

Teachers' Perceptions of Blended Learning and the Acquisition of Language Skills in National and Extra-County Schools in Western Region, Kenya

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ABSTRACT

In order to meet the 21st Century threshold of global quality education, there is a need to adopt more modern technology in the classroom; a need further aggravated by Covid-19 which recently interrupted education worldwide. It is against this backdrop and the unsatisfactory KCSE performance in languages, that this study sought to investigate Perceptions of Teachers on the use of Blended Learning in learners' acquisition of English language skills in National and Extra-County schools in Western region, Kenya. The main objective was to establish Teachers' Perceptions towards use of blended learning in enhancing learners' acquisition of English reading and writing skills in National and Extra-County schools in Western region, Kenya. This study was based on Social Constructivism and Connectivism theories by Lev Vygotsky and George Siemens respectively. The sample was 32 Language Teachers;16 Principals; 4 CQASOs and 2 KICD language specialists. The study sample was 54 respondents selected through simple random and purposive sampling techniques. The design adopted was Descriptive Survey. Data was collected through 2 instruments: an interview schedule and a questionnaire. The data was analyzed using descriptive and inferential statistics using SPSS. For the purpose of analysis; the schools in the study were divided into High and Low Achievers' schools. The study findings also showed that higher levels of acquisition of language skills in High Achievers' schools were attributable to positive perceptions by teachers towards use of blended learning, for which a significant difference was established (t (32)=1.0067). The study concluded that the availability and frequent use of blended learning positively impact teachers' perceptions towards the use of blended learning and influence learners' acquisition of English language skills. This study recommends that the use of blended learning be encouraged and there should be sustained teacher professional development to equip teachers with relevant skills to enable them to use blended learning.

Keywords: teachers' perceptions; blended learning, web-based & social media platforms

INTRODUCTION

Current and emerging technology is forcing teachers to rethink how best to prepare learners for the 21st Century's demands and challenges and to meet the threshold of global quality education. Additionally, the recent Covid-19 pandemic and an unsatisfactory performance in languages in national examinations have occasioned the need for this study whose focus is Blended Learning; a fairly new hybrid approach, which is a combination of e-learning and traditional classroom instructional methods and its application in the teaching and learning of English language skills given the perceptions of teachers towards its use.

The dynamic education trends, technological advancements, globalization and many unprecedented situations like the Covid-19 pandemic have created the need to adopt more modern technology in the classroom to ensure all learners have adequate access to quality education and that learning goes on uninterrupted. This kind of situation seems to be opening the door to new ideas and new technologies that will endure in the classroom into the future, hence, educators are compelled to consider the most effective ways to reach all learners. Consequently, there is a sharper focus on the potential of technology in delivering education and blended learning in this particular context. There have been determined efforts by



governments worldwide and the Ministry of Education, Kenya, in particular to have learning on the eplatform (online learning). It is worth noting that this faces a myriad challenges for schools, teachers, learners and parents among other stakeholders; the challenges range from resistance to embrace new technology, lack of suitable learning resources, poor connectivity, high cost of internet facilities and the varied socioeconomic backgrounds of learners. These challenges taken cumulatively may impact on the implementation or adoption of the novel learning approaches meant to ensure learning is uninterrupted.

Furthermore, Governments have massively invested in education settings in form of Information Communication and Technology (ICT) with an aim of transforming education to make it more relevant. Currently, the educational systems in developing nations, are expected to adopt new technologies and explore new paths to reach the goal of quality educational opportunities for all. However, they are not just grappling with challenges of expansion and catering for the needs of individuals, they also have to deal with emerging challenges such as increased demand for education resulting in overcrowding, strained resources, inadequate personnel (Souter & Butcher, 2014).

