Research Journal of Education, Teaching and Curriculum Studies
Vol. 2 No. 2 (2024): ISSN (Online): 2958-8626
DOI: https://doi.org/10.58721/rjetcs.v2i2.742
Integration of Computer-Assisted Language Instruction in English Language Teaching of Oral Skills among Secondary School Learners

Integration of Computer-Assisted Language Instruction in English Language Teaching of Oral Skills among Secondary School Learners

Aileen Sarange Bokindo, Teresa Okoth & Lucy Mandillah
Masinde Muliro University of Science and Technology, Kenya

Article History
Received: 2024-06-18
Revised: 2024-09-15
Accepted: 2024-09-16
Published: 2024-09-21

Keywords
Communication technology
Computer-Assisted language
English
Oral skills

How to cite:
Bokindo, A. S., Okoth, T. & Mandillah, L. (2024). Integration of Computer-Assisted Language Instruction in English Language Teaching of Oral Skills among Secondary School Learners. *Research Journal of Education, Teaching and Curriculum Studies, 2*(2), 49-58.

Abstract
In the 21st century, computers have become a common feature in classrooms. Given the importance of both technological and pedagogical aspects of Computer-Assisted Language Instruction (CALI) in educational settings, computer technology plays a vital role in teaching English as a Second Language. In many developing countries, English learners often do not see the practical use of the language beyond examinations. Therefore, this study sought to examine how CALI is integrated into the teaching of English language oral skills in secondary schools by assessing the extent of the teachers' awareness of integrating CALI in the teaching of English language oral skills; investigating the preferred instruction resources, examining the importance of integrating CALI in the teaching of English language oral skills and finding out the extent of Integrating CALI in English language teaching of oral skills. The study was conducted among selected secondary schools in Kakamega County, Ikolomani Sub-County, Kenya. The study focused on 132 English teachers and used a descriptive survey design. Purposive sampling was employed to select public secondary schools with computer laboratories within Ikolomani Sub-County and stratified sampling was used to provide a sample of 110 teachers. Primary data were collected from 6 school principals and 104 teachers of English using questionnaires and key informant interviews. Quantitative data were analyzed with Pearson's correlation coefficient, while qualitative data were analyzed thematically through content analysis. The analysis showed a significant positive relationship (coefficient of determination of 0.69 or 69%) between the extent of CALI integration and the teaching of English oral skills. An F-value of 0.598 indicated that this relationship is statistically significant. The study concluded that the degree of CALI integration positively affects the teaching of English oral skills. It is recommended that school administrators encourage the use of CALI in English language instruction and implement ICT training programs to enhance teachers' ICT skills.

Introduction

Language is crucial in our lives because it facilitates communication and plays a significant role in the teaching and learning process (Crystal, 2003). According to Cummins (2000), all aspects of the curriculum rely on learners' proficiency in various language skills. In Kenya, English is taught as a second language, and the Government has given it a higher status than native languages due to its status as a national and international language (Gudu, 2015). English is used in all government communications; it is a compulsory subject in the educational system and is taught from grade one to university, and it is a language for instruction from grade four to university (KICD, 2017). In the school curriculum, language plays a vital role in the learning process, as all aspects of the curriculum depend to a greater or lesser extent on learners' proficiency in all the language skills (Gudu, 2015; Cummins, 2000; Abiero, Ajowi, & Ondondo, 2019). These language skills typically develop in the following order: listening, speaking, reading, and writing (KIE, 2006; Kisilu & Lelei, 2008). Among these language skills, listening and speaking are called oral skills. Oral skills are the abilities involved in using spoken language effectively. They encompass the capacity to produce and comprehend spoken language in various contexts (Nation & Newton, 2009).

