



The Views of Teachers Working in Project Schools on Artificