Literature Review of Using Digital Platforms in Enhancing Undergraduate Students' Communicative Competence

Abbas Aldahhan[1], Norizan Abdul Razak[1*]

Center for Research in Language and Linguistics, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia
aldahhanabbas@gmail.com , norjef@ukm.edu.my,

Abstract

This study aims to review the literature on the use of digital platforms on enhancing communicative competence of EFL students. The review has focused on the utilization of all technology-enhanced learning and teaching mediums which included mobile learning, ICT, AI, the study time-frame ranged between 2010-2023. All the studies focusing on the four components of communicative competence (linguistic, discourse, strategic, and sociolinguistic). The findings of the study revealed that a plethora of studies has been conducted on the global context. It was noticed that in majority of the studies, digital platforms had a positive and significant impact on students' learning of communicative competence. However, most of the studies has focused on one component of communicative competence namely linguistic competence. The study has mainly used the experimental design in conducting the methodology followed by mix-method approach. High school students were the main sample in majority of the reviewed studies while only few studies focused on undergraduate students. Finally, the number of studies focusing on EFL students is higher than the studies focusing on native speakers' students. The findings of the review offer significant implications to the management of the university to gain benefit from the experiences of other universities and countries.

Keywords: Communicative competence, digital platforms, technology, review, linguistic, discourse, strategic, sociolinguistic, English learning.

Introduction

Communicative competence has always been the goal of every language classroom wherein instructions are geared toward the components of organizational, pragmatic, systematic, and psychomotor (Brown 1994). Technology and multimedia have proven to be prominent ways to promote students' communicative competence skills (Kim 2018). The use of e-learning activities in the classroom enables the students to improve their communicative competence in terms of correct use of grammar and cohesive writing. Furthermore, Savignon (2018) emphasized that e-activities develop emotional, behavioural, and cognitive skills that contribute to utilizing active aids and strategies. Another problem of concern is students' needs in learning English language courses, rarely considering students' needs, how they want to learn, what they want to learn, and the measurement method (Byram 2020). As for the development of communicative competence, the students face many various problems that hinder learners from mastering them; continuously these reasons related to subject choice, non-appropriate use of teaching method, little emphasis on the language instated, non-stated bases of assessment, and colloquial usage during teaching and weakness of linguistic outcome (Al-Saleem 2018). Hence, an important question arises; how do English language learners acquire communicative skills? At the same point, many English such as (Almobarraz 2020) started the need to investigate communicative competence skills.

Since the time of the first industrial revolution and the mechanization of production, quite a few technological changes have occurred: from the large-scale spread of the use of electric energy to the spread of digitalization. Cloud technology, the Internet of things, big data, augmented and virtual reality and robotics, which until recently seemed only fiction, are now becoming relevant and somewhat mundane technologies of a new era, Industry 4.0. The industrial transformation that is taking place all over the world is oriented towards the future, increasing labour productivity, increasing the efficiency and competitiveness of organizations. The digital economy has a big impact on the labour market, replacing manual labour with smart machines and the

introduction of business process automation (KACHMARCHYK et al. 2019). In order to provide the digital economy with the necessary high-quality workforce, it is necessary, during the implementation of higher education programs, to focus on the development of the skills and competencies that are necessary for the digitalization era (Oke & Fernandes 2020). Of course, communicative competencies of learners are becoming one of the most significant for the development of future specialists' competencies of Industry 4.0. Technological innovations have generated changes in the way we relate and interact. According to (Al-Samarraie & Saeed 2018), the chief opportunity provided by using digital platforms in higher education settings was primarily to facilitate students' interactions in real-time by offering a series of reflective and dialogue-centred participatory learning activities. Digital platforms tools exemplify specific technological tools that can improve learning in HE institutions. Firstly, students' proficiency and familiarity with social networking sites enable them to actively engage in multiple collaborative social interactions, social reflection, and problem-solving (Schneckenberg 2014). In addition, synchronized tools for collaborative learning chiefly focus on reducing the time students spend on e-mailing, revision, saving, e-mailing back, and other similar activities to develop their collaborative learning competency and productivity (Sherine et al. 2020).