Oral skills in the English language have been shown to significantly contribute to developing proficiency in English as a Second Language (ESL) among learners. Onchera (2013) argues that competence in speech leads to competence in writing, as one can write and speak competently. Palmér (2010), on the other hand, asserts that spoken language is the learners' primary way of communicating and forms a crucial part of their language learning process. The desired outcome of second or foreign language instruction is to enable language learners to possess skills to communicate in the target language (Buabeng-Andoh, 2012).

However, research indicates that students in public secondary schools in Kenya exhibit low proficiency in English oral skills, which has significantly impacted their performance in the English language in the Kenya Certificate of Secondary Education (KCSE). Schools in Kakamega County are not exempt from this issue. The significant number of erroneous utterances that learners of English produce in oral performance and their recourse to communication strategies, as shown in Rababah's study (2001), is an indication of how serious the problem is. This phenomenon has been partly attributed to inadequate teaching strategies for oral skills (Abiero, Ajowi, & Ondondo, 2019) and **i**nsufficient exposure and practice **(**Hasselgreen, 2008). The integration of CALI tools has great potential if properly harnessed to improve the teaching and learning of oral skills (Wang & Chen, 2018). However, most public secondary schools emphasise reading and writing due to their importance in the examinations at the expense of oral skills. Yet, competency in oral language skills forms the foundation for the acquisition of reading and writing as well as better performance in other activity areas. Wang & Chen (2018) state that CALI tools offer immediate feedback on pronunciation and fluency, which helps learners to correct errors and improve their speaking abilities quickly. Against this backdrop, this research sought to determine teachers' integration of CALI in English language teaching of oral skills among secondary school learners in Ikolomani Sub-County.

Introducing Computers in English Language Learning has contributed to significant changes in the traditional classroom concept. Computers are accredited as a technology that has become an educational instruction tool (Teo, 2006). This is asserted by Pemberton, Borrego & Cohen (2006), who steered a study on using interactive computer technology to enhance learning and found that using ICT creates a great learning environment. Realising the significant role of ICT in education, the Kenyan government, through the Ministry of Education, Science and Technology (MoEST) rolled out Digital

Learning Programs (DLP) in schools to improve the quality of teaching and learning as well as equip learners with the 21st-century skills, (Government of Kenya (GoK), 2016). Integrating computer technology in teaching is also an integral component of the Competency-Based Curriculum (CBC) currently rolled out in primary schools in Kenya. The integration of CALI into language teaching has been viral in many institutions over the years. Çakir (2006) has emphasised the importance of using technology in language teaching concerning the significant effect that audio-visual materials have on language teaching. Using CALI in language learning can improve students' enthusiasm and attitude toward learning. Integration of Computer Assisted Language Instruction offers broad benefits, which include the excitement of learners, which improves the learning enthusiasm of students and enhances the learning of students (Bush & Terry, 1997). CALI provides even more flexibility, accommodating students' learning styles and needs. Technology can be used isolated or alongside textbooks for a far more in-depth learning experience. Students can learn anywhere, and teachers can also track and evaluate students' work in the classroom and outside the school (Carr, Palmer, & Hagel, 2015). In addition, by integrating CALI into language teaching, students can choose the order in which material is presented. Students can also track the learning material introduced to them, and their learning speed can also be controlled (Chirimbu & Tafazoli, 2013). It also fosters students' learning autonomy (Yang & Chen, 2007). Against this background, this study examined how effectively CALI tools improve the teaching and learning of English oral skills in secondary schools in Kakamega South Sub-County in Kenya.

Material and Methods

The study was carried out in Ikolomani Sub-County in Kakamega County, Kenya. Kakamega County is administratively divided into twelve Sub-Counties, namely, Lugari, Butere, Navakholo, Likuyani, Khwisero, Ikolomani, Matungu, Malava, Lurambi, Shinyalu, Mumias East and Mumias West. Ikolomani Sub-County was selected for this study since it faces educational and infrastructural challenges that can impact English proficiency, making it a relevant location for studying the effectiveness of CALI tools in addressing these challenges. This study adopted a descriptive survey design, employing quantitative and qualitative approaches. Johnson & Onwuegbuzie (2004) and Johnson & Turner (2002) affirm that integrating quantitative and qualitative methods in research is essential and beneficial because it enables the researcher to have a broader perspective on data collection and analysis. Purposive sampling was used for the Ikolomani Sub-County.

