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COMPUTER-MEDIATED COMMUNICATION IN ENGLISH LANGUAGE LEARNING

Abstract

Communication has invariably been an essential part of human existence. With technological improvements in the contemporary era, communication is brought to a yet another stage - we increasingly communicate by means of computer. Thus, we employ computer-mediated communication (CMC) in different spheres of our lives. In particular, business and educational affairs are taken care of more swiftly, effortlessly and frequently more productively. Thanks to its strong points, CMC is gaining popularity even among educators. Educators that are continuously on their quest for beneficial means and methods to apply in the teaching environments. With regard to that, Skype, Facebook, Twitter, Gmail, Yahoo Messenger are step by step conquering the academic sphere. The aim of this paper is to probe into styles of exploitation of CMC in English language learning (ELL), factors exerting impact on the implementation of CMC as well as current CMC environments focusing on their efficacy in teaching contexts, based on the portion of the research work of the researchers interested in the subject. Furthermore, a survey was conducted among students to establish how and to what extent they make use of CMC tools in English language learnning (ELL). It was established that students do use CMC for academic purposes, specifically English language learning, and that CMC genuinely has a variety of pedagogical implications. This borne in mind, teachers are encouraged to integrate CMC at least to a specific extent in the established learning/teaching process.

Key words: computer-mediated communication (CMC), educators, Yahoo messenger, Facebook, pedagogical implications

Introduction

The world today appears to be ‘shrinking’ and is abruptly changing. So rapid are the changes that some of the time we fail to follow them. Along with other changes, communication has changed substantially. Subsequently, the generations of today engage more in computer mediated communication (CMC) than face-to-face (FtF) communication. Consequently, teaching/learning concepts, environments and methods are being transformed. Educators somehow are now struggling to keep pace with all the novelties in learning and teaching. Prensky (2005) states:

> *Educators have slid into the 21st century—and into the digital age— still doing a great many things the old way. It's time for education leaders to raise their heads above the daily grind and observe the new landscape that's emerging.*

Yet, most teachers are persisting in tracking the changes as they cannot prosper without that. As of recently, CMC tools have become more prominent in higher education. Students enjoy 'being connected' to another human being and CMC caters for that. Luke (2006), as asserted in Blattner & Fiori (2009), maintains that CMC has been recognized to meet connectedness demands that today's students await. Members of younger generations are more inclined to exploit computers to communicate. They 'live and breathe' computers. Prensky (2001) contends that smart phones, computer games, the Internet, email and instant messaging (IM) are essential segments of their lives. One of the positive aspects of IM, for instance, is that it extends the student comfort zone. Many students believed that the IM was more personal than e-mail, voice mail, and chat rooms, which also augmented their comfort level with the instructor and the class (Jeong, 2007) Communicating via computers neither frightens nor burdens them. These are some of the reasons why CMC occupies more and more space in educational climates and why it should be counted on. Promnitz-Hayashi, (2011) in her paper cites Kern (1995) that argues that certain CMC can lead to 'greater language production in terms of messages and turns than face-to-face' which can be noticed in the comments given by students and what was really examined in chat transcripts.

Ertmer (2005) alleges that from a pedagogical standpoint low-level technology uses are customarily correlated with teacher-centered educational settings, whereas high-level technology normally fosters constructivist practices in which the learners are to cooperate.
Students were able to review multiple topics and articulate their thoughts and beliefs which all students in the interview admitted was more comfortable to do in an online environment as opposed to FtF, especially in a culture where people are reluctant to express their opinions instantly. (Promnitz-Hayashi, 2011)

How to advance English language learning (ELL) in the best conceivable way is the question educators routinely pose to themselves. What to do? How and when to do it? How to arouse and then maintain interest of their students and have them yield results? This is where instructors may resort to a cornucopia of CMC modes such as emails, instant-messaging, learning management systems (LMS), social networking sites (SNS), etc. Hughes (2009) claims that these technologies have garnered attention of higher education academics on their quest for involving and propelling their students to be more active learners. Furthermore, there has been an interest in incorporating miscellaneous social media tools i.e. video – sharing sites, blogs, microblogs and SNS into the process of learning (Grosseck & Holotescu 2009; Rankin 2009; Ebner et al. 2010; Schroeder et al. 2010). Higher education institutions, and the fashion in which instruction is conveyed and supported, are being changed by digital technologies. Globally, institutions are progressively including online technologies into delivery schemes and administration – both through internal learning management systems (LMS) and external social networking sites (SNSs). (Sadowski, Pediaditis, Townsend, 2017)

This paper centers on digital learning environments, factors affecting implementation of CMC, students' use of VLEs, and students' perceptions of their usefulness.

