INVESTIGATION OF THE EFFECT OF DISTANCE EDUCATION ON DIGITAL LITERACY SKILLS OF TURKISH TEACHERS

Research article

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Abstract

The aim of this study is to seek into the digital literacy skills of Turkish teachers who teach distance education during the Covid-19 epidemic. Because in the 21st century, Turkish teachers are not only expected to teach students how to use the four basic language skills effectively but also to teach students to use multimedia resources correctly. In this study, a one-group pre-test post-test experimental design which is one of the quantitative research methods was used. The study group of this research consists of 92 participants who work as Turkish teachers in the Ministry of National Education in Turkey. Digital Literacy Scale was used as a data collection tool. A form was prepared via GoogleDocs to collect research data. It was applied to Turkish teachers before starting distance education in the first week of the fall semester of the 2020-2021 academic year. At the beginning of the semester, the scale was applied once again. So research data was collected. Paired Sample T-test was used to analyze the data. As a result of the research, it has been determined that distance education has a significant effect on digital literacy. In other words, during the Covid-19 epidemic, the digital literacy skills of Turkish teachers who teach their lessons with distance education have improved.

Keywords: Digital literacy skills, Turkish teachers, distance education during the Covid-19 epidemic.

1. Introduction

Students need some skills to share their ideas and to communicate with other people in digital media. One of these skills is digital literacy. According to The American Library Association (ALA), digital literacy means *"the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills"* (literacy.ala.org). Digital literacy is the ability to understand information as well as evaluate and integrate information in many formats that can be presented on a computer (Pool, 1997). Digital literacy is also a special way of thinking, it is the ability to choose between useful and useless information, and how to evaluate the information obtained beyond acquiring information on the Internet (Eshet, 2002). Digital literacy is also a definition as combining technical-procedural, cognitive, and emotional-social skills (Aviram & Eshet-Alkalai, 2006). European Commission (2003) points out that digital literacy is necessary for young people to develop the e-learning skills they need in the digital age.

Looking at the history of distance education, it was seen that it was recorded for the first time in a Swedish newspaper in 1833, with the announcement that composition lessons would be given by postal service, and the first application of distance education was realized in England in 1840, when Isaac Pitman was allowed to give shorthair lessons (Simonson et al., 2015). The definition of distance education is an education system model in which students and teachers carry out their learning-teaching activities with technology or postal services in different environments (Kaya, 2002; İşman, 1998). Distance education includes collaborative

learning active learning social learning and the supporting role of the instructor (Spatioti et al., 2022).

There is another concept that draws our attention more with the covid 19 pandemic: Emergency distance education. Emergency distance education is an alternative temporary system offered to prevent teaching from flowing in times of crisis, as opposed to offering an experience that was planned from the beginning and designed online (Hodges et al., 2020). In short, it is the training carried out to ensure the continuity of education in cases where there is a temporary disability (Baran & Sadık, 2021; Sezgin 2021).

Considering the main study subjects related to the distance education of the Turkish language, it is noticed that opinions of Turkish teachers and Turkish teacher candidates on distance education (Aydin & Erol, 2021; Bayburtlu, 2020; Fidan et al., 2022; Karacaoğlu et al., 2021; Kaplan & Gülden, 2021; Karakuş et al., 2020; Kolcu-Canatar & Balcı, 2021; Özgül et al., 2020; Sarıçam et al., 2020), opinions of teachers and students on distance Turkish teaching as a foreign language (Güngör et al., 2020; Karatay et al., 2021; Yurdakul & Duman, 2021), metaphorical perceptions of those who distance Turkish teaching as a foreign language (Eroğlu & Okur, 2021), and problems experienced by Turkish teachers in writing skills in distance education (Günaydın, 2021).

Although there are many kinds of research on language teaching with distance education around the world during the covid 19 epidemic (Atmojo & Nugroho, 2020; Chung & Choi, 2021; Macintyre et al., 2020; Marchlik et al., 2021; Mohammed, 2022; Moorhouse & Kohnke, 2021), as seen in the paragraph above, Turkey has been insufficient in this regard. When the Turkish Course Curriculum, which took its final form in 2019, is examined, it is seen that the expression "accessing information from printed materials and multimedia sources, organizing information, questioning, using and producing skills" (MEB, 2019: 8) is seen under the title of special purposes. In the 21st century, Turkish teachers are expected not only to teach the effective and efficient use of four basic language skills but also to ensure that students benefit from multimedia resources correctly. One of the effective ways to use multimedia resources correctly is to have digital literacy skills (BTK, 2018). The concept that has come to the fore more after the Covid-19 epidemic and will be a part of education life in the future is distance education. Accordingly, it has been a matter of curiosity about how distance education affects the digital literacy skills of Turkish teachers. No such research has been found in the literature. Therefore, the aim of this research is to reveal whether or not distance education affects the digital literacy skills of Turkish teachers.