With the global pandemic (Covid-19) interrupting learning; schools were closed for almost nine months from March, 2020 up to January, 2021 as one of the measures to mitigate the spread of the virus. This completely halted academic and extra-curriculum programmes for schools countrywide (Gichuhi & Kalista, 2022). The Ministry of Education, Kenya developed a Covid-19 response and recovery plan with the following main objectives: to provide access to quality, equitable and inclusive education to learners during and after the crisis to ensure continued learning; to facilitate production of online teaching and learning materials; to expand existing distance learning programmes; to train teachers to effectively support distance learning, including monitoring and assessment; to develop and implement intervention programmes targeting the marginalized and most vulnerable learners especially girls and learners with special needs and to provide psycho-social support to learners, teachers, educational officials and other stakeholders. Ironically, despite all these efforts, most teachers have been reluctant to embrace new technology (TSC-TPAD Report 2020/2021). The majority cite ICT integration as one of the most common performance gaps. However, with the current situation world over, they may need to reconsider this position.

Another key consideration of this study is learners' acquisition of language skills. The performance of secondary school learners in languages, especially English, in national examinations in Kenya has been an issue of great concern. The Kenya National Examination Council (KNEC) reports over more than the last five years have decried the poor performance of learners in the Kenya Certificate of Secondary Education (KCSE) examination (KNEC 2014-2019; 2018-2022). English is not only a compulsory and examinable subject, but also a medium of instruction (MOI) from primary up to higher institutions of learning and an official language in Kenya. The language acquisition process should be continued outside the classroom when it is used as a means of communication. It is also passively acquired through reading; the mass media, that is, television, radio and most recently; online and social media platforms; which are awash with information that is of interest to the youthful generation. Despite all this, the pedagogical practice of English language in Kenya faces many challenges given that language changes over time in terms of acquisition and usage (Barasa, 2005). Hence, the issue of how English skills are acquired and used in the Kenyan school context is very important. If there must be any change in performance of languages at national examinations, classroom instruction has to be reengineered to make it more relevant and productive.

All these concerns clearly highlight the focus of this study: Blended Learning, a fairly new approach, which is a combination of e-learning and traditional classroom instructional methods and independent study to create a new hybrid methodology and its application in the teaching and learning of English language skills. During Blended Learning, the student learns in part through delivery of content and instructions via the digital and online media with some control over time, place and pace (Friesen, 2012).

In the modern teaching/learning process involving technology integration; Blended Learning is one of the



newest concepts being adopted, however, the uptake is a bit slow. The term, Blended Learning is increasingly used to describe the way e-learning, combines with traditional classroom methods and independent study to create a new, hybrid teaching methodology. Technology has changed the way knowledge is acquired-making education more accessible to all (Kaushal, 2020). Blended learning was implemented for the first time in most institutions in Kenya in 2020 following the closure of all learning institutions due to the Covid-19 pandemic. Thanks to the Covid-19 pandemic, many schools and learning institutions across the world and some in Kenya, have adapted to technological solutions, such as video conferencing for their classrooms and online exams. The circumstances provide an opportunity to change the way we do things and this includes the opportunity to change how we provide education to future generations. Such an opportunity may not come around again for another hundred years (Varsani, & Mehta, 2020).

Even though there is need to adopt more modern technology in classroom instruction, according to the TPAD Evaluation Report (2020/2021), most teachers while filling the Teachers Performance and Appraisal Development (TPAD) tool during self assessment, reporting on the performance gaps, cite integration of ICT as one of the most common. The findings of the Evaluation Report show that only 33% of Heads of Institution, 31.8% of appraisers and 34% of appraisees indicated that integrating technology in teaching and learning outcomes was very appropriate. The same report recommends the need to continue conducting sensitizing workshops to help the appraisers and appraisees advance their digital skills in order to be able to tackle technological challenges and integrate technology into teaching and learning process (TSC-TPAD Evaluation Report, 2020/2021). On the other hand, reports reveal that learners are positive about blended learning, to them "...blended learning is fun and interactive." An online report titled, "How Education Organizations Used Blended Learning to Overcome Covid-19 Challenges" seconds this observation (Wasonga, 2023).