In comparison, stratified random sampling was applied to obtain the study's sample of public secondary schools. This sampling technique involves dividing a population into strata, and then samples are taken randomly in the same proportion as the population from each stratum (Cohen et al., 2018). This study divided schools into five strata based on the number of Wards in Ikolomani Sub County. Sixteen out of twenty-three secondary schools, constituting about 52% of the sampled population of secondary schools in the Ikolomani Sub-County, were selected. According to Kothari (2015), a representative sample size is at least 10% of the targeted population. The researcher drew a sample size of 110 respondents (n=110), six principals and 104 teachers of English. This study used two data collection instruments: a questionnaire and a critical informant interview guide. Quantitative data was analysed using the SPSS computer package, while quantitative data was analysed through content analysis and presented thematically.

Theory

The study is grounded on the Technology Acceptance model. It focuses on a set of technology-related attitudes and beliefs that explain a person's intentions to use and actual use of technology. It is based on factors influencing user adoption and acceptance of technology. The model was designed to explain technology acceptance across a broad range of information technologies, and it suggests that several factors influence the users' attitudes towards technology and decisions about how and when to use a new technology: Perceived usefulness and perceived simplicity of use of technology. Perceived usefulness alludes to how a person believes using a specific method would improve their job performance. Perceived ease of use refers to the extent to which a person believes that utilising a particular system would be free from endeavour (Zou, Li & Jin, 2021).

Results and Discussion

Extent of Teachers' Awareness of Integration of Computer-Assisted Language Instruction in English Language Teaching of Oral Skills

The study sought to determine the extent of teachers' awareness of integrating CALI in teaching English language oral skills. The results for this objective are presented in Figure 1 below:

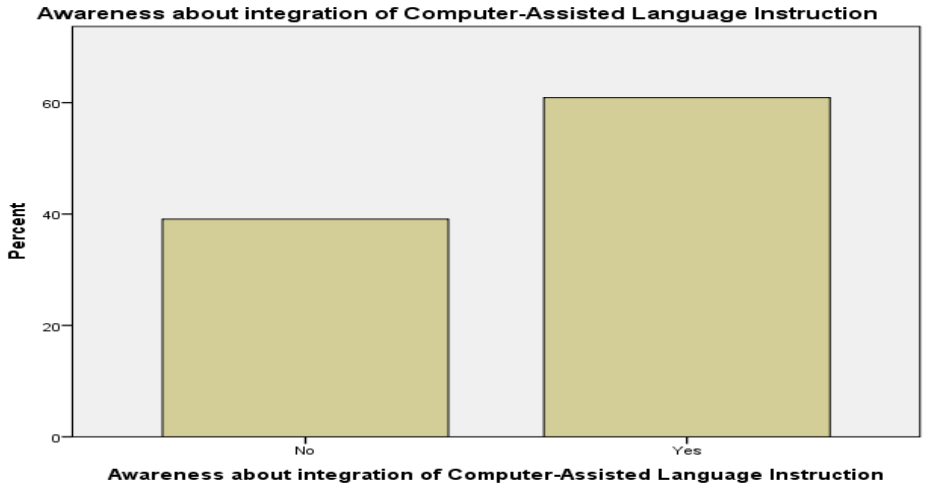

Figure 1: Awareness about Integration of CALI in English Language Teaching of Oral Skills