Digital Learning Environments

Instant messaging (IM) represents a real-time communication service between desktop computers. IM has emerged from the public online chat rooms of the 1990's and 2000's, and developed into rather sophisticated and very common tool. IM desktop software operates to a

degree like email and smartphone text messaging, but with the speed of a private chat room. Participants are simultaneously online "talking" to each other by typing text and sending little images at the same time. Some of the most known IM services are Google Talk, MSN Messenger, Yahoo Messenger, Trillian. Owing to predilection of Prensky's (2005) 'digital natives' towards using if not even (ab)using IM and thanks to its concomitant ample constructive features, instant messaging can be of assistance in instructional contexts. According to Cohn (2002), instant messaging (IM) is on the verge of becoming a mandatory communication means for academic service providers. Lopes (2011) states that access to the Internet and use of laptops, palmtops, smart phones have opened up a window for educators and students alike. They both may benefit from the array of online information, communication, cooperation and sharing with others. The addition of Internet services in the instructional practices can provide thematic, social and digital enrichment for the agents involved. Yet, a great number of educators are inert to integrate it in their learning/teaching routines. The following chapters will provide brief insight into some of the most important digital learning environments and their basic features.

Gmail

Gmail is the abbreviation for Google Mail. It is a service free of charge provided by Google. It offers a secure, dependable, and easy to use platform that is sufficiently effective for feature-rich email users. One of its features is that it facilitates sending and receiving e-mail over the Internet. Gmail could be used successfully for ELL in numerous ways. Educators could create routine email progress reports, reminders and course notifications e.g. modifications to a lesson plan. As Gmail boasts a contact list that enables users to email big groups of Ls at once, Ls can be quickly and propitiously kept up to date about the latest course developments and their improvements. For instance, a teacher can send students the results from their most recent exam or inform them about the course material. Via Gmail Chat that provides a chat and video features, you can address directly to Ls should questions arise.

Yahoo messenger

Yahoo! Messenger is a software application from Yahoo!. The application provides users with multiple styles to exploit the Internet to interact with other people - contacts. Its champion function is instant messaging. Yahoo! Messenger also offers a possibility to chat in chat rooms. A chat room is a web page where a number of people can instant message simultaneously as a group. The features of Yahoo! Messenger do not stop here. Users can have all messages/calls forwarded to their mobile phones when they're offline. The application also allows you to send photos, or files up to 2GB.

Learning Management Systems (LMS)

Malikowski, Thompson, & Theis (2007) call LMS 'an integrated set of web-based tools for learning and course management'. Thus, LMS provides educators and learners alike with a window to share didactic materials, announce bits of information related to the class, submit and return course assignments, and interact with each other online. Further Lonn (2009) asserts that Watson & Watson (2007) declare that LMSs are devised to deliver and manage educational content, recognize and assess individual learning goals, and gather and display data for

supervising the learning process. Two most prominent Learning Management Systems (LMSs) are WebCT (Blackboard) and Moodle. Moodle is going to be elaborated a bit further in the paper.

Moodle is sometimes referred to as LMS and sometimes as Virtual Learning environment (VLE). A VLE presents a selection of integrated tools facilitating the management of online learning, offering a delivery mechanism, student tracking, assessment and access to resources. The subsequent tools that can bolster student learning in a wide variety of ways, are customarily incorporated in VLEs:

Communication – they reinforce interaction between students and educators, between students and students or across student groups through synchronous chat and asynchronous online discussion tools.

Assessment – VLEs boast formative and summative assessment tools. For expeditious concept - checking and 'formative' feedback students can use self-tests. Quizzes may be of help to both the pedagogue and the students in terms of providing directions. The tools for assessment are of substance in assisting students to stimmulate comprehension of a topic. Juwah, MacFarlane, Matthew, Ross, Nichol &Smith (2004) state it is vital that teachers offer exhaustive feedback i.e. not merely signal whether a question is 'correct' or 'incorrect'.

Collaboration – tools supportive of cooperation within and across student groups. For instance, the file upload facilities in a VLE give teachers and students opportunity to share resources by shifting learning materials (e.g. notes, PowerPoint files, articles, images, etc) into the VLE.