What begs the question is – had blended learning been earlier adopted in the basic education system, like it was done during the Covid-19 period, would learning have gone on even with learners being physically away from school? Can the adoption of blended learning through various platforms facilitate the acquisition of English language skills in learners in secondary schools in Kenya? It is against this backdrop that this study sought to establish the perceptions of teachers towards the use of blended learning in learners' acquisition of English language skills in national and extra-county schools in Western region, Kenya.

The purpose of the study was to establish the perceptions of teachers towards the use of blended learning on learners' acquisition of English reading and writing skills in National and Extra- County schools in Western region, Kenya. The main objective was to establish teachers' perceptions towards use of blended learning in enhancing learners' acquisition of English language skills in National and Extra-County schools in Western region, Kenya.

This study was based on two theories, Social Constructivism and Connectivism Theory, which complement the study variables and clearly bring out the relationship between them. These two theories have been touted as the learning theories for the 'Digital Age' (Al-Ani, 2013; Kop & Hill, 2008). ICT integration has caused a paradigm shift from a classical to a modern epistemology based on active learning and a shared creation of knowledge (Dede, 2008; Mattar, 2010). The Social Constructivism Theory by Lev Vygotsky states that knowledge is co-constructed and individuals learn from one another, hence, learning is the outcome of social interaction between students in collaborative learning activities which happen with the assistance of the teacher who plays the role of a knowledgeable adult, thus, contributing the social aspect of the theory. Its relevance in this study is that this theory involves teachers and students working together to explore and create knowledge (Paily, 2013). In Blended Learning, discussion forums exist in a variety of online platforms like Zoom, Google Classroom or social media platforms like WhatsApp, Facebook and provide students with opportunities to collaborate and cooperate to construct knowledge (Chan, 2005). In Blended



Learning environment, teachers should use a variety of ICT tools such as synchronous and asynchronous learning technologies to facilitate and encourage collaboration, interaction, communication, knowledge construction and sharing among the students. The effectiveness of Constructivism is that it prepares students for problem solving in complex environments (Schuman, 1996).

The second theory that complements the Social Constructivism theory in this study is the Connectivism theory developed by George Siemens and Stephen Downes for the digital age, denouncing boundaries of behaviourism, cognitivism and constructivism (Siemens & Downes, 2009). Connectivism is a theoretical framework for understanding learning in a digital age. It emphasizes how internet technologies such as web browsers, search engines, wikis, online discussion forums and social networks contribute to the new avenue of learning; in relation to this study, Blended Learning. Similarly, Blended learning incorporates use of online and face-to-face learning and largely makes use of the internet. The internet holds a vast array of information and helps students both construct and share their knowledge online (Richard & Haya, 2009). Meaningful and active online discussion among students will result in an effective knowledge sharing and cognitive development. Online technology can also provide access to rich sources of information and promote fruitful interaction with contents (Weller, 2002).

Just like Blended Learning, Connectivism allows students to incorporate electronic devices for the "off-site" storage of information, treating the role of memory differently than prior learning theories. With Connectivism, technology is permitted to become part of the student's internal learning process, which is what Blended Learning also entails. Connectivism helps to ensure that knowledge in the 21st Century will be properly conveyed (Abik et. al., 2012). This study applies George Siemens' Connectivism Learning Theory (Siemens, 2005) to blended learning. In summary, Blended Learning, which is a mixture of physical face-to-face learning and digital and online media learning, brings these two theories together which are complementary to the study. Social Constructivism focuses on the learning environment; how social interaction, experience and collaboration facilitate learning which is acquisition of knowledge while the Connectivism focuses on how technology in form of e learning is incorporated in this learning environment to improve the teaching learning process.