1.1. Problem Statement

The problem statement of this research is as follows: "Is there a significant difference between the digital literacy pre-test and post-test scores of Turkish teachers who teach by distance education during the Covid-19 epidemic?"

2. Method

In this study, a one-group pre-test post-test experimental design which is one of the quantitative research methods was used. In this method, the effect of the experimental procedure is tested on a single group. A pre-test is applied before the experimental procedure and a post-test is applied after the experiment (Büyüköztürk et al., 2012). Accordingly, it is analyzed whether or not there is a significant difference between the pre-test and post-test scores of a group. This method was preferred to see if there is a significant difference between the digital literacy scores of Turkish teachers in the first week of the fall semester of the 2020-2021 academic year and the digital literacy scores in the last week. Because the same group was

studied and it was investigated whether or not the distance education process affects digital literacy. Because the important thing in this method is whether or not the sample group belongs to the same universe (Can, 2014; Çepni, 2014).

2.1. Study Group

The study group of this research consists of 92 participants who work as Turkish teachers in the Ministry of National Education in different cities in Turkey. 59 (64.1%) of the participants were female and 33 (35.9%) were male. All participants have smart mobile phones.

2.2. Data collection tool

In this study, the Digital Literacy Scale was used as a data collection tool. The Digital Literacy Scale was developed by Ng (2012) and consists of 17 items and 4 sub-factors (attitude, technical, cognitive, social). In the original of scale, it was studied with pre-service teachers studying at a university in Australia. It was adapted into Turkish by Hamutoğlu et al., (2017) and studied with students studying at Sakarya University Education Faculty. As a result of the adaptation study, the total variance was found to be 65.78%, the Cronbach-alpha value was found to be .93, and 4 sub-factors were found to overlap with sub-factors in the original form. The scale has a 5-point Likert-type rating. Three experts with good command of English and Turkish were consulted for the linguistic equivalence study. For the Turkish trial form, English and Turkish forms were applied to 37 academicians two weeks apart. The correlation coefficients between both forms were found to be .89 for the whole scale. Within the scope of this study, the Cronbach-alpha value of all items of the scale was found to be .946.

2.3. Data collection and analysis

A form was prepared via GoogleDocs to collect research data. In the first part of the form, there is the aim of the study, the assurance that personal information will be kept confidential, the study is voluntary, and the e-mail address of the researcher for those who are curious about the results of the research. In the second part, there are scale items. The prepared form link was shared with the participants. The forms filled and sent by the participants were transferred to the Excel program. The collected forms were used for research data.

First of all, it was analyzed whether or not the obtained data showed normal distribution. For this, the Skewness value of the pre-and post-test score difference was -.370, and the Kurtosis value was -.318. According to Tabachnick and Fidell (2013), if these values are between +1.5 and -1.5, the score distribution is considered to be normal. Accordingly, it can be said that the data obtained in this study show a normal distribution.

Paired Sample T-test was used to analyze the data. This test is used to compare the means of two related measurements obtained from the same group (Taşpınar, 2017). Accordingly, the Digital Literacy Scale was applied to Turkish teachers before starting distance education in the first week of the fall semester of the 2020-2021 academic year. The pre-test score average was taken from the data obtained from this application. At the beginning of the semester break on January 22 202, the scale was applied once again. Thus, the post-test scores of the research were obtained. Paired Sample T-test was used to see if there was a significant difference between the pre-test and post-test scores of the participants.

2.4. Ethics Committee Approval

Name of the committee that made the ethical evaluation: Kafkas University Social and Human Sciences Ethics Committee

Date of ethical evaluation decision: Session 15, 19/11/2020

No: 28644117-905.02/

3. Findings

In order to see whether or not distance education affects the digital literacy skills of Turkish teachers, the results of the analysis in which the pre-test and post-test mean scores are compared are given in Table 1.