Moodle is designated for communication, cooperation, group work, sharing, activities, critical thinking and a cooperative type of learning. One of the enticing facts about Moodle is that users can take part in its development. Kalayci & Humiston (2015) share the opinion that Moodle attains multiple learning tenets including active learning, communication and instant feedback. It is possible for students to get assessment and feedback in the course of cooperation, in forums, blogs, wikis, glossaries and quizzes. Moodle reinforces communication, cooperation and interaction among its users. This is why teachers can make use of Moodle to achieve a sense of community among learners (Ls). As stated in Kalayci & Humiston (2015), Nunan (1988) confessed that, "no curriculum can claim to be truly learner-centered unless the learner's subjective needs and perceptions relating to the process of learning are taken into account". In particular, students' private convictions and stances towards web-based teaching are perceived as a pivotal factor to the fruitful integration and acceptance of such systems in the learning routines of an institution. Consequently, Kalayci & Humiston (2015) reports that according to Molina, A.I., Redondo, Lacave, & Ortega (2014) numerous studies (Liaw, 2008; Liaw, Huang, & Chen, 2007; Lin, 2009; Ong & Lai, 2006; van Raaij & Schepers, 2008; Selim, 2003) have looked into miscellaneous factors exerting impact on users' perspectives towards using an e-learning system. Attitudes towards computers are delineated by Smith, Caputi, & Rawstorne (2000) as "a person's general evaluation or feeling of favourableness or unfavourableness toward computer technologies (i.e. attitude toward objects) and specific computer-related activities (i.e. attitudes toward behaviours)". Personal usage of IT is affected by personal attitudes. Namely, grasping users' stances towards e-learning helps the creation of convenient e-learning environments for teaching/learning. Typically students with long-established a background in education are not used to cooperative activities and commonly opt more for the

same type of conventional language learning when they attend university. (Kalayci & Humiston, 2015)

Social Networking Sites (SNS)

The popularity of social networking has lately been soaring. As cited by Zhao (2005), exposing language learners to authentic target language is one of the best ways of enhancing their language aptitude. Web sites such as Twitter, Instagram, Facebook, MySpace can be a very useful tool in the classroom as they promote both target language use and foster learner autonomy among language students. (Promnitz-Hayashi, 2011) Integrating social networking sites such as Twitter or Facebook can result in students increasing their own language learning in a fun and enticing way. (Promnitz-Hayashi, 2011)

Twitter

Twitter is one of the microblogging services that facilitate posting of concise messages of the users and interaction with other users. (Ullrich, Borau and Stepanyan, 2010) If we were to come up with a brief definition of Twitter, we would say that Twitter allows their users to send and receive messages from a computer or a mobile phone. The message can contain only 140 characters. Some of the ways Twitter has been detailed in language learning encompass students' analysis of native speaker (NS) tweets (Blattner et al, 2015, 2016), student perceptions of hashtags (Blattner et al. 2016), the upgrading of vocabulary (Perez-Sabater and Montero-Fleta, 2015), cooperative learning (Stepanyan et al., 2010), community building (Lomicka and Lord, 2011; Stepanyan et al., 2010), development of social presence (Lomicka and Lord, 2011). As concerns classrooms, Twitter has been exploited as a quasi-learning management system. As such, it is used particularly for back channeling, day-to-day communication, virtual office hours, pop-quizzes, note-taking, out-of-class chat sessions and sending reminders and enlarging the classroom community. It gives opportunity to share content and establish lasting dialogues with other teachers. (Hattam & Lomicka, 2016)

Facebook

It is cited in Perez, Araiza, Doerfer (2013) that Stutzman (2006) claimed that 90 % of their students implied the use of Facebook (FB). As declared by Mazer, Murphy and Simmonds (2007); Tuncay, Uzunboylu (2010), exploiting Facebook immensely influences the motivation of students to turn, productive learning and atmosphere in the classroom. As stated in research, Facebook is conducive to a less inhibited flow of interaction between tutors and students. Moreover, FB may intensify learning. In support of the aforementioned, Berg et al. (2007) illustrate how a university made use of Facebook as a means to build up rapport between its educational personnel and students. Some of the most productive faculty members are, according to Sturgeon and Walker (2009), those who establish informal relationships with their students via FB. Facebook offers space for students to interact in novel ways, but the students are doubtful that the teachers are updated in the tool. (Perez, Araiza, Doerfer, 2013) Instructors are reluctant to use this tool as they are not acquainted with its potential. Facebook reflects sound models of learning. Models that are cooperative and prompt users into participation.