Studies on the effectiveness of digital platforms on communicative competence

Through a review of the descriptive-interpretative literature, the study seeks to present what recent research points to in relation to the development of communicative competence through digital technologies, thus being able to better understand how this panorama of change in language learning, which was previously restricted to textbooks and linguistic practices in the face-to-face classroom, and now has a whole digital technological apparatus available to teachers and students. In addition to better illuminating this changing scenario, the present research aims to contribute to the discovery of research gaps so that future studies can focus on elements not yet studied and, in this way, can help teachers and students in this transition from the study solely bookish for a teaching process that is more consistent with the way we communicate today. However, the impacts of digital technology integrated learning have not yet been thoroughly investigated. The objectives of this study are twofold: to assess the impacts of incorporating digital technology into English education with regard to Thai university students' linguistic gain and to identify pain points in online learning. Initially, a pretest was developed and administered to first year university students majoring in humanities. Subsequently, the participants were exposed to ten sets of strategically selected grammatical online lessons representing ten grammatical points for 19 days, during which time they were free to explore and exploit the lessons. Then, toward the end of the exposure, a parallel posttest was administered, followed by a post online lesson exposure questionnaire and a semi-structured interview with randomly selected students. The data analysis revealed that, while the participants' linguistic abilities improved significantly, they appeared to have poor learning management. Therefore, although digital technology is valuable and beneficial, some learners need to be scaffolded before embarking on the digital technology integrated English education journey.

Shih & Yang (2008), a 3D virtually synchronous communication architecture for situated language learning has been designed to foster communicative competence among undergraduate students who have studied English as a foreign language (EFL). We present an innovative approach that offers better e-learning than the previous virtual reality educational applications. The proposed method supplies learners with autonomy in virtual communications, allowing learners to achieve a variety of shared goals. The traditional text-based or web-based virtual reality systems are generally less attractive to students because of their lack of 3D immersion and real-time voice interaction. Three-D virtual reality technology can be exploited to compensate these weaknesses. We propose an immersive and interactive virtual English classroom, entitled VEC3D, that integrates a goal-based instructional design, vivid 3D graphics, and real-time voice communication. The ultimate goal of the VEC3D project is to enhance learners' English communicative competence. This research determines how learners perceive their experiences in the virtual space and use communication strategies (CSs) in the process of advancing communicative competence. The recent ethnographic study results revealed that the proposed application promoted positive student attitude and interactive learning experiences.

Kachmarchyk, Khrystiuk, & Shanaieva-Tsymbal (2019) proved that one of the most promising directions in education development in the modern world is blended learning as it combines the strengths of traditional educational methods and benefits of online learning technologies. The article states that e-learning course is a

major means of blended learning implementation in the process of foreign language communicative competence training for future International Relations specialists. The e-learning course structure for students of the first year in specialty 055 «International relations, public communications and regional studios» based on the MOODLE 3 platform has been described. The results of the experiment at the National University of Life and Environmental Sciences of Ukraine demonstrate that using the MOODLE platform forms and improves the future International Relations specialists' foreign language communicative competence and ensures the main educational process requirements (openness, accessibility, interactivity, and instrumentality) have positive effects for both teachers and students. AlSaleem (2018) investigated the effect of utilizing Facebook activities on enhancing oral communication skills for English as Foreign Language learners (EFL) in the English Department at Yarmouk University, Jordan. Participants of the study were first year English Language Bachelor degree students who speak English as a foreign language. The researcher hypothesized that if these learners practiced Facebook activities, their oral communication skills may be improved. For answering questions of the study, the researcher designed a pre-post oral communication skills test to determine the participants' mastery of oral communication skills. Furthermore, she uploaded the activities on a Facebook account that were made available for all the participants of the study. Results revealed that the suggested Facebook activities were effective on improving participants' oral communication skills. Then the study recommended that Facebook activities may be utilizing on improving other skills such as speaking and listening or even English language pronunciation.