Table 1. Findings on the effect of distance education on participants' digital literacy skills

		N	$\bar{X}$	S	sd	t	p	η2
DLS	Pre-test	92	56.84	15.888	91	-7.411	.000	.089
	Post-test	92	66.26	12.748				

Looking at Table 1, it is seen whether or not distance education affects the digital literacy skills of Turkish teachers. When the table is examined, it is seen that there is a significant difference between the pre-test and post-test scores of Turkish teachers (t= -7.411 / p<0.01). Considering that the post-test mean score of the participants ($\bar{X}$=66.26) is higher than the pre-test mean score ($\bar{X}$=56.84), it can be said that distance education has a significant effect on the digital literacy skills of Turkish teachers. The eta square value was checked to see the effect size of the result obtained from the research (η2=.089) Considering the values given in Table 2, it can be said that the effect size obtained in this study has an important value.

Table 2. Eta squared (% of variance explained)

Size	% of variance explained
Small	.01 or 1%
Medium	.06 or 6%
Large	.138 or 13.8%

(Pallant, 2016)

4. Conclusion and Discussion

In this study, it was investigated whether or not distance education affects the digital literacy skills of Turkish teachers. As a result of the research, it has been determined that distance education has a significant effect on digital literacy. Eroğlu (2021) obtained a similar result in her study in which she examined the effect of distance education on the digital literacy skills of Turkish teacher candidates. Due to the Covid-19 epidemic, an unprepared transition to distance education was made. Despite the lack of infrastructure and system, in order to continue education, emergency distance education was applied during the Covid-19 epidemic. Accordingly, technology and digital literacy skills have started to develop out of necessity for teachers to learn and apply concepts such as the internet, computers, virtual classrooms, online homework, online exams, and synchronous and asynchronous lessons in order to be able to conduct their lessons in the emergency distance education. In other words, during the Covid-19 epidemic, the digital literacy skills of Turkish teachers have improved, even if it is a necessity.

When we look at the literature, it has been found that the digital literacy skills of teachers and teacher candidates who spend time with technology and the internet have improved and they have a more positive attitude towards distance education (Başar et al., 2019; Lankshear & Knobel, 2008; Martin & Grudziecki, 2006; Maushak & Ellis, 2003; Özerbaş & Kuralbayeva, 2018; Yenilmez et al., 2017). On the other hand, it can be said that the digital literacy skills of Turkish teachers are improved since teachers need to present information to students in a different system and a different format than face-to-face education. Because distance education, which is a different system, is technology-based, most teachers used it for the first time during the Covid-19 epidemic and digital literacy skills improved while learning how to do it. Because converting information into a digital format requires technology and digital literacy (Eshet, 2002; Pool,1997). Although the Internet is an important source of information, it is not a very safe place. It is necessary to take some precautions to make the internet a safer place (BTK, 2018). For example, digital literacy. Digital literacy seminars should be given to enable both teachers and students to develop their 21st-century skills in a safer environment and to ensure that they are not unprepared when transitioning to distance education in emergencies.

5. Declaration of competing interest

None.

References

American Library Association – ALA. Retrieved 01.01.2023, from https://literacy.ala.org/digital-literacy/

Atmojo, A.E.P, & Nugroho, A. (2020). EFL classes must go online! Teaching activities and challenges during COVID-19 pandemic in Indonesia. *Register Journal, 13*(1), 49–76.

Aviram, A., & Eshet-Alkalai, Y. (2006). *Towards a theory of digital literacy: Three scenarios for the next steps.* from http://www.eurodl.org/materials/contrib/2006/Aharon_Aviram.html

Aydin, E., & Erol, S. (2021). The views of Turkish language teachers on distance education and digital literacy during covid-19 pandemic. *IJELS, 9*(1), 60-71.

Baran, A., & Sadık, O. (2021). Covid-19 sürecinde sınıf öğretmenlerinin acil uzaktan öğretim tecrübelerinin ve görüşlerinin incelenmesi. *Uludağ Üniversitesi Eğitim Fakültesi Dergisi, 34*(2), 813-854. DOI: 10.19171/uefad.882291

Başar M., Serpil Arslan, S., Günsel, E. & Akpınar, M. (2019). Distance education perceptions of prospective teachers. *Journal of Multidisciplinary Studies in Education, 3*(2), 14-22.

Bayburtlu, Y. S. (2020). Covid-19 Pandemi dönemi uzaktan eğitim sürecinde öğretmen görüşlerine göre Türkçe eğitimi. *Turkish Studies, 15*(4), 131-151.