Results in Fig. 1 reveal that 67(60.9%) respondents were aware of integrating Computer Assisted Language Instruction in English language teaching of oral skills among secondary school learners. In comparison, 43(39.1%) of the respondents indicated that they were unaware of the integration of CALI in English language teaching of oral skills. Most of the respondents (60.9%) are familiar with CALI integration, suggesting a reasonable level of awareness about its use in teaching English oral skills. This implies that CALI tools might already be part of some instructional practices and that there is potential for leveraging this existing awareness to enhance their application further. The fact that 39.1% of respondents are unaware of CALI integration indicates a gap in disseminating and adopting these tools. This variability suggests that while some educators and stakeholders are informed about CALI, others may need to utilise or recognise its benefits. These findings agree with a study by Harris, M. (2009), which discusses the impact of technology awareness on language instruction and how existing knowledge can be leveraged to enhance teaching practices. Reinders and White (2011), on the

other hand, review the variability in educational practices concerning technology integration and the need for comprehensive strategies to address gaps in awareness and application.

Preferred Instruction Resources during the Integration of Computer-Assisted Language Instruction in English Language Teaching of Oral Skills

The study further investigated the preferred instruction resources when integrating CALI in English language teaching of oral skills among secondary school learners in Kakamega South Sub-County. Table 1 presents the results.

Table 1. Preferred Instruction Resources

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PowerPoint	6	5.5	5.5	5.5
	You Tube	64	58.2	58.2	58.2
	Social Media	1	0.9	0.9	0.9
	CDS/DVDs	28	25.5	25.5	25.5
	Animations	11	10.0	10.0	10.0
	Total	110	100.0	100.0	100

The results in Table 1 reveal that 64(58.2%) of the respondents strongly agree that they use YouTube as a tool for integration of CALI in Teaching English Language in secondary school, 28(25.5%) agreed that they use CDs/DVDs, 11(10%) agreed to use animations. In comparison, 1(0.9%) agreed they use social media as an Integration tool. The strong preference for YouTube (58.2%) suggests that video content is highly valued for its effectiveness in language teaching. YouTube provides many accessible, diverse, and engaging materials that can enhance learning through visual and auditory input. The lower usage rates of CDs/DVDs (25.5%), animations (10%), and social media (0.9%) indicate that these tools are less favoured or perceived as less effective for CALI integration in the context of English language teaching. This suggests a need to explore why these tools are less utilised. It may be beneficial to assess whether they are not effectively integrated, lack relevance, or are not readily available and to address these issues accordingly. These findings are in tandem with Chen & Cheng (2014), who reveal the effectiveness of YouTube as a tool in language learning, highlighting its popularity and impact on student engagement and learning outcomes in their study. Their research explains why YouTube is a preferred tool among educators and learners. Kukulska-Hulme, A., & Shield, L. (2008) discuss various media and technology tools for language learning, including CDs, DVDs, and animations. The study provides a perspective on the relative effectiveness and adoption of different tools in language education.

Importance of the Integration of Computer-Assisted Learning Instruction

The researchers also wanted to know the importance of integrating CALI in the teaching of English language oral skills. The findings are presented in Table 2:

Table 2: Importance of the Integration of Computer-Assisted Learning Instruction

Description	N	SD (%)	D (%)	Neutral (%)	A (%)	SA (%)
Integration of Computer Assisted Language Instruction in the classroom improve students' learning involvement and learning motivation	**110**	11 (10.0)	15 (13.6)	3 (2.7)	43 (39.0)	38 (34.5)
Computer Assisted Language Instruction promotes autonomous learning	**110**	4 (3.6)	13 (11.8)	14 (12.7)	49 (44.5)	30 (27.2)
Computer Assisted Language Instruction promotes student centered learning	**110**	12 (10.9)	9 (8.1)	7 (6.3)	37 (33.6)	45 (40.9)
The use of Computer Assisted Language Instruction promotes higher order thinking and problem-solving	**110**	6 (5.4)	11 (10.0)	16 (14.5)	52 (47.2)	25 (22.7)
Integration of Computer Assisted Language Instruction helps in discussions and Oral cooperative learning	**110**	10 (9.0)	17 (15.4)	12 (10.9)	32 (29.0)	39 (35.4)
Integration of Computer Assisted Language Instruction enables students to have authentic oral language learning experiences	**110**	15 (13.6)	9 (8.1)	4 (3.6)	35 (31.8)	47 (42.7)

From the results in Table 2, 73.5% of the respondents agreed that integrating CALI in the classroom improves students' learning involvement and motivation. In comparison, 69.9% of the respondents agreed that CALI promotes higher-order thinking and problem-solving, whereas 74.5% of the respondents agreed that the integration of CALI enables students to have authentic language learning experiences. The high percentage (73.5%) of respondents who believe that CALI improves student involvement and motivation suggests that CALI tools can effectively engage students and make learning more appealing. This is crucial as increased motivation often leads to better learning outcomes and persistence. These results agree with Keller's ARCS model and support the idea that technology can significantly boost student motivation by making learning more engaging and relevant (Keller 2010).

Similarly, 69.9% of respondents see CALI as promoting higher-order thinking and problem-solving, indicating that CALI tools can facilitate more profound cognitive skills beyond rote learning. This is important for developing critical thinking and problem-solving abilities in students. Anderson & Krathwohl (2001) outlines how technology-enhanced learning environments can support the development of higher-order thinking skills. Also, the finding that 74.5% of respondents agree that CALI provides authentic language learning experiences suggests that CALI tools are effective in creating real-life contexts for language practice. This is essential for language acquisition, as authentic experiences help bridge the gap between classroom learning and real-world usage. This finding agrees with Godwin-Jones, R. (2018) assertion that CALI tools can create authentic learning experiences by providing learners with practical, real-world language use opportunities.

The study's results were corroborated by interviews with head teachers, who highlighted their schools' embrace of CALI integration in English language teaching. They emphasised the potential of technology to create interactive and immersive language lessons, fostering student engagement and participation in spoken communication. The interview with the head teachers concurs with this notion, where one Principal said,

At our school, we have embraced the integration of computer-assisted language instruction in English language teaching, especially in developing oral skills among secondary school learners. We believe technology can significantly enhance the learning experience and engage our students meaningfully. With the availability of computers and interactive language learning platforms, our teachers have been able to create dynamic and immersive language lessons, encouraging students to participate actively in spoken communication.

Extent of Integrating Computer-Assisted Language Instruction in English Language Teaching of Oral Skills

The study also sought to determine the impact of Integrating CALI on the students' oral skills. A regression analysis was conducted as presented in Table 3:

Table 4: Extent of Integrating CALI in English Language Teaching of Oral Skills

Table 4 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.996[a]	.990	.006	1.288	.004	.598	1	103	.530	1.632

a. Predictors: (Constant), Integration of Computer Assisted Language Instruction

b. Dependent Variable: Oral Skills

From the above results, the value of R indicates the correlation coefficient between the predictors and the dependent variable (oral skills). In this case, R is .996, which suggests a strong positive correlation between the integration of CALI and students' oral skills. This implies a significant relationship between the use of technology in language instruction and students' proficiency in oral communication. The R Square value (.990) represents the proportion of variance in the dependent variable (Oral Skills) that can be explained by the predictor (Integration of CALI). A value close to 1 indicates that the predictor is highly effective in explaining the variability in the dependent variable. Therefore, the high R Square value suggests that the integration of CALI accounts for 99% of the variance in students' oral skills, indicating a substantial impact of technology integration on language proficiency. Therefore, these results prove that integrating CALI significantly and positively impacts teaching English language oral skills. These results concur with a study done by Prensky (2012), who demonstrated that the role of technology in our classrooms is to support the new teaching paradigm and that a workable integrated technological CALI solution ought to inform pedagogical design which makes the oral skills teaching process vivid and can overcome the teaching difficulties and highlight the teaching focus. Hsu, Wang & Levesque-Bristol (2019) found that interactive language learning platforms facilitated authentic oral communication practice, leading to enhanced pronunciation and communicative competence.

Recommendations

The study recommends that:

i. School administrators should prioritise developing and implementing comprehensive ICT training programs for English teachers. These programs should equip them with the necessary skills to use CALI tools effectively and integrate them into their teaching practices. By improving teachers' ICT competencies, the effectiveness of CALI in enhancing English oral skills can be significantly increased.

ii. Schools should invest in up-to-date computer technology and digital resources that support CALI. This includes providing adequate hardware and software and ensuring reliable internet connectivity. Enhanced technological resources will enable teachers to deliver more engaging and interactive English lessons, improving students' oral language skills.

iii. Educational policymakers and school administrators should encourage the incorporation of CALI strategies into the English language curriculum. This could involve revising curriculum guidelines to include specific objectives for using technology in language instruction, ensuring that CALI is not merely an adjunct but an integral component of language teaching practices.

iv. Establish systems for regular assessment and feedback on using CALI in teaching English oral skills. This can include periodic evaluations of CALI effectiveness through surveys, classroom observations, and student performance metrics. Feedback gathered should be used to make informed adjustments and improvements in CALI implementation, ensuring it meets the evolving needs of both teachers and students.

Conclusion

The study highlights the significant impact of Computer-Assisted Language Instruction (CALI) on teaching English oral skills in secondary schools in Ikolomani Sub-County, Kenya. The analysis demonstrates a strong positive relationship between the extent of CALI integration and the effectiveness of oral language instruction, with a correlation coefficient of 0.69, indicating a substantial influence. Given the results, it is crucial for school administrators to actively promote CALI within the curriculum and invest in ICT training for teachers. By doing so, they can enhance the practical application of English beyond examinations and improve overall language proficiency, addressing educational and technological classroom needs.

References

Abiero, R. N., Ajowi, J., & Ondondo, M. (2019). *The Role of Teacher Training in the Development of Oral Skills in Kenyan Secondary Schools. Journal of Language Teaching and Research, 10*(3), 567-576.

Anderson, L. W., & Krathwohl, D. R. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives: complete edition*. Addison Wesley Longman.

Buabeng-Andoh, C. (2012). Factors influencing teacher's adoption and integration of information and communication technology into teaching. *International Journal of Education and Development using Information Communication Technology into Teaching (IJEDICT) 2012, 8(1), 136-155.*

Bush, M., D., & Terry, R., M., (1997). Technology-enhance Language Learning, National Textbook Company, University of Michigan.

Cakir, I. (2006). The use of video as an audiovisual material in foreign language teaching classroom. *Turkish Online Journal of Educational Technology, TOJET,* 5(4), 67-72.

Carr, R., Palmer, S., & Hagel, P. (2015). Active learning: The importance of developing a comprehensive measure. *Active Learning in Higher Education*, *16*(3), 173-186. DOI: 10.1177/1469787415589529.

Chen, C. M., & Cheng, H. K. (2014). *The Effects of YouTube-Based Instruction on English Learning. Educational Technology & Society*, *17*(1), 236-247.

Chirimbu, C., S., & Tafazoli, D., (2013). Technology & media: Applications in language classrooms (TEFL, TESL & TEOL). *Professional Communication &Translation Studies, 6 (1/2), 187-194.*

Cohen, L., Manion, L., & Morrison, K. (2018). Research Methods in Education (8th ed.). New York: Routledge. DOI: 10.4324/9781315456539.

Crystal, D. (2003). *English as a Global Language*. Cambridge University Press.

Cummins, J. (2000). *Language, Power, and Pedagogy: Bilingual Children in the Crossfire*. Multilingual Matters.

Godwin-Jones, R. (2018). Multiliteracies and CALL: Moving from theory to practice. Routledge.

Government of Kenya (2017). Midline Performance Evaluation of the Tusome Activity in Kenya. Washington DC: U.S. Agency for International Development.

Gudu, B., O., (2015). Teaching Speaking Skills in English Language using Classroom Activities in Secondary School Level in Eldoret Municipality, Kenya. *Journal of Education and Practice* www.iiste.org ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) *Vol.6*, No.35, 2015 55.

Harris, M. (2009). Enhancing Language Learning Through Technology: The Role of Technology in the Language Classroom. *Language Teaching Research*, *13*(2), 131-149.

Hasselgreen, A. (2008). *Testing the English Language Skills of Young Learners*. Cambridge University Press.

Hsu, H., C., K., Wang, C., V., & Levesque-Bristol, C., (2019). Reexamining the impact of self-determination theory on learning outcomes in the online learning environment. *Education and Information Technologies*, *24*(3), 2159- 2174. DOI: 10.1007/s10639-019-09863-w.

Johnson, R., B., Onwuegbuzie, A., J., (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26. Retrieved from http://www.tc.umn.edu

Johnson, R. B., Turner, L. A. (2002). Data collection strategies in mixed method research. In A Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (pp. 297-319). Thousand Oaks, CA: Sage

Keller, J. M., *Motivational Design for Learning and Performance*, 2010, Springer, New York, NY, USA.

Kenya Institute of Curriculum Development. (2017). *Basic Education CurriculumFramework*. http://www.kicd.ac.ke/images/downloads/CURRICULUMFRAMEWORKFI_NAL2017.pdf

Kenya Institute of Education, (2006). *Secondary English Teacher's Handbook*. Kenya Institute of Education.

Kisilu l., & Lelei, K., (2008). Presentation: Structured "Academic Talk" for English Learners: A Key to Narrowing the Verbal Gap in K-12 Classrooms. OELA Annual Conference, Washington D.C., October 30, 2006.

Kothari, C., R., & Garg, G., (2014). *Research Methodology; Methods and Techniques(3rd edition)*. New Delhi. New Age International Publishers.

Kukulska-Hulme, A., & Shield, L. (2008). An Overview of Mobile-Assisted Language Learning: Can Mobile Phones Be Used to Support Language Learning? *European Journal of Education, 43(2), 271-291.*

Nation, I. S. P., & Newton, J. (2009). *Teaching ESL/EFL Listening and Speaking*. Routledge.

Rababah, G. (2001). An Investigation into the Strategic Competence of Arab Learners of English at Jordanian Universities. PhD Dissertation. University of Newcastle Tyne, UK.

Reinders, H., & White, C. (2011). *The Role of Technology in Language Learning: Critical Review of Recent Literature. Language Teaching*, *44*(3), 373-395.

Onchera, P., O., (2013). The pedagogical hindrances to oral communication skills in English in Kenya: a case of secondary schools in Kisii County.

Palmér, A. (2010). Muntligtiklassrummet- omtal, samtalochbedömning. Lund: Student literature.

Pemberton, J. R., Borrego, J., Cohen, L. M. (2006). Using interactive computer technology to enhance learning. *Teaching of Psychology*, *33*(2), 145-147.

Prensky, M. (2012). From Digital Natives to Digital Wisdom: Hopeful Essays for 21st Century Learning. California: Corwin Press.

Teo, T. (2006). Attitudes toward computers: A study of post-secondary students in Singapore. *Interactive Learning Environments*, *14*(1), 17-24.

Yang, S. C., Chen Y. J. (2007). Technology-enhanced language learning: A case Study. *Computers in Human Behavior*, *23*(1), 860–879. DOI: 10.1016/j.chb.2006.02.015

Wang, Y., & Chen, C. M. (2018). *The Impact of Immediate Feedback from Computer-Assisted Language Learning Tools on Speaking Skills. Language Learning & Technology, 22(3), 48-64.*

Zou, C, Li P., & Jin, L. (2021) Online college English education in Wuhan against the COVID-19 pandemic: Student and teacher readiness, challenges, and implications. *PLoS RABAONE 16*(10). DOI: 10.1371/journal.pone.0258137