Skype

Skype teems with constructive features making it considerably attractive both for learners and teachers. These components comprise Voice-over-Internet Protocol (VoIP) that facilitates audio/video conferencing, instant messaging, file sharing, screen sharing, and group video calls. Learners – Skype users may both surmount tangible hindrances and prevail over their potential inhibition. There are few opportunities in the conventional educational contexts to practice speaking skills, and even less to benefit from honing them with peers from abroad. Such frequent obstacles can be conveniently surmounted through employment of socio-constructivist activities using Skype that offers fantastic opportunities for advancement of foreign language listening and speaking. This methodological implementation is bolstered by socio-constructivist learning theories. Such theories are exceptionally opportune for applying technology in Foreign Language Learning (FLL). Finally, Rao (2007) holds view that Skype is a potent resource for second language teaching if applied as support for explicit learning goals. It provides multiple L2 learning pluses, resolving the problem of target language practice, specifically oral skills. Moreover it facilitates authentic exchanges thus stimulating students. (Taillefer & Munoz-Luna, 2014)

Students' Use of VLEs

Edinburgh University's study shows that more than half of their present students make use of their VLE minimum 2 – 3 times weekly. (Haywood et al, 2004). A majority of students exploit a virtual learning environment to gain access to resources. They access handouts, tutor notes from their FtF meetings, PPT presentations online, supplementary links, and high-quality digital readings (Crook and Barrowcliff (2001), Haywood et al (2004), Conrad (2002)). Thorne and Payne (2005) assert, as cited in Lomicka and Lord (2012), that teachers repeatedly integrate multiple tools to arouse interest of their students and to offer them possibilities to communicate in novel and diverse ways, in the classroom and beyond the classroom.

Discussion

- ***Purpose of the study***

The aim of this study was to determine how often first and second year students at the University of Zenica use computers in their everyday lives with a focus on learning languages. Namely, it is quite evident from previously mentioned literature review that there are numerous ways in which we can use modern technology to learn and acquire languages. The most common method involving teacher-classroom setting is still rather popular but many changes are happening in that respect as well. Therefore, the authors of the paper have decided to design a questionnaire for the students to check their habits in language learning outside the classroom. This has been done in order for us to gain some insights into their habits and to come up with some recommendations as to the application and use of CMC in the classroom.

- ***Research method***

The questionnaire consisted of 20 questions divided into two parts. The first part consists of personal information about participants in the research and the second part deals with CMC and the use of it in language learning. The subjects were tested online and they had only one possibility to reply and review their answers before submitting their completed forms. The

questionnaire was divided into segments regarding the type of questions used into yes/no questions, multiple choice and open-ended questions.

- ***Research analysis***

Total of 168 participants took part in the survey. There were roughly about 52% female and about 48% male participants. All of the participants were first and second year students at the University of Zenica. Ninety-nine percent (99 %) of the participants belong to the age group between 18 and 25 years of age. This makes them ideal for this survey if we have in mind that they belong to the generation that has been completely immersed in modern technology since their childhood – the generation that Prensky (2005) calls 'digital natives'. This was also quite visible from the question about their computer skills in which 72% consider themselves as average and 26% as advanced computer users. Thanks to this fact they are quite technologically capable and equipped to use full capacity of CMC tools in their language learning process. In respect to the language learning, 57.7% of participants have learned English language from 8 to 12 years which should have made them rather skilled in language learning activities in and outside the classroom. As far as other uses of current communication technology are concerned the participants use the following:

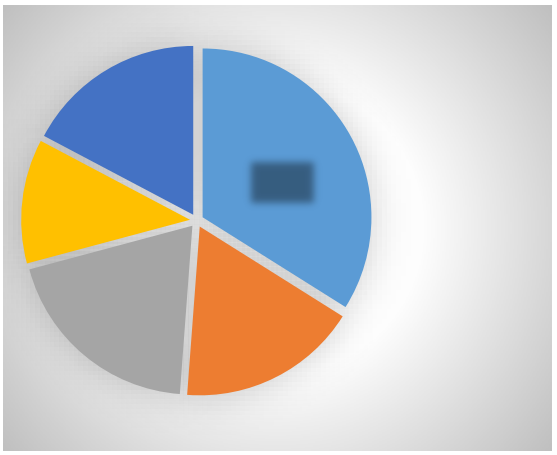
CMC tool	Percentage of Ps users
Facebook	98.8 %
Gmail	96.4 %
Yahoo Messenger	72 %
Skype	51.2 %
Moodle	41.7 %
Twitter	15.5 %

Table 1. CMC tool use by survey

As we can see from the Table 1 the most frequently used medium for CMC is Facebook, which complies with the statement by Stutzman (2006) that about 90% of students use Facebook and the least common among our participants is Twitter, despite the fact that currently in the world Twitter is rather popular. This is interesting because it provides educators with the clear evidence about what medium to use in implementation of CMC-based curriculum in language learning with our participants. It is also in direct agreement with the statement by Promnitz and Hayashi (2011) about the importance of social networking sites for language learning.