Yu et al. (2023) stated that throughout their experience within the English Language Teaching (ELT) field and while acquiring a second language in English a Foreign Language (EFL) and English as a Second Language (ESL) settings, they have noticed that one of the main perceived challenges for English Language Learners (ELLs) is to effectively communicate. Most of the time, this issue comes from the concern or fear to mispronounce any word, considering that English manages some variations on its phonetic alphabet, which differs from other languages. Therefore, it becomes necessary for ELLs the acquisition of English phonemic awareness to improve their pronunciation, fluency, and confidence when orally communicating in English. Basing on the interlanguage hypothesis, phonemic awareness, English phonology theories, and Information and Communication Technology (ICT) tools and resources, this study aims to analyse: a.) to what extend does phonemic awareness development influence on students' communication skills? b.) How effective is the implementation of technology to develop phonemic awareness? To do so, a phenomenological study, based on the constructivism epistemology, the study conducted including a deep revision of the existed literature, various studies previously applied, and the researchers' experience within the teaching and professional field to examine the impacts of developing phonetic awareness through technological resources on English language learners' (ELL) communicative competences. JEONG (2018) explored ways how to develop English as a foreign language learners' communicative competence through the use of multimedia-assisted language instruction. This paper tries to explore the impact of using authentic multimedia and effective instructional strategies in order to motivate university students' English language learning. This study also tried to find out students' perception and attitudes toward engaging in multimedia-assisted language learning materials and classroom activities for their English study. This paper investigates how the utilization of multimedia and technology-enhance instructional strategies can foster learner motivation and autonomy in their EFL learning. This study first explains the notion of communicative competence which has been derived from the paradigm of communicative language teaching and then portrays how the integration of multimedia-enhanced language learning resources and instructional strategies can support university students to develop their communicative competence and integrated four English skills, especially presentation skills. In this study, EFL university students responded that they could develop their English communicative competence while they were engaging in the multimedia-assisted language learning. Participants of this study expressed that language learning materials using multimedia were very entertaining and informative for their English study. They evaluated their English learning experience through the use of multimedia as effective and motivating. The result of this study revealed that authentic multimodal English language learning materials and classroom activities using multimedia could be served as motivating factors to improve English as a foreign language learners' communicative competence as well as to boost their English language learning motivation and autonomous learning experience.

Lawn & Lawn (2015) outlined the initial results of a university in Nagasaki making use of a similar online service as part of an ESL course in a blended e-learning format. The online course required students to make appointments with the online service staff at times mutually convenient. The service consisted of one 25-minute lesson per one or two days. Initial observations by teaching staff noted increasingly high average levels of communicative competence in the pilot course students, and formal interviews confirmed this. Furthermore, resulting overall English grades were found to correlate closer to "time spent conversing in English online" than to "student initial pre-course scores." A survey of the pilot course students was taken and the results are outlined in the paper. Student feedback uncovered a wide variety of problems ranging from lesson booking logistics, personal teacher preferences, and connection (Skype) problems; however, most comments were very positive regarding how they enjoyed speaking online in this blended e-learning environment. Increased motivation and a sense of making progress in being able to communicate better and with increased confidence in English were also commonly cited. Qibin (2015) Communicative competence which covers all aspects of language use has always been the goals to reach both for the language teachers and undergraduates in their English language teaching and learning. As English is the foreign language with no or little language environment for students to pick up the language outside the educational institutions, information technology and computer network which have been widely used in higher education provide vivid English with the virtual environment of the video and audio resources. The practice of using information technology to teach English has been widely adopted in the English language classroom. The paper aims at discussing on the development of students' communicative competence supported by the computer-assisted language learning (CALL). Piaget (1977) asserts that learning occurs by an active construction of meaning, rather than by passive percipience. Computer-assisted language learning which is best promoted by the constructivism can effectively improve students' communicative competence by providing the students with the authentic language learning environment.

