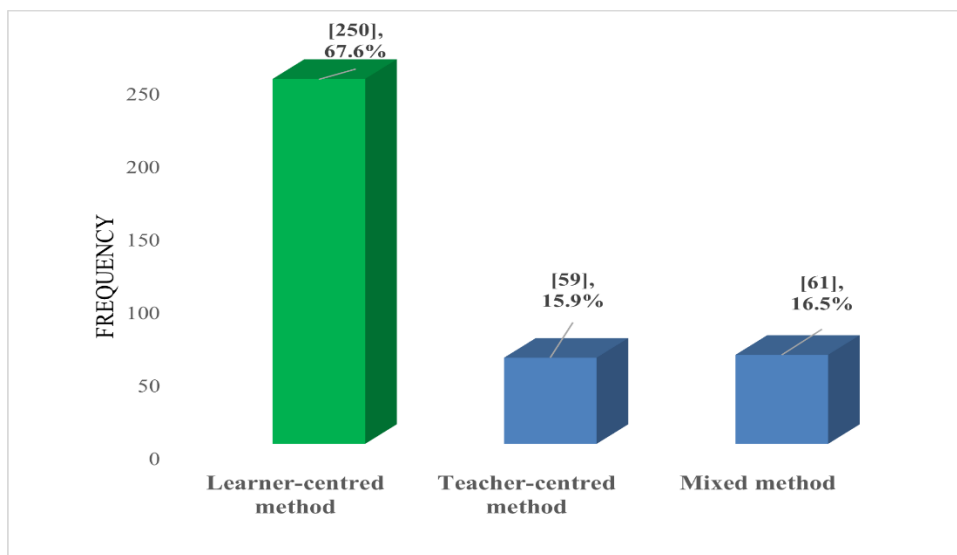


Figure 3: Learners' Suggestions on E-pedagogic Methods used



In Figure 3, 250 (67.6%), 59 (15.9%) and 61 (16.5%) learners suggested that learner-centred, teacher-centred and mixed methods were used in learning of English language respectively. The results showed that learners liked learner-centred method which used e-resources in learning process. Teacher's involvement of learners during learning session enhanced peer learning in the curriculum. Student's centred activities motivated goal oriented behaviour among learners, hence improved learner's achievement. The research of Monino and Sedkaoui (2015) concurred with the results in Figure 3. However, they used descriptive and explanatory research approach. They aimed to promote higher teaching practices through the new interactive technology tools to stimulate educational innovation within the university system.

Generally, the results in Figure 1, 2 and Table 5 agreed with those in Figure 3. Majority of principals, teachers of English and Form Two learners preferred learner – centred method as most used in learning, slightly followed by mixed method while teacher – centred method was the least used in learning of English language. In addition, the interviewed teachers preferred student – centred method because it: involved learners and provided the teacher enough time to attend to individual learner problems. It also used student – student, teacher – student and student – teacher interaction. They suggested that learner – centred method used activities such as class presentations, group discussions, debates, dialogues, hot seat and role plays to enhance listening – speaking skills and writing skills and grammar use. Thus, results in Figure 3 persuade teachers to abandon teacher – centred, frontally controlled classrooms in favour of learner – centeredness.

However, other studies of Miranda *et al.*, (2008); Bennaars, Otiende and Boisvert (1994); Muvango, *et al.*, (2025) and Ganyaupfu (2013) demonstrated otherwise whereby mixed method was given preference by most teachers, followed by learner – centred method while teacher – centred was least preferred in learning. They observed that mixed method applied strategies used by both teacher – centred and learner – centred methods to ensure long retention of content learnt. Semantically, there is a slight difference between learner – centred and mixed methods used in education. Still, in mixed method, respondents proved that English subject information produced by learners was remembered better than same information presented to the learners by the teacher.

In the research of Ganyaupfu (2013) the  $F(2, 106)$  statistic ( $= 10.125$ ;  $p < 0.05$ ) and the Tukey HSD post – hoc results indicated significant differences on the effectiveness of the three teaching methods. The difference in results between Ganyaupfu (2013) study and findings in Figure 3 was caused by large sample size used in this study; whereby 108 principals, 152 teachers of English and 370 Form Two student were selected in 108 public secondary schools in Kakamega County, Kenya. This provided accurate percentages and small margin error in this study (Zamboni, 2018). It also used descriptive statistics that included frequencies, means and percentages. Nevertheless, in his study Ganyaupfu (2013) sampled only 109 undergraduate students. He used inferential statistics course; Students' Assessment Test scores were derived from the internal class test prepared by the lecturer. The differential effectiveness of the three teaching methods on student academic performance was analysed using the General Linear Model based Univariate ANOVA technique. Therefore, future research should endeavour to establish which e-pedagogic method is the most effective in learning of English Language.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

Few teachers relied on teacher – centred method in learning of English language. Thus, there was need for a paradigm shift from teacher-centred to learner – centred instruction where learner takes the centre stage and the teacher becomes facilitator of learning process. However, this study focused on public secondary schools only therefore, the results may not resonate with private secondary schools in regard to integration of e-resources in teaching and learning process. Lastly, the research did not use actual observation of teachers integrating e-resources in classrooms. Hence, the findings may not reflect the actual teaching and practice. Wherefore, future studies need to establish which e-pedagogic method is most effective in learning of English language in public secondary schools in Kenya.

## Policy Recommendations

The study recommended that:

1. School administrators should emphasize learner - centred method which uses e-resources in learning of English language. This would provide students with discussion environment whereby problems solved cooperatively supported with e-resources.
2. Teachers should use e-resources to generate learner-centred practices that make learning sessions interactive, collaborative, cooperative and interesting. Examples of learner-centred practices included: group work, teamwork, dialogue, discussion, experimentation and inquiry.
3. Teachers should form societies such as E-resource Pedagogic Methods Society (EPMS) to showcase self – learning, peer - learning and discovery learning in order to enhance critical thinking skills, creativity and autonomy in education.

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**Abbreviations:** ROK- Republic of Kenya, KNEC- Kenya National Examination Council, MOE - Ministry of Education, KICD - Kenya Institute of Curriculum Development, PQ – Principal’s Questionnaire, ETQ – English Teacher’s Questionnaire, LQ – Learner’s Questionnaires, SOW - Schemes of Work