Some of the challenges encountered during the study were, the focus of the study being national and extra county schools, the findings may not be easily generalizable to all levels of schools given that national and extra-county schools may have most of the resources and infrastructure which makes ICT integration readily accessible, unlike many other schools in which the only accessible ICT resources available are smartphones and desktop computers.

METHODOLOGY

The study design adopted was Descriptive Survey. This particular study adopted this design given that its main objective was to find out the perceptions of teachers on blended learning in learners' acquisition of English language skills in national and extra county schools, Western region, Kenya. According to Best and Kahn (2010), purposive sampling is a non-probability sampling technique that allows a study to use cases that have the required information with respect to the objectives of the study. Purposive sampling technique enables the researcher to select samples based on a certain purpose. Purposive sampling technique was used to select the 16 Principals; 32 language HoDs/teachers of English from each of the national and extra county schools. It was also used to select the County Quality Assurance & Standards Officers (CQASOs) from each of the counties and the 2 KICD language specialists who were also selected through simple random sampling respectively. All these respondents were selected since the are the curriculum implementers in charge of English and policy makers at their various levels respectively. The study sample was 54 respondents selected through simple random and purposive sampling techniques. Orodho (2005) observes that descriptive survey is a method of collecting information by interviewing or administering a



questionnaire to a sample of individuals. For this study, data was collected through 2 instruments: an interview schedule and questionnaire validated with the help of research specialists at the Curriculum and Pedagogy Department. The qualitative and quantitative data were analyzed using descriptive and inferential statistics with the help of SPSS and then organized in the form of themes to corroborate the descriptive findings.

RESULTS AND DISCUSSION

The objective of this study was to establish the influence of teachers' perceptions towards use of blended learning on enhancing learners' acquisition of English language skills in national and extra- county schools in Western region, Kenya.

Demographic Distribution:

Table 1: Language teachers' age categories

Age	Frequency	Valid Percent				
25-30 years	6	18.8				
31-35 years	10	31.3				
36-40 years	8	25.0				
>40 years	8	25.0				
Total	32	100.0				

Source: Field data, 2022

The results above show that majority of the languages teachers represented by 10 (31.3%) were aged between 31-35 years while those between 36- 40 years and more than 40 years were 8 (25%) respectively and only 6 (18.8%) were aged between 25-30 years. Hence the largest proportion of teachers of about 50% were below 40 years of age. The youthful ages (digital generation) of the respondents are appropriate for most understand blended learning; a digital technology. The focus of this study is on perceptions of teachers on blended learning on learners' acquisition of language skills in secondary school. Majority of the respondents according to the findings of this study are youthful; thus, more enthusiastic with modern technology. Kungu, et. al., (2011) observed that the more youthful, the more aggressive and energetic, the teachers are more likely to adopt modern technologies.

The result is in agreement with Russell, et. al., (2003) who found that new teachers who were highly skilled with technology more than older teachers who did not incorporate ICT in their teaching. The researchers cited two reasons: new teachers' focus could be on how to use ICT instead of how to incorporate ICT in their teaching. Secondly, new teachers could experience some challenges in their first few years of teaching and spend most of their time in familiarizing themselves with school's curriculum and classroom management. However, Granger et. al., (2002) conducted a qualitative survey on factors contributing to teachers' successful implementation of ICT in Canada. The findings found no relationship between teachers' teaching experience and experience in the use of ICT implying that teachers' ICT skills and successful implementation is complex and not a clear predictor of ICT integration. In relation to this study, majority of the Principals are above 45 years old (Table 1.2) however, their experience in teaching could be of benefit to this study going by some research studies which showed that teaching experience influences the successful use of ICT in classrooms (Wong & Li, 2008; Giordano, 2007; Hernandez-Ramos, 2005).



Table 2: Principals' Age Categories

Age	Frequency	Valid Percent
30-40 years		—
40-50 years	9	40.9
>50 years	13	59.1
Total	22	100.0

Source: Field Data, 2022

These results show that majority (59.1%) of the respondents are above the age bracket of 50 years; while 40.9% are between 40-50 years. The age levels also shows that they are equally more experienced and familiar with new technologies.