Nampaktai & Suksiripakonchai (2018) investigated whether teaching students using digital storytelling was effective. This quasi-experimental research in the design of one group pre- and post-tests was implemented for over eight weeks. The sample comprised 40 Grade 11 secondary students of Saipanya Rangsit School, selected by the purposive sampling technique. The students were assessed on English speaking ability through the Key English Test before and after the implementation. After the course ended, a questionnaire and a semi-structured interview were administered to seek the students' perception about English speaking confidence. The quantitative data, obtained from English speaking tests and a questionnaire, were analyzed by means of descriptive statistics and a dependent t-test. The qualitative data obtained from a semi-structured interview were analyzed by content analysis. It was found that 1) there was a significant difference in students' mean scores on English speaking ability before and after using digital storytelling (p value < 0.05) and 2) students had positive perception about English speaking confidence towards the use of digital storytelling. A majority of students stated that digital storytelling fostered their speaking skills and speaking confidence.

Vurdien (2019) Recently, there has been a growth in the popularity of the application of synchronous tools in the language classroom with a view to developing students' communicative competence. For instance, desktop videoconferencing can provide students with the opportunity to practise and enhance their communication skills outside the classroom setting. With this in mind, the present study, which lasted for a semester, aimed to explore how (a) videoconferencing can help students to develop their speaking skills and (b) what students consider to be the most important outcomes of their learning experience. This was by means of task-based activities performed on an online platform via the Internet application, Zoom. The thirty EFL participants (levels C1 and C2) were divided into two groups, experimental (n = 18) and control (n = 12). The latter performed their bi-weekly tasks in their face-to-face classes, whilst the former engaged with their partners via videoconferencing. The findings indicate that the students who interacted virtually on videoconferencing outperformed those who interacted face-to-face. Despite certain drawbacks, videoconferencing can be deemed a convenient tool to motivate students to build up their confidence, negotiate meaning and construct knowledge, thereby enhancing their communicative competence.

Alzhanova & Chaklikova (2022) The purpose of the study is the research of the opportunities for developing professional foreign language communicative competence within the concept of multilingual education. The study is based on the method of the experiment presented by a survey of students. The course was tested by 70

Master's degree students of Gumilyov Eurasian National University. The functionality of the Google Meet communication platform and mobile applications have created a comfortable environment for learning Business English. The educational course revealed students' ability to carry out high-quality communication. The results show that students improved their skills in spontaneous business discussion with rational construction of communication, proper speech intonation, lexical sufficiency within the framework of speech topics, and grammatical correctness. The practical significance and prospects for further research are presented by the opportunity of using the developed methodology in the process of communicative competency formation by students of different specialties. Makruf et al. (2021) to address this issue, the study sheds some light on the significant impact of flipped learning method on developing English learners' communicative competence. A total of 40 English learners of a university in Indonesia were grouped into flipped and non-flipped classrooms. Through the flipped learning, the course materials were delivered by means of Google classroom platform prior to the class, and the classroom activities were mostly allocated for communicative practices. To obtain the data, this study employed a Discourse Completion Task (DCT) and Technology Acceptance Model (TAM) questionnaire. Drawing on paired sample t-test and descriptive statistics, the results depicted that there was a significant difference between the learners' pretest and post-test scores of DCTs in the flipped group, and it significantly outperformed the non-flipped group. The results of TAM questionnaire further indicated that most of the learners appreciated the learning activities conducted in the flipped learning environment, and positively perceived Google classroom as an online platform for language learning. As the conclusion, it is a worth saying that flipped learning by means of Google classroom is an effective method to develop English learners' pragmatic competence.