However, there is one problem, which became evident from the survey. Namely, when it comes to Facebook, students mostly use it to communicate with their friends and family while their communication with teachers is very low. As we can see in the chart 1 about 0% (only 1 subject) communicates constantly with their teachers via FB. Fifty-six (56 %) of participants never use FB for communication with teachers and only 5 % often communicate with their teachers via FB. Therefore, the language learning aimed at CMC use should be based on the use of these two platforms among others.

As we can see above, the social media influence language learning a lot. Very high percentage of 85 % of participants claim that their English language skills have improved due to the use of social media. We can illustrate this in the Chart 2, where we can see that 12% of participants believe that their reading skills are better thanks to social media networking sites; 17% believe that both writing and speaking skills are better; 20% maintain that listening skills are better and finally 34 % claim that all four skills have improved. In addition, 78.6 % of participants also claim that they have expanded their vocabulary and this should be borne in mind when evaluating their replies. Language learning is particularly important if these web sites do not have mother tongue version, in our case Bosnian/Croatian/Serbian and the users are forced to acquire particular language which is specific for that particular networking web site, in our case it is usually English. However, the use of these previously mentioned CMC tools is not restricted to language learning because they are not made for language learning. The content learners face is usually not adapted but rather real-life content and vocabulary which makes it more appealing and interesting for language learners. Participants constantly use Facebook to communicate with their friends (43%), for communication with their teachers (only 5 %) and to improve their language skills as the data in the following chart 3 confirms:



It can be seen that 53 % of participants use computer as a medium for English language learning while only 7 % have never used it for English language learning. Another aspect that should be taken into account, as mentioned earlier in the paper, is the difference in language learning attitude towards FtF or computer-based language learning. In our survey, participants were asked whether they think that CMC is more efficient in language learning than face-to-face learning. The results are indecisive in certain respect. About 43 % of participants agree with the statement and think that CMC is more efficient, while on the other hand we have about 37% of those who disagree with the statement. Nevertheless, when the issue of learning stress is considered, the situation is greatly different, as can be seen in the chart 4. About 78% participants either partially/ completely/ or agree that there is much less stressful language learning via CMC because there is no real-life presence of

their educators. Very often if we are talking about asynchronous CMC tools, Ss can take break any time they need, they can adapt learning pace to their own needs etc.

Conclusion

The issue of CMC use in language learning indeed is very complicated and this problem at the University of Zenica has not been addressed in the proper manner before. There are many problems which have become evident through this brief survey and for more detailed information about all aspects of this issue, it would take much more time and more space than the amount allotted for this paper. It is, however, important to note that due to the great discrepancy between the use of FB for communication with friends and with teachers at the University of Zenica, it is necessary to further stress and suggest the use of this medium for communication between teachers and students. However, educators are to have in mind all the limitations of this type of communication as well. This is especially important for teachers, whose activity on social networking site could be the subject of another research project. Ertmer's (2005) claim is also confirmed by our research results and we may say that our educational system is still teacher-centered and it is necessary to introduce many changes and work with educators in order to change this attitude. Educators themselves have to adapt to the use of new technologies in this modern era. Many of the tools mentioned in the paper are still completely unknown to both students and the teachers and a lot needs to be done to incorporate them in their jobs and education. Moodle, for instance, is used at some of the faculties at the University of Zenica but only about 40% of students who participated in the survey use it. The number of teachers/professors who use it is still unknown, but if we objectively observe this number that must be very low indeed. Apropos the usage of CMC for language learning, it is undeniable that significant pedagogical implications are apparent. Hence, among other pluses, according to Perez-Sabater and Montero-Fleta (2005), Twitter, for instance, caters for Ls that are after augmenting vocabulary and the findings of the survey conducted among students at the University of Zenica are illustrative of that. With regard to that, the authors of the present paper are urging educators to suppress their fear of 'the new and unknown'. We recommend teachers to 'toy with' the CMC amenities in their teaching confines and have faith that such 'toying' will bring positive outcome both for them and their students. These recommendations rest upon the findings of the carefully perused research and survey conducted. Considering all the aforementioned, teaching personnel at the University of Zenica ought to adjust their didactic stance and do it promptly. In that respect, Ertmer (2005) proposes a more productive path which could be useful in this situation as well ... *to suggest to the teachers the types of technology uses that can bolster their most immediate requirements. This should augment instructor's belief in themselves for exploiting technology so that, in time, they become more apt and inclined to use it on a higher level.*