Table 3: Respondents' perceptions towards use of blended learning in acquisition of reading and writing skills in English

Statement	SA	Α	NS	D	SD	Σfi	Σfiwi	Σfiwi/Σfi
Using Google Classroom improves performance in reading & writing in English	8	10	8	6	0	32	116	3.625
Using Google Meet improves performance in reading & writing in English	12	8	7	4	1	32	122	3.813
Using Zoom improves performance in reading & writing in English	11	8	5	6	2	32	116	3.625
Using Facebook improves performance in reading & writing in English	14	8	3	5	2	32	123	3.844
Using WhatsApp improves performance in reading & writing in English	16	8	2	4	2	32	128	4.000
Using YouTube improves performance in reading and writing in English	9	8	5	6	4	32	108	3.375

Source: Field Data, 2022

The rating by each respondent were summed up in order to develop indices that measured the ratings of the respondents in order to determine the levels of perceptions of the respondents about use of web-based and social media platforms in enhancing learners' acquisition of language skills. The indices had values ranging from 1 to 5. Values above average of 3 imply that the factor was highly rated by majority of the respondents hence positive perceptions while values lower than 3 imply low rating by respondents which imply negative perception about use of blended learning. The descriptive statistics for the variables are presented in Table 1.4.

Table 4: Descriptive statistics for variables of teachers' perceptions about blended learning improving language skills

School Mean Category	N	Mean	Std. Deviation	Std. Error Mean
High Achievers	10	4.6846	0.5358	0.05018
Lower Achievers	22	3.3478	0.9924	0.06144

Source: SPSS Output

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The results suggest that the mean rating for the variables of perceptions of teachers about use of web-based and social media platforms in improving language skills was high for both the High Achievers and Low Achievers which were values above 3. This implies generally that teachers in both groups of schools perceive use of WBSMP as important in improving language skills in English.

The study found out that improved language skills for learners were attributed to frequent use of these technologies in classroom instruction which is determined greatly by the teachers' perceptions. The findings also revealed that despite the few challenges in the implementation of ICT integration such as lack of adequate ICT resources, infrastructure and inadequate training, teachers would embrace and positively respond to the use of blended learning in classroom instruction for English. It is therefore evident that, there is a strong relationship between categories of schools – High Achievers (National and Extra-County schools) and Low achievers (National & Extra-County schools) with perceptions held by teachers towards use of Blended Learning in acquisition of English reading and writing skills.

CONCLUSION

The study concluded that the availability and frequent use of web-based and social media platforms positively impacts teachers' perceptions towards the use of blended learning and influences learners' acquisition of English language skills.

Secondly, the perceptions of teachers towards the use of web-based and social media platforms have a direct influence on their usage which in turn influences learners' acquisition of reading and writing skills in English.

RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations were made:

- 1. There is need to ensure that all schools have access to these key technologies for use in classroom instruction of language skills in English in order to improve performance since the availability of key technologies for web-based and social media platforms used in classroom instruction positively impacts on teachers' perceptions on use of blended learning on learners' acquisition of English language skills.
- 2. There should be sustained teacher professional development especially in the area of online teaching and learning to equip teachers with relevant skills to enable them adopt the use of blended learning and in order to improve the learners' performance in English,
- 3. The key technologies for use of blended learning and their frequent use should be encouraged so as to change the attitudes, beliefs and opinions of teachers towards blended learning since their perception towards the use of these platforms directly influences learners' acquisition of reading and writing skills in English.