BTK - Bilgi Teknolojileri ve İletişim Kurumu. (2018). *Bilgi teknolojileri ve internetin bilinçli, güvenli kullanımı.* Ankara: Bilgi Teknolojileri ve İletişim Kurumu İnternet Daire Başkanlığı.

Büyüköztürk, Ş., Çakmak, E.K., Akgün, Ö.E., Karadeniz Ş., & Demirel, F. (2012). *Bilimsel araştırma yöntemleri.* (Improved 11th ed.). Ankara: Pegem Academy.

Can, A. (2014). *SPSS ile bilimsel araştırma sürecinde nicel veri analizi* (3rd edition). Ankara:

Pegem Academy.

Chung, S.J., & Choi, L.J. (2021). The development of sustainable assessment during the COVID-19 pandemic: The case of the English language program in South Korea. *Sustainability 13*(8), 4499. DOI: 10.3390/su13084499

Çepni, S. (2014). *Araştırma ve proje çalışmalarına giriş* (7th edition). Trabzon: Celepler Printing.

Eroğlu, A. (2021). Uzaktan eğitimle öğrenim gören Türkçe öğretmeni adaylarının dijital okuryazarlık becerileri. H. A. Esir, D. Sancı-Uzun, B. Gökçe, M. H. Kibar-Furtun , & S. Tunç (Ed.). *Yunus Emre Mehmet Akif Armağanı: Türkçe öğretimi araştırmaları* (s.403-411). Ankara: Akçağ.

Eroğlu, A., & Okur, A. (2021). Yabancı dil olarak Türkçeyi uzaktan öğretenlerin uzaktan öğretime ilişkin metaforik algıları. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi,* (Ö10), 325-338. DOI: 10.29000/rumelide.1011455.

Eshet, Y. (2002). *Digital literacy: A new terminology framework and its application to the design of meaningful technology-based learning environments.* from: https://files.eric.ed.gov/

fulltext/ED477005.pdf

European Commission. (2003). *eLearning: better eLearning for Europe.* Belgium: Directorate-General for Education and Culture.

Fidan, M., Sarıaslan, E., & Yılmaz, A. (2022). Uzaktan öğretim süreçlerinde kullanılan Türkçe dersi materyallerine yönelik öğretmen ve öğrenci görüşlerinin değerlendirilmesi. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi,* (26), 350-368. DOI: 10.29000/rumelide.1075617

Günaydın, Y. (2021). Türkçe öğretmenlerinin uzaktan eğitimde yazma becerisinin geliştirilmesine ilişkin yaşadıkları sorunlar ve çözüm önerileri. *Journal of Turkish Researches Institute, 71,* 703-724. DOI: 10.14222/turkiyat4520

Güngör, H., Çangal, Ö., & Demir, T. (2020). Türkçenin yabancı dil olarak uzaktan öğretimine ilişkin öğrenici ve öğretici görüşleri. *Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi, 40*(3), 1163-1191.

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning. EDUCAUSE Review.* from: https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-andonline-learning

İşman, A. (1998). *Uzaktan eğitim.* Sakarya: Değişim.

Kaplan, K., & Gülden, B. (2021). Öğretmen görüşlerine göre salgın (COVID-19) dönemi uzaktan eğitim ortamında Türkçe eğitimi. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi,* (24), 233-258.

Karacaoğlu, M., Karakuş, N., Esendemir, N., & Ucuzsatar, N. (2021). Uzaktan eğitim üzerine bir araştırma: "Türkçe öğretmenleriyle mülakatlar". *International Journal of Language Academy, 9*(1), 124-144.

Karakuş, N., Ucuzsatar, N., Karacaoğlu, M. Ö., Esendemir, N., & Bayraktar, D. (2020). Türkçe öğretmeni adaylarının uzaktan eğitime yönelik görüşleri. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi,* (19), 220-241.

Karatay, H., Kaya, S., & Başer, D. (2021). Türkçenin yabancı dil olarak öğretiminde uzaktan eğitime yönelik öğrenci görüşleri. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, 24,* 223-232.

Kaya, Z. (2002). *Uzaktan eğitim.* Ankara: Pegem Academy.