References

1. Berg, J., Berquam, L., & Christoph, K. (2007). Social networking technologies: A „poke" for campus services. *EDUCAUSE Review, 42(2), 32–44.*
2. Bataineh, R.F., & Mayyas, M. B., (2017). The Utility of Blended Learning in EFL Reading and Grammar: A Case for Moodle. *Teaching English with Technology, 17(3), 35-49, http://www.tewtjournal.org*

3. Blattner, G. & Fiori, M. (2009). Facebook in the Language Classroom: Promises and Possibilities. *International Journal of Instructional Technology and Distance Learning, 6, 17-28.*
4. Blattner, G, Dalola, A, Lomicka, L (2015) Tweetsmarts: A pragmatic analysis of well-known native speaker Tweeters. In: *Dixon, E, Thomas, M (eds) Researching language learner interactions online: From social media to MOOCs, San Marcos, TX: Computer Assisted Language Instruction Consortium, pp. 213–236.*
5. Blattner G, Dalola A and Lomicka L (2016a) #MindYourHashtags: A sociopragmatic study of student interpretations of French Native Speakers' tags. In: *Winstead L and Congcong W (eds) Handbook of Research on Foreign Language Education in the Digital Age. Hershey, PA: IGI Global. Online first. doi: 10.4018/978-1-5225-0177-0.ch003.*
6. Blattner G, Dalola A and Lomicka L (2016b) Twitter in foreign language classes: Initiating learners into contemporary language variation. In: Wang V (ed.) *Handbook of Research on Learning Outcomes and Opportunities in the Digital Age*. Hershey, PA: IGI Global, pp.769–797.
7. Cohn, E. R. (2002). "Instant Messaging in Higher Education: A New Faculty Development Challenge,". *Proceedings of the 2002 Teaching Online in Higher Education Online Conference, November, 12-14, 2002.*
8. Crook, C.K and Barrowcliff, D (2001). Ubiquitous computing on campus: Patterns of engagement by university students. *International journal of human computer interaction, 13(2), 245−258.*
9. Conrad, D (2002) − Inhibition, integrating and etiquette among online learners: the art of niceness. *Distance Education, 23, 2 October.*
10. Ebner, M., Lienhardt, C., Rohs, M., Meyer, I. (2010). Microblogging in Higher Education – A chance to facilitate informal and process-oriented learning. *Computers & Education 55 (2010) 92–100*
11. Ertmer, P. A. (2005). Teacher Pedagogical Beliefs: The Final Frontier in Our Quest for Technology Integration? *ETR&D, Vol. 53, No. 4,2005, pp. 25-39 ISSN 1042-1629*
12. Gil, P. (2017). What Is 'I.M.' and Instant Messaging? (AIM, MSN Messenger, ICQ, Google Talk, and Others...) Retrieeved from https://www.lifewire.com/what-is-instant-messaging-2483319
13. Gmail in the Classroom Created by CUE and WestEd for Google. Retrieved from 10 February 2018 http://fredkoch.weebly.com/uploads/1/4/2/8/1428504/crib_gmail.pdf
14. Grosseck, G. & Holotescu, C. (2009). Can we Use Twitter for Educational Activities? *The 4th International Scientific Conference eLSE "eLearning and Software for Education", Bucharest, April 17-18, 2008,* http://adl.unap.ro/else/
15. Haywood, J., Macleod, H., Haywood, D., Mogey, N., Alexander, W. (2004). The Student View of ICT in Education at the University of Edinburgh : skills, attitudes & expectations Retrieved February 3 2018 from http://homepages.ed.ac.uk/jhaywood/papers/studentviews.pdf
16. Hattem, D., Lomicka, L. (2016). What the Tweets say: A critical analysis of Twitter research in language learning from 2009 to 2016. *E-Learning and Digital Media 2016, Vol. 13(1–2) 5–23 ! The Author(s) 2016*