Sergeevna (2021) discussed the issue of introduction of new educational technologies as a tool for developing students' communicative competence in foreign language learning. The study is aimed at analyzing the impact of digital story creation in a foreign language on the development of students' foreign language communicative competence, their motivation to learn a foreign language and their adaptation to academic environment. Review of literature on readiness of modern higher education to wide implementation of e-learning components is given; reasons preventing their introduction into teaching of foreign languages are described. Analysis of implementing digital storytelling in a foreign language teaching is presented. The impact of the first-year students' participation in creation of digital stories on their language learning motivation and adaptation to university environment is considered. The data, collected from surveys and digital stories, created by students and assessed by university teaching staff, were analyzed. The results prove a positive impact of digital storytelling educational technology on students' motivation in foreign language learning, as well as on the process of first-year students' adaptation to academic environment. The results also demonstrate that creation of digital stories contributes to formation and development of variety of learners competences, including foreign language communicative competence and helps improve students' soft skills. Xiuwen & Razali (2021) This paper aims to explore the potential on the utilization of TikTok and how it impacts on English language communication competence acquisition among Chinese international undergraduate students by reviewing previous and recent studies focusing on TikTok as well as other social medias such as Facebook, YouTube, WeChat and so on. It is important to note that even though previous relevant studies have showcased the positive effects of using social media as learning aids in English language communication acquisition, very few literatures having been published focusing on the utilization of TikTok in English language communication acquisition. The expected findings of this paper could reveal the potential of using TikTok for international undergraduate Chinese students out of EFL classroom in improving their English Communication Competence and for increasing their interests of speaking English. The researchers showcase critical views, recommendations, as well as implications for the utilization of TikTok in the field of English language communication competence acquisition among EFL undergraduate students.

merzoug & Benyagoub (2021) This current study seeks to improve students' communicative competence by web-based tools, which is critical for their academic success, and consequently recommending the suitable classroom materials. A case study involve 22 master 2 students from Adrar University's Department of English was conducted for this purpose. Two research instruments were used to cross-check gathered data, a students' questionnaire and teachers' interview. The information gathered was analyzed quantitatively and qualitatively.

The results showed that incorporating ICT methods into an EFL environment is the most effective way to improve students' communicative abilities. Additionally, some suggestions and guidelines were made to EFL teachers and students in order to assist them in achieving a successful technical tool of implementation and improving students' communicative competence. Artyushina et al. (2015) The chapter analyses integration of such Internet and digital educational technologies as podcasts and WebQuests into the process of English language teaching in universities. There are two major problems the teachers of non-linguistic educational establishment effectiveness of modern methods have to solve nowadays: how to efficiently organise students' self-studies and compensate the deficit of English class hours. The chapter also examines how podcasts and WebQuests, which provide the opportunity to combine technology and educational concepts to solve theses educational problems at the undergraduate level. A survey of over 700 students revealed that podcasting is a creative and entertaining technology for individual self-studies which motivates students to study English as it incorporates authentic materials dealing with various topics, everyday situations and current events. WebQuests, which are based on the project method, inquiryoriented learning and the ability to integrate on-line resources, have also demonstrated their great educational potential as they are very student-centered and motivate them to be actively engaged in the learning process. Moreover, WebQuests develop critical thinking and widen lexical and grammatical context. As WebQuests are mostly done in teams they also develop communicative skills and form students' professional competence. Despite the fact that WebQuests are mostly team projects whereas podcasts focus on individual work, both technologies have much in common: they develop students' foreign language communicative competence, encourage their personal and professional development, motivate to study English and demonstrate educational mobility.

Turko et al. (2021) aimed at demonstrating the effectiveness of modern methods of formation of English language communicative competence of those students who study at non-language specialties. The experimental work was carried out at the Faculty of Pedagogy and Psychology, the Faculty of Physical Education and the Faculty of History of Ternopil National Pedagogical University named after Volodymyr Hnatyuk, Ukraine. The authors present their experience of conducting a three-year-long training using game technology, project-based technology, interactive technologies, tasks in the electronic system Moodle, etc. and discuss the benefits of using those means at university. The core question of the given study is whether these means are effective in the formation of students' foreign language communicative competence. The authors demonstrate the benefits of studying with the help of modern lingua-didactic and technical means. The results of the survey indicate that these tools are effective in their integrated application for the formation of English language skills. To conclude, the findings of the study can be applied while teaching English to the students of non-language specialties.

Shcherbakova & Ilina (2019) described features in the developing of foreign language communicative competence by using interactive teaching methods. Th e directions of developing the students' foreign language communicative competence are determined. Experimentation on skills in the development of this competence was carried out on the basis of interaction between participants. A comparative analysis of the results in experimental and control groups is proposed. Th e scientific novelty of the article is that it describes the effectiveness of the experience of using cooperation technology and the online platform Technology Entertainment Design in the developing of foreign language communicative competence of students.