Kolcu-Canatar, S., & Balcı, A. (2021). Salgın döneminde uzaktan Türkçe öğretimi: öğretmen görüşleri kapsamında bir değerlendirme. *International Journal of Karamanoglu Mehmetbey Educational Research, 3*(Special Issue 1), 55-65. DOI: 10.47770/ukmead.985496

Lankshear, C., & Knobel, M. (2008). *Digital literacies-concepts, policies and practices.* Peter Lang Inc., International Academic Publishers. ISBN-10: 1433101696.

Macintyre, P.D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during the Covid-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System - Elsevier Public Health Emergency Collection, 94,* 1–13. DOI: 10.1016/j.system.2020.102352

Marchlik P., Wichrowska, K., & Zubala, E. (2021). The use of ICT by ESL teachers working with young learners during the early covid-19 pandemic in Poland. *Education and Information Technologies, 26*(6), 7107-7131. DOI: 10.1007/s10639-021-10556-6

Martin, A., & Grudziecki, J. (2006). DigEuLit: Concepts and tools for digital literacy development. *Innovation in Teaching and Learning in Information and Computer Science, 5*(4), 249-267.

Maushak, N. J., & Ellis, K. A. (2003). Attitudes of graduate students toward mixed-medium distance education. *The Quarterly Review of Distance Education, 4*(2), 129-141.

MEB (2019). *Türkçe dersi öğretim programı (ilkokul ve ortaokul 1, 2, 3, 4, 5, 6, 7 ve 8. sınıflar).* MEB Yayınları.

Mohammed, D. Y. (2022). The web-based behavior of online learning: An evaluation of different countries during the COVID-19 pandemic. *Advances in Mobile Learning Educational Research, 2*(1), 263-267. DOI: 10.25082/AMLER.2022.01.010

Moorhouse, B. L., & Kohnke, L. (2021). Responses of the English language-teaching community to the covid-19 pandemic. *RELC Journal, 52*(3) 359–378. DOI: 10.1177/00336882211053052

Özerbaş, M. A., & Kuralbayeva, A. (2018). Türkiye ve Kazakistan öğretmen adaylarının dijital okuryazarlık düzeylerinin değerlendirilmesi. *MSKU Journal of Education, 5*(1), 16-25. DOI: 10.21666/muefd.314761

Özgül, E., Ceran, D., & Yıldız, D. (2020). Uzaktan eğitimle yapılan Türkçe dersinin öğretmen görüşlerine göre değerlendirilmesi. *Millî Eğitim, 49*(Özel Sayı 1), 395-412.

Pallant, J. (2016). *SPSS survival manual: A step by step guide to data analysis using IBM SPSS.* (6th ed.). Typeset by Midland Typesetters, Australia. ISBN-13: 978-0-33-526154-3

Pool, C. R. (1997). A conversation with Paul Gilster. *Educational Leadership, 55*(3), 6–11.

Sezgin, S. (2021). Acil uzaktan eğitim sürecinin analizi: Öne çıkan kavramlar, sorunlar ve çıkarılan dersler. *Anadolu Üniversitesi Sosyal Bilimler Dergisi, 21*(1), 273-296.

Simonson, M., Smaldino, S., & Zvacek, S. (2015). *Teaching and learning at a distance: Foundations of distance education* (6th ed.). Information Age Publishing: USA.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). USA: Pearson Education.

Sarıçam, İ., Özdoğan, Ü., & Topçuoğlu Ünal, F. (2020). Uzaktan eğitim bünyesindeki Türkçe dersinin uygulanmasına yönelik öğretmen görüşleri. *Turkish Studies - Education, 15*(4), 2943-2959. DOI: 10.47423/TurkishStudies.42919

Spatioti, A. G., Kazanidis, I., & Pange, J. (2022). A comparative study of the ADDIE instructional design model in distance education. *Information, 13*(9), 402. DOI: 10.3390/info13090402

Yenilmez, K., Balbağ, M. Z., & Turgut, M. (2017). Öğretmen adaylarının uzaktan eğitime yönelik tutumlarının bazı değişkenler açısından incelenmesi. *Erzincan Üniversitesi Eğitim Fakültesi Dergisi, 19*(2), 91-107.

Yurdakul, Y., & Duman, G. B. (2021). Uzaktan eğitimle Türkçenin yabancı dil olarak öğretimi sürecinde temel becerilerin gerçekleştirilebilme durumunun öğretici görüşleri üzerinden değerlendirilmesi. *RumeliDE Dil ve Edebiyat Araştırmaları Dergisi, 23,* 167-186.