17. Hughes A. (2009). Higher education in a Web 2.0 world. *JISC Report.*
18. Jeong, W. (2007). Instant Messaging in On-Site and Online Classes in Higher Education. *EDUCAUSE QUARTERLY, Number 1, 2007.*
19. Junco, R., Heiberger, G. & Loken, E., (2010). The effect of Twitter on college student engagement and grades. *2010 Blackwell Publishing Ltd Journal of Computer Assisted Learning. doi:10.1111/j.1365-2729.2010.00387.x*
20. Kalayci, S., & Humiston, K. R. (2015). Students' Attitudes Towards Collaborative Tools In A Virtual Learning Environment. *Educational Process: International Journal, 4 (1-2), 71-86.*
21. Liaw, S. S. (2008). Investigating students' perceived satisfaction, behavioral intention, and effectiveness of e-learning: A case study of the Blackboard system. *Computers & Education, 51(2), 864-873.*
22. Liaw, S. S., Huang, H. M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers & Education, 49(2), 1066-1080.*
23. Lin, M. S. (2009). How computer-mediated communication affects ell students' writing processes and writing performance. (Unpublished PhD Thesis). Norman, Oklahoma, USA.
24. Lomicka, L., Lord, G. (2012). A tale of tweets: analyzing microblogging among language learners. *Elsevier. 48-63*
25. Lonn, S. D. (2009). Student Use of a Learning Management System for Group Projects: A Case Study Investigating Interaction, Collaboration, and Knowledge Construction. *A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Education) in The University of Michigan 2009*
26. Lopes, A. P. (2011). Teaching with Moodle in Higher Education. *Proceedings of INTED2011 Conference. 7-9 March 2011. Valencia. Spain. ISBN:978-84-614-7423-3.*
27. MacFarlane, J., Ross, M., Nicol &Smith (2004). HE Academy Guide − Enhancing Student Learning Through Effective Formative Feedback (ASS096).
28. Retrieved on http://tools.jiscinfonet.ac.uk/downloads/vle/what-is-vle.pdf
29. Malikowski, S. R., Thompson, M. E., & Theis, J. G. (2007). A model for research into course management systems: Bridging technology and learning theory. *Journal of Educational Computing Research, 36(2), 148-173. doi:10.2190/1002-1T50-27G2H3V7*
30. Molina A. I., Redondo, M. A., Lacave, C., & Ortega, M. (2014). Assessing the effectiveness of new devices for accessing learning materials: An empirical analysis based on eye tracking and learner subjective perception. *Computers in Human Behavior, 31, 475490.*
31. Mazer, J. P., Murphy, R. E., & Simonds, C. J. (2007). „„„I‟ll see you on Facebook‟‟‟‟: The effects of computer teacher self-disclosure on student motivation, affective learning, and classroom climate. *Communication Education, 56(1), 1–17.*
32. Nunan, D. (1988). The learner-centered curriculum. *Cambridge: Cambridge University Press.*
33. Péreza, T., Araiza, M., Doerfer, C. (2013). Using Facebook for Learning: A Case Study on the Perception of Students in Higher Education. *Procedia - Social and Behavioral Sciences 00 (2013) 000–000*

34. Ong, C. S., & Lai, J. Y. (2006). Gender differences in perceptions and relationships among dominants of e-learning acceptance. *Computers in Human Behavior, 22(5), 816-829.*
35. Perez-Sabater, C., Montero-Fleta, B. (2015). ESP vocabulary and social networking: The case of Twitter. *Ibérica, núm. 29, 2015, pp. 129-154*
36. Prensky, M. (2001). Digital Natives, Digital Immigrants. *On the Horizon (MCB University Press, Vol. 9 No. 5, October 2001)*
37. Prensky, M. (2005). Listen to the Natives. *Educational Leadership. December 2005/January 2006 | Volume 63 | Number 4 Learning in the Digital Age Pages 8-13*
38. Promnitz-Hayashi, L. (2011). A learning success story using Facebook. *Studies in Self-Access Learning Journal, 2(4), 309-316.*
39. Rankin M. (2009). Some general comments on the 'Twitter experiment.'
40. Sadowski, C., Pediaditis, M., Townsend, R. (2017). University students' perceptions of social networking sites (SNSs) in their educational experiences at a regional Australian university. *Australasian Journal of Educational Technology, 2017, 33(5).*
41. Salomon, G., Perkins, D. N. & Globerson, T. (1991). Partners is cognition: Extending human intelligence with intelligent technologies. *Educational Researcher, 20(3), 2-9. doi:10.3102/0013189X020003002*
42. Schroeder et al. (2010). The strengths, weaknesses, opportunities, and threats of using social software in higher and further education teaching and learning. *Journal of ComputerAssisted Learning 26, 159– 174.*
43. Smith, B., Caputi, P., & Rawstorne, P. (2000). Differentiating computer experience and attitudes toward computers: an empirical investigation. *Computer in Human Behavior, 16, 59-81.*
44. Sturgeon, C. M., & Walker, C. (2009). Faculty on Facebook: Confirm or deny? Paper presented at the Annual Instructional Technology Conference, Murfreesboro, TN.
45. Stutzman, F. (2006) An Evaluation of Identity-Sharing Behavior in Social Network Communities. *Proceedings of the 2006 iDMAa and IMS Code Conference, Oxford, Ohio.*
46. Teillefer, L. Munoz-Luna, R. (2014). Developing Oral Skills Through Skype: A Language Project Analysis. *Procedia - Social and Behavioral Sciences 141 (2014) 260 – 264*
47. Thorne, S. L., & Payne, J. S. (2005). Evolutionary trajectories, Internet-mediated expression, and language education. *CALICO Journal, 22, 371–397.*
48. Tuncay, N., Keser, H. and Uzunboylu, H. (2010). If knowledge is power why keep it secret?. *Procedia - Social and Behavioral Sciences, 2 (2), P.5650–5658 (ISI Web of Science, ScienceDirect, Scopus)*
49. Ullrich, C., Borau, K. and Stepanyan, K. (2010). Who Students Interact With? A Social Network Analysis Perspective on the Use of Twitter in Language Learning *M. Wolpers et al. (Eds.): EC-TEL 2010, LNCS 6383, pp. 432–437, 2010. © Springer-Verlag Berlin Heidelberg 2010*
50. Van Raaij, E. M., & Schepers, J. L. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education, 50(3), 838-852.*

51. Watson, W. R., & Watson, S. L. (2007). An argument for clarity: What are learning management systems, what are they not, and what should they become? *TechTrends, 51(2), 28-34. doi:10.1007/s11528-007-0023-y*
52. Wu, W-S., (2008). The application of Moodle on an EFL collegiate writing environment. *Journal of Education and Foreign Languages and Literature, V. 7, June 2008, p.45-56*
53. Zhao, Y. (2005). The future of research in technology and second language education. *In Y. Zhao (Ed.), Research in technology and second language learning: Developments and directions (pp.445-457). Greenwich, CT: Information Age Publishing, Inc.*

KOMPJUTERSKI PODRŽANA KOMUNIKACIJA U UČENJU ENGLESKOG JEZIKA

Sažetak

Komunikacija je oduvijek bila bitan dio ljudskog postojanja. Sa napredovanjem tehnologije u savremenom dobu, komunikacija je dovedena na jednu novu razinu – sve više komuniciramo putem računara. Prema tome, kompjuterski podržanu komunikaciju (KPK) primjenjujemo u različitim sferama naših života. Tako se naročito poslovne i obrazovne obaveze obavljaju brže, lakše i često produktivnije. Zahvaljući svojim jačim stranama, KPK postaje sve popularnija čak i među nastavnim kadrom. Među nastavnim kadrom koji je u stalnoj potrazi za korisnim metodima i sredstvima koje mogu primijeniti u obrazovnim kontekstima. S time u vezi, Skype, Facebook, Twitter, Gmail, Yahoo Messenger korak po korak osvajaju akademsku sferu. Cilj ovog rada jeste da prouči načine eksploatacije KPK u učenju engleskog jezika (UEJ), faktore koji utječu na realizaciju KPK te aktualna KPK okruženja sa fokusom na njihovu djelotvornost u akademskim kontekstima, a na temelju dijela istraživačkih radova istraživača koji su se zanimali za tu temu. Povrh toga, provedena je anketa među studentima da bi se ustanovilo kako i u kolikoj mjeri oni koriste KPK u učenju engleskog jezika. Utvrđeno je da studenti uistinu koriste KPK u akademske svrhe, naročito za učenje engleskog jezika te da KPK zaista ima niz pedagoških implikacija. Uzevši ovo u obzir, nastavni kadar se podstiče da uključuju KPK-u u konvencionalni obrazovni proces makar u određenoj mjeri.

Ključne riječi: kompjuterski podržana komunikacija (KPK), nastavni kadar, Yahoo messenger, Facebook, pedagoške implikacije