Agbatogun (2014) The purpose of this study was to compare the impact of clickers, the communicative approach and the lecture method on the communicative competence development of learners who were taught English a second language (ESL). Ninety-nine pupils from three primary schools participated in the study. Quasi-experimental nonrandomised pre-test posttest control group design was adopted for the study. A battery of English Language Listening Tests and English Language Speaking Tests were used to measure pupils' communicative competence. Study's data were analysed using boxplot, paired samples t-test, Analysis of covariance and multiple regression analyses. Findings indicated that, there was a significant difference between the communicative competence pre-test and post-test scores of pupils in each of the groups. Furthermore, across the groups, there was a significant difference in pupils' communicative competence post-test scores based on the teaching strategy. Multiple regression analysis results revealed that 84.9% of the variance of pupils' communicative competence was accounted for by a combination of the predictor variables. Speaking skills was

the potent contributor while gender did not make a significant contribution to the prediction of pupils' communicative competence in ESL classrooms.

W.-C. Chang et al. (2021) described the use of a game-based writing environment (GWE) to increase textual cohesion in students' writing and improve their writing attitude. The participants were 113 third-grade students in Taiwan; the study was conducted over two semesters. A GWE was used for the experimental group (n = 56), and a conventional writing environment was used for the control group (n = 57). Both environments were constructed using the Reading for Creating and Talking for Revising writing model, which has helped students overcome writing difficulties. The GWE provided management-related game elements and a game-based feedback mechanism in the form of peer response and created a setting in which students could engage in more writing activity, pay more attention to their writing, and improve their writing skills. The results indicated that the experimental group performed better than the control group in referential cohesion and in terms of their affective, challenge, and qualified attitudes. We speculate that the GWE strengthens students' textual cohesion and writing attitude.

CONCLUSION

This review study has presented the literature review of the use of digital platforms in enhancing communicative competence where the body of knowledge in the field of communicative competence has been reviewed and narrated in the global EFL context and Iraqi local context. All the studies regarding the communicative competence. Future reviews might focus on the experimental design studies that focused on implementing technology-enhanced learning in learning and teaching communicative competence. This review study offers implication the stakeholders in ministries of education on the previous experiences of other countries around the world in using digital platforms in learning and teaching communicative competence.

REFERENCES

[1] Agbatogun, A. O. 2014. Developing learners' second language communicative competence through active learning: Clickers or communicative approach? *Journal of Educational Technology & Society* 17(2): 257–269.

[2] Al-Samarraie, H. & Saeed, N. 2018. A systematic review of cloud computing tools for collaborative learning: Opportunities and challenges to the blended-learning environment. *Computers & Education* 124: 77–91.

[3] Almobarraz, A. 2020. Investigation of ESL Students' Interaction With Online Information Resources. *Language Learning and Literacy: Breakthroughs in Research and Practice*, hlm. 111–123. IGI Global.

[4] AlSaleem, B. I. 2018. The Effect of Facebook Activities on Enhancing Oral Communication Skills for EFL Learners. *International Education Studies* 11(5): 144–153.

[5] Alzhanova, A. & Chaklikova, A. 2022. Multilingual Education: Development of Professional Foreign Language Communicative Competence of Students in a Digital Environment. *International Journal of Web-Based Learning and Teaching Technologies (IJWLTT)* 17(1): 1–13.

[6] Artyushina, G., Baguzina, E., Plekhova, O. & Sheypak, O. 2015. Developing communicative competence through Internet and digital technologies. *The magic of innovation. New techniques and technologies in teaching foreign languages* 43–67.

[7] Brown, H. D. 1994. Teaching by Principles, Eaglewood Cliffs. NJ: Prentice-Hall.

[8] Byram, M. 2020. Teaching and assessing intercultural communicative competence: Revisited. Multilingual matters.

[9] Chang, W.-C., Liao, C.-Y. & Chan, T.-W. 2021. Improving children's textual cohesion and writing attitude in a game-based writing environment. *Computer Assisted Language Learning* 34(1–2): 133–158.