REFERENCES

- 1. Abik, M., Ajhoun, R., & Ensias, L. (2012). Impact of Technological Advancement on Pedagogy. *Turkish Online Journal of Distance Education.* 13(1),224-237.
- Afshari, M., Bakar, K.A., Luan, W.S., Samah, B.A., & Fooi, F. S.(2009). Factors affecting teachers' use of Information and Communication Technology. *International Journal of Instruction*, vol. 2, no. 1, pp.78-98
- 3. Akbarov, A., Gönen, K., & Aydoğan, H. (2018). Students' Attitudes toward Blended Learning in EFL context. *Acta Didactica Napocensia*, 11(1), 61-68. doi:10.24193/adn.11.1.5.
- 4. Al-Ani, W.T. (2013). Blended Learning Approach Using Moodle and Student's Achievement at Sultan Qaboos University in Oman. Muscat, Oman. http://dx.doi.org/10.5539/jel. v2n3p96



- 5. Al-Shoaibi, R., & Shukri, N. (2017). Foundation year Students' Perception of using Social Network Sites for learning English in the Saudi context. *Journal of English Language Teaching*, 10(6), 60–69.
- 6. Barasa, P. L. (2005). English Language Teaching in Kenya: Policy, Training and Practice. Moi University: Moi University Press.
- Bebell, D., Russell, M., & O' Dwyer, L. (2004). Measuring teachers' technology use: why multiple measures are more revealing. *Journal of Research on Technology in Education*. https:// doi.org/ 10.1080/15391523.2004.10782425
- 8. Best, J. W. & Kahn, J. V. (2010). Research in Education. PHL Learning Private Limited; (10th Eds.), Pearson, New Delhi.
- 9. Buliva, N.(2018). Teachers' attitudes towards the utility of Computers in education in Kenya. *African Education Research Journal* 6(1),5-6
- 10. Chan, T. (2005). Evaluation of a Mobile Learning Organizer for University Students. Journal of Computer-Assisted Learning, 21(3), pp.162-170.
- 11. Dede, C. (2008). Theoretical Perspectives Influencing the Use of Information Technology in Teaching and Learning. In J. Voogt & G. Knezek (Eds.), *International handbook of IT in primary and secondary education (pp.43-62)*
- 12. Elimu,(2005). ICT Integration in the Classroom. https://learn.e-limu.org
- 13. FAO. (2021). E-learning methodologies and good practices: A guide for designing and delivering elearning solutions from the FAO elearning Academy, (2nd Eds). Rome. https://doi.org/10.4060/i2516e
- 14. Fernando, A., Lopez, G., Manrique, D., Vines, J. M. (2005). An Instructional model for web-based elearning education with a blended learning process approach. British Journal of Educational Technology, Vol.36, No. 219.
- 15. Fernández-Cruz, F. & María Fernández-Díaz.(2016). Generation Z's teachers and their digital skills. *Comunicar* 46: 97–105.
- 16. Friesen, N. (2012). Report: Defining Blended Learning. Leaning Spaces USA:
- 17. Gichuhi, L. & Kalista, J. (2022). The Kenya Ministry of Education's response to the Covid-19 pandemic: Case Study. UNESCO Digital Library https://unesdoc.unesco.org
- 18. Giordano, V. (2007). A professional development model to promote internet integration into P12 teachers' practice: A mixed method study. *Computers in the schools*, V 24(3/4),111-123
- 19. Gough, E., Dejong, D., Grundmeyer, T, & Baron, M. (2017). K-12 Teacher Perceptions Regarding the Flipped Classroom Model for Teaching and Learning. *Journal of Educational Technology Systems* 45(3), 390-423
- 20. Granger, A., Morbey, M. L., Lotherington, H., Owston, R.D. & Wideman, H.H. (2002). Factors contributing to Teachers' Successful Implementation of IT. *Journal of Computer 2002.Wiley Online Library*.
- 21. Han, S. & Nam S. (2021). Creating supportive environments and enhancing personal perception to bridge the digital divide among older adults. *Educational Gerontology* 47: 339–52.
- Hannon, J., & Macken, C. (2014). Blended and online curriculum design toolkit. La Trobe University. Retrieved from https://www.laterobe.edu.au/ data/ assets/pdf _file /0006/602178/ Blended-learning-Toolkit-v4.pdf
- 23. Hassan, I., (2014). Facebook as a Tool for Teaching and Learning. https://www.researchgate.net/publication/282251534
- 24. Harjanto, A. S., & Sumarni, S. (2019). Teachers' experiences on the use of google classroom. Jakarta: *3rd English Language and Literature International Conference (ELLIS)*, *3(1)172-178*. Heinrich, C. J., Ad
- 25. Hernandez-Ramos, P. (2005). If not here, where? Understanding teachers use of technology in Silicon valley schools. *Journal of Research on Technology in education*, 38(1),39-64.
- 26. Huang, H. M., & Liaw, S. S. (2005). Exploring users' attitudes and intentions toward the Web as a survey tool. *Computers in Human Behavior*, vol. 21, no. 5, pp.729-743.
- 27. Ja'ashan, M. M. (2015). Perceptions and attitudes towards blended learning for English courses: A case study of students at University of Bisha. *English Language Teaching*, 8(9),40-50
- 28. Kaushal, K. (2020). Rise of Online Teaching and Learning Processes During Covid-19



