World Journal on Educational Technology

Vol 8, Issue 1, (2016) 51-57

http://sproc.org/ojs/index.php/wjet

Digital technology use in ELT classrooms and self-directed learning

Nehir Sert *, Foreign Language Education Department, TED University, Turkey.
Ebru Boynueğri, Foreign Language Education Department, TED University, Turkey.

Suggested Citation:
Sert, N. & Boynueğri, E. (2016). Digital technology use in ELT classrooms and self-directed learning. *World Journal on Educational Technology. 8*(1), 51-57.

Received February 15, 2016; revised February 24, 2016; accepted March 30, 2016
Selection and peer review under responsibility of Assoc. Prof. Dr. Fezile Ozdamli, Near East University.

Abstract

The digital era is a new challenge for teachers. While children get acquainted with digital technology before the age of six, teachers, who have encountered the digital world at a later time in their lives, struggle with it. Self-directed learning, which is crucial for lifelong learning, can be enhanced by the use of technology within and beyond classroom settings. The aim of this study was to examine the difference between the perceptions of students in low- and high-income groups about their use of technology in a general sense and their teachers' use of technology in ELT classrooms. It also tested the correlation between the perceptions of their self-directed learning behaviours and their own/their teachers' technology use. The population of the study consisted of 75 students from high- and 70 students from low-income groups. Causal comparative and correlational research methods were adopted in the study. The surveys to measure the students' perceptions about technology use were developed by the researchers. A scale, established by Demirtas and Sert (2010), was used to identify the level of self-directed learning views of the students. The data were collected at the beginning of the first term of the 2015-2016 school year. The results indicated that there was no significant difference between perceptions of the low- and high-income students regarding their own technology use. Likewise, perceptions of the low- and high-income students did not differ regarding their teachers' technology use. There was no correlation between the perceptions of the low-/high-income mixed group regarding their use of technology and their teachers' use of technology. Lastly, self-directed learning perceptions of the low-/high-income mixed group did not correlate with their perceptions on any aspects of technology use. The educational implications of these results were discussed and suggestions were put forward in order to produce more effective learning environments.

Keywords: Digital technology, self-directed learning, ELT

*****ADDRESS FOR CORRESPONDENCE: **Nehir Sert,** Foreign Language Education Department, TED University, Turkey.
E-mail address: nehir.sert@tedu.edu.tr

1. Introduction

Languages are a complex part of human nature and it is very challenging to learn a foreign language in limited class time. This is what makes self-directed learning inevitable for foreign language learners. Self-directed learning is defined by Garisson (1997) as "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes."

Paris and Paris (2001) examine self-directed learning under the broader tem 'self-regulated learning', which requires learner autonomy to monitor, direct and regulate actions. Another term related closely with self-directed learning and self-regulated learning is learner autonomy. In Nunan's (2015) distinction of autonomous learning and self-directed learning, while autonomous learning may take place inside or outside the classroom, self-directed learning usually occurs outside the classroom, where the students take responsibility for their own learning. From this distinction it is clear that autonomous learning is an umbrella term that covers self-directed learning.

When defining self-regulated learning, Zimmerman (2007) mentions the term 'self-oriented feedback loop' and uses the terms self-esteem, self-concept and self-actualization for covert descriptions and self-recording, self-reinforcement and self-controlling for overt descriptions. All these "self-" associated terms related with the concept may give the impression that self-directed learning is a process in which learners act independently, yet it should be kept in mind that learning cannot take place without other associations (Demirtaş & Sert, 2010). As a matter of fact, the constructivism of Piaget and Dewey and the social constructivism of Vygotsky and Bruner both assert the importance of social learning (Fosnot & Perry, 1996; Kim, 2001; Liu & Matthews, 2005; Philips, 1995). Constructivist and socio-constructivist theories also highlight the active learning environments in which knowledge is constructed. On account of the notion that self-directed learning is the 'outside classroom dimension' of autonomous learning, social learning is a part of self-directed learning.

Similarly, the term 'autonomous learning' may be outwardly connected with independent learning, yet, as Little (1995) defines it, it occurs when the learner associates the knowledge acquired in formal settings with "what he or she has already become as a result of developmental and experiential learning". By this definition, it is clear that autonomous learning involves a classroom context and, therefore, promotion by teachers of learner autonomy. The need for teacher promotion of learner autonomy has changed the traditional roles of teachers and, for the ELT context, the new concern is how teachers can support the students' learning processes (Yang, 1998).

In teaching and learning processes, the role of the teacher is not the only improving aspect. Recent improvements in computer technology have brought the use of digital technology into many areas of education, including English language teaching (Oz, 2014); therefore, digital technology has an essential role in L2 instruction (Oz, 2015; Toyoda & Harrison, 2002). As Pettis (2002) points out, improving her/his teaching competence – composed of principles, knowledge and skills – is the teacher's professional responsibility. This motto reveals the need for today's language professionals to improve their digital technology skills. There is a link between technology competence and autonomous learning. Technology enables students to have technology competence and technology-enhanced instruction supports student-centred classrooms in which the growth of discovery learning and autonomous learners is promoted (Erben, Ban & Castañeda, 2009). As a result, extensive knowledge of digital technology and pedagogy as well as the ability to evaluate digital technology activities have become basic requirements for today's L2 professionals and technology enables those professionals to understand the strategies that individual learners apply when they are learning through technology (Fotos & Browne, 2004).

On the other hand, this changing role by the force of technology may become a challenge for teachers. Prensky's term (as cited in Walker & White, 2013) 'digital immigrants' is useful to explain these difficulties: as most of today's teachers were not born into a digital world, they have difficulty

practising technology; their students, conversely, who are likely to be 'digital natives', were born into and grew up with technology. This distinction is likely to have an undesired outcome, which is that the technological competence of the teachers may lag behind their students' competence. Eventually, this may affect the students' perceptions of their teacher's competence.

This study aims to make contributions to literature by investigating the perceptions of students in low-/high-income group combinations about their use of technology in a general sense and their teachers' use of technology in ELT classrooms. It also tests the correlation between the perceptions of their self-directed learning skills and their use of technology/their teachers' technology use in the classroom.

1.1. Aim of the study

- Is there a difference between the perceptions of the 5th-8th graders in low- and high-income groups regarding their use of technology?
- Is there a difference between the perceptions of the 5th-8th graders in low- and high-income groups regarding their teachers' use of technology in the ELT classrooms?
- Is there a correlation between the perceptions of the 5th-8th graders regarding their use of technology and their teachers' use of technology?
- Is there a correlation between the scores of the self-directed learning scale and their technology use scale?
- Is there a correlation between the scores of the self-directed learning scale and their teachers' technology use scale?

2. Method

Causal comparative and correlational research methods were adopted in this study. Surveys that explore the perceptions of the students in low-/high-income group combinations about their use of technology in a general sense and their teachers' use of technology in ELT classrooms were used. The processes explained below were used to develop the scales (Appendix A). First of all, the related concepts were defined. Open-ended questions about perceived use of technology were directed to 10 students. After analysing their responses and reviewing the related literature, the items of the surveys were pooled. The items in the surveys were mostly influenced by the surveys developed by Dornisch (2013). To check whether the items in the draft forms were compatible with the purpose of the study, three field experts and six participants were consulted. Their comprehensibility and applicability were also checked in the same fashion. The surveys were updated according to the recommendations given by three experts. Firstly, the surveys were piloted and then revised accordingly as suitable and given their final forms. Exploratory factor analyses were conducted to provide reliability and validity of the surveys. The percentages of the explained variances were found to be sufficient (41.2%; 40%) and the surveys were one-dimensional. The items in the survey measuring the self-directed learning (Appendix B) were taken from the scale developed by Demirtas and Sert (2010) and were also factor analysed. The percentage of total explained variance was 64.3. The rating scales used in all of the surveys had five points – from 'not applicable' (0: NA), 'strongly disagree' (1) to 'strongly agree' (4).

The study was conducted at two elementary schools in Ankara. Of these schools, one was a private elementary school in which most of the children were from high-income families. The other was a public elementary school, which children of low-income families attended. The study population consisted of 145 students, with 70-75 students in each group respectively.

3. Findings

1.1.1. 3.1 The difference between low-income and high-income groups regarding their use of technology

Results related to the difference between the perceptions of the 5th-8th graders in low-income groups (M=3.28, SD=0.45) and high-income groups (M=3.30, SD=0.74) regarding their use of technology indicated that there was no statistically significant difference between the two groups, $t(143)=0.27$, $p > 0.05$, two tails.

1.1.2. 3.2. The difference between low-income and high-income groups regarding their teachers' use of technology

Results related to the difference between the perceptions of the 5th-8th graders in low-income groups (M=3.01, SD=0.82) and high-income groups (M=2.46, SD=1.07) regarding their teachers' use of technology indicated that there was statistically significant mean difference between the two groups, $t(143)=3.47$, $p=0.001$, two tails.

1.1.3. 3.3. The correlation between the perceptions of the 5th-8th graders regarding their use of technology and their teachers' use of technology

The correlation for the data revealed that the scores of the students' perceptions of their technology use and their teachers' technology use were not significantly related, $r= -0.16$, $n=145$, $p > 0.05$, two tails.

3.4. The correlation between the scores of the self-directed learning scale and their technology use scale

The correlation for the data revealed that the scores of the students' perceptions of their use of technology and their self-directed learning were not significantly related, r= -0.12, n=145, p >0.05, two tails.

3.5. The correlation between the scores of the self-directed learning scale and their teachers' technology use scale

The correlation for the data revealed that the scores of the students' self-directed learning and their teachers' technology use were not significantly related, r= +0.10, n=145, p >0.05, two tails.

4. Conclusion

The findings of this study indicated that the social stratum of the students made no difference to their perceptions of their own and their teachers' technology use. Their opinions about their teachers' technology use did not correlate with their own technology use. Furthermore, there was no significant correlation between their beliefs about their self-directed learning behaviours and their own/their teachers' technology use. These are thought-provoking findings, since they seemingly conflict with the idea that the new technologies have profound effects on self-directed learning in the ELT classroom. Furthermore, Warschauer and Shetzer (2013) emphasize that "flexible, autonomous, lifelong learning is essential to success in the age of information" (2003, cited in Hayta and Yaprak, 61). Mocker (1982) examines self-directed learning under lifelong learning and states that, in self-directed learning, the learner is the one who makes all the decisions by controlling both the objectives and the means of processes. However, it is worth considering what makes digital technology beneficial for self-directed language learning. It brings to mind the question of whether to use it effortlessly, purposefully or both. Therefore, the issue of how to use digital technology successfully for specific purposes in the lifelong learning process requires more investigation. However, this small group study has certain limitations. First of all, its findings cannot be generalized and the validity of the findings pertains to the groups under investigation. On the other hand, it has the potential to propose new research questions. For example, more comprehensive qualitative, quantitative and/or mixed studies could be conducted to explore the effects of digital technology on self-directed language learning and how to stimulate self-directed language learning behaviours through digital technology.

Acknowledgements: We would like to offer our gratitude to Sinem Sozen for her invaluable support.

Appendix A. Student perceptions about their own/their teachers' technology use

1. My teacher/I can use multimedia programmes effortlessly (for example, media players, Adobe Creative Cloud, etc.).
2. My teacher/I can use computer communication programmes effortlessly (e-mail, instant messenger).
3. My teacher/I can use video programmes effortlessly (YouTube, etc.).
4. My teacher/I can use social media effortlessly (blogs, Facebook, Twitter, etc.).
5. My teacher/I can use necessary databases effortlessly (for example, English grammar databases, English language learners databases, etc.).
6. My teacher/I can use spreadsheet programmes effortlessly (for example, Microsoft Excel, Apache OpenOffice Calc., etc.).
7. My teacher/I can use the internet to gather information when necessary.

8. My teacher/I can use presentation software effortlessly.
9. My teacher/I can use technology to work with others and to communicate with others.
10. My teacher/I can help my friends solve their technology-related problems.

Appendix B. Self-directed English language learning perception scale

1. "I read books, periodicals, the internet etc. in English to improve my English."
2. "I pay attention to images while watching a TV programme or movie in English in order to better grasp it."
3. "I take notes of new words, word groups, idioms and structures while watching."
4. "I take note of new words, word groups, idioms and structures while reading."
5. "I listen to English broadcasting on the radio, internet, etc."
6. "I try to find tools and materials that match well with my level in order to learn better English."
7. "If possible, I listen to the same English listening material a few times in order to increase my understanding of it."
8. "I try to understand English song lyrics while listening to them."
9. "I try to use every opportunity to utter each new word or structure that I have heard."
10. "I try to use every opportunity to write down each new word or structure that I have heard."
11. "I try to use every opportunity to utter each new word or structure that I have come across, while watching."
12. "I try to guess the meaning of unfamiliar words in the text without resorting to the dictionary."
13. "I try to make use of every opportunity to involve a new word or structure in speech, which I have come across while reading."
14. "In order to promote my vocabulary knowledge, I regularly go through text that I have read before."
15. "I try to make use of every opportunity to involve new words and structures in writing."
16. "Before starting to read, I first try to make predictions about the topic, by looking at the titles and pictures." (Demirtas & Sert, 2010, 166-167).

References

Ajzen, I. (1982). Equity in attitude formation and change. In Jerald Greenberg & Ronald L. Cohen (Eds.), Equity and justice in social behavior (pp. 161-183). New York: Academic Press.

Bull, J., & McKenna, C. (2004). A blueprint for computer-assisted assessment. London: RoutledgeFalmer.

Demirtas, I., & Sert, N. (2010). English education at university level: Who is at the centre of the learning process? *Novitas-ROYAL (Research on Youth and Language), 4*(2), 159-172.

Dornisch, M. (2013). The digital divide in classrooms: Teacher technology comfort and evaluations. Computers in the Schools: *Interdisciplinary Journal of Practice, Theory, and Applied Research, 30*(3), 210-228.

Educational Psychology: A Century of Contributions: A Project of Division 15 (educational Psychology) of the American Psychological Society

Erben, T., Ban, R., & Castañeda, M. (2009). *Teaching English language learners through technology*. New York: Routledge.

Fosnot, C. T., & Perry, R. S. (1996). *Constructivism: A psychological theory of learning*. Constructivism: Theory, perspectives, and practice, 8-33.

Fotos, B., & Browne, C. M. (2004). Conclusion. In B. Fotos & C. M. Browne (Eds.), New perspectives on CALL for second language classrooms. New Jersey: Lawrence Erlbaum Associates.

Garrison, D. R. (1997). Self-directed learning: Toward a comprehensive model. Adult Education Quarterly, 48(1), 18-33.

Harmer, J. (2007). The practice of English language teaching. Edinburgh Gate: Pearson Education Limited.

Hayta, F. Yaprak, Z. (2013). Learner autonomoy and computer technology as a facilitator of Autonomous language learning. *Journal of Educational and Instructional Studies in the World, 3*(2), 56-63.

Kim, B. (2001). Social constructivism. Emerging perspectives on learning, teaching, and technology, 1(1), 16.

Lindell, M. K., & Perry, R. W. (2012). The protective action decision model: theoretical modifications and additional evidence. *Risk Analysis, 32*(4), 616-632.

Little, D. (1995). Learning as dialogue: The dependence of learner autonomy on teacher autonomy. *System, 23*(2), 175-181.

Liu, C. H., & Matthews, R. (2005). Vygotsky's Philosophy: Constructivism and Its Criticisms Examined. *International Education Journal, 6*(3), 386-399.

Mocker, D. W., & Spear, G. E. (1982). Lifelong Learning: Formal, Nonformal, Informal, and Self-Directed. Information Series No. 241.

Nunan, D. (2015).*Teaching English to speakers of other languages.* New York: Routledge.

Oz, H. (2014). Pre-service English teachers' perceptions of web-based assessment in a pedagogical content knowledge course. *Procedia-Social and Behavioral Sciences, 141,* 45-58.

Paris, S. G., & Paris, A. H. (2001). Classroom applications of research on self-regulated learning. *Educational psychologist, 36*(2), 89-101.

Pettis, J. (2002). Developing our professional competence: Some reflections. In Jack C. Richards & Willy A. Renandya (Eds.),. Methodology in language teaching: An anthology of current practice (pp. 393-394). Cambridge: Cambridge University Press.

Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of constructivism. Educational researcher, 5-12.

Toyoda, E., & Harrison, R. (2002). Categorization of text chat communication between learners and native speakers of Japanese. *Language Learning & Technology, 6*(1), 82-99. Retrieved from http://www.llt.msu.edu/vol6num1/toyoda/default.html

Walker, A. &White, G. (2013). Technology enhanced language learning. United Kingdom: Oxford University Press.

Walker, S. O., & Plomin, R. (2006). Nature, Nurture, and Perceptions of the Classroom Environment as They Relate to Teacher-Assessed Academic Achievement: A twin study of nine-year-olds. *Educational Psychology, 26*(4), 541-561.

Yang, N. D. (1998). Exploring a new role for teachers: Promoting learner autonomy. *System, 26*(1), 127-135.

Zimmerman, B. J. (2007). Theories of self-regulated learning and academic achievement: An overview and analysis. In Dale H. Schunk & Barry J. Zimmerman (Eds.), Self-regulation of learning and performance: Issues and educational applications (pp. 1-37). Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.