[10] JEONG, K.-O. 2018. DEVELOPING EFL LEARNERS'COMMUNICATIVE COMPETENCE THROUGH MULTIMEDIA-ASSISTED LANGUAGE LEARNING. *Journal of Theoretical & Applied Information Technology* 96(5).

[11] KACHMARCHYK, S., KHRYSTIUK, S. & SHANAIEVA-TSYMBAL, L. 2019. Using Blended Learning Technology in Foreign Language Communicative Competence Forming of Future International Relations Specialists. *Romanian Journal for Multidimensional Education/Revista Romaneasca pentru Educatie*

Multidimensionala 11(4).

[12] Kim, S. 2018. Exploring media literacy: Enhancing English oral proficiency and autonomy using media technology. *Electronic media* 473: 500.

[13] Lawn, M. J. & Lawn, E. 2015. Increasing English communicative competence through online English conversation blended e-learning. *International Journal of Information and Education Technology* 5(2): 105.

[14] Makruf, I., Putra P, H. R., Choiriyah, S. & Nugroho, A. 2021. Flipped Learning and Communicative Competence: An Experimental Study of English Learners. *International Journal of Education in Mathematics, Science and Technology* 9(4): 571–584.

[15] MERZOUG, I. & BENYAGOUB, L. 2021. Improving EFL Learners' Communicative Competence Using Web-based Materials. Ahmed Draia University–Adrar.

[16] Nampaktai, P. & Suksiripakonchai, W. 2018. The Use of Digital Storytelling in Fostering English Speaking Ability of Thai Secondary Students. *Veridian E-Journal, Silpakorn University (Humanities, Social Sciences and arts)* 11(4): 1192–1206.

[17] Oke, A. & Fernandes, F. A. P. 2020. Innovations in teaching and learning: Exploring the perceptions of the education sector on the 4th industrial revolution (4IR). *Journal of Open Innovation: Technology, Market, and Complexity* 6(2): 31.

[18] Qibin, H. 2015. Computer-Assisted Language Learning and the Improvement of Communicative Competence. *5th International Symposium on Knowledge Acquisition and Modeling (KAM 2015)*, hlm. 151–154. Atlantis Press.

[19] Savignon, S. J. 2018. Communicative competence. *The TESOL encyclopedia of English language teaching* 1–7.

[20] Schneckenberg, D. 2014. Easy, collaborative and engaging–the use of cloud computing in the design of management classrooms. *Educational Research* 56(4): 412–435.

[21] Sergeevna, P. I. 2021. New Educational Technologies to Develop Foreign Language Communicative Competence of Non-Linguistic Students: Digital Storytelling. *Филологический класс* 26(3): 231–242.

[22] Shcherbakova, I. A. & Ilina, M. S. 2019. Foreign language communicative competence formation of university students by using interactive teaching methods. *The New Educational Review* 57: 173–183.

[23] Sherine, A., Seshagiri, A. V. S. & Sastry, M. M. 2020. Impact of whatsapp interaction on improving L2 speaking skills. *International Journal of Emerging Technologies in Learning* 15(3). doi:10.3991/ijet.v15i03.11534

[24] Shih, Y.-C. & Yang, M.-T. 2008. A collaborative virtual environment for situated language learning using VEC3D. *Journal of Educational Technology & Society* 11(1): 56–68.

[25] Turko, O., Kravchuk, T., Kashuba, O., Navolska, H. & Kutsyi, I. 2021. The Latest Tools for the Formation of Foreign Language Communicative Competence of Students of Non-language Specialties. *Arab World English Journal (AWEJ) Volume* 12.

[26] Vurdien, R. 2019. Videoconferencing: Developing students' communicative competence. *Journal of Foreign Language Education and Technology* 4(2): 269–298.

[27] Xiuwen, Z. & Razali, A. B. 2021. An overview of the utilization of TikTok to improve oral English communication competence among EFL undergraduate students. *Universal Journal of Educational Research* 9(7): 1439–1451.

[28] Yu, S., Liu, C. & Zhang, L. 2023. Understanding L2 writers' lived experiences of informal writing: A phenomenological approach. *Journal of Second Language Writing* 60: 100979.