https//doi.10.1007/978-981-33-4236-1 14

- 29. Kenya National Examinations Council Reports (2014-2022). Teacher.co.ke 2023
- 30. Kop, R. & Hill, A. (2008). Connectivism: Learning theory of the future or vestige of the past? *International Review of Research in Open and Distance Learning*, *9*, *1-13*. Retrieved from
- 31. Mattar, J. A. (2010). Constructivism and Connectivism in Education Technology: Active, situated, authentic, experiential, an anchored learning.
- 32. Nurhasanah, N., Sulistyo, B., Agustiani, M. & Ulya, E. (2020). Students' perceptions on the use of internet as learning media in reading classroom. *Jurnal basis*. 7. 111. 33884/1864
- 33. Orodho, A. J., & Kombo, D. K. (2002). Research Methods. Nairobi: Kenyatta University Institute of Open Learning.
- 34. Paily, M. U. (2013). Creating Constructivist Learning Environment. Role of "Web 2.0" Technology. *International Forum of Teaching and Studies. January 1, 2013.*
- 35. Richard, H. & Haya, A. (2009). Examining Student Decision to Adopt Web 2.0 Technologies: Theory and Empirical Tests. *Journal of Computing in Higher Education*, 21(3), 183-198.
- 36. Schuman, L. (1996). Perspectives on Instruction. July 05, 2010 http://edweb.sdsu.edu/courses/ edtec540/ Perspectives/Perspectives.html
- 37. Siemens, G. (2005,). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, 2(1),3-10.
- 38. Siemens, G., & Downes, S. (2009).elearn space org. Retrieved from http:// www. e learning space. org/ blog/
- 39. Souter, D., Butcher, N., Sibthorpe, C., & Tusubira, T. (2014). ICTs for Education in Africa Washington, DC. World Bank .https://openknowledge.worldbank.org/handle/10986/19024
- 40. Varsani, M., & Mehta, A. (2020). Education in the Post Covid World: A Youth Vision, Young People. Re-imagine the Future they want after the Covid-19 Pandemic,2020. UNICEF
- 41. Teachers Service Commission (2021) Final Evaluation Report for Consultancy for Teacher Performance Appraisal and Development (TPAD) Evaluation. Nairobi, University of Nairobi Enterprises and Services Ltd.
- 42. Wasonga, J. (2023). The Role of Technology and Teachers in Accelerating Blended Learning in Kenya | *EdTech Learning outcomes*
- 43. Weller, M. (2002). Delivering Learning on the Net: The Why, What & How of Online Education. London. Kogan Page.
- 44. Wong, E.M.L. & Li, S.C. (2008). Framing ICT implementation in a context of educational change: a multilevel analysis. *School effectiveness and school improvement*, 19(1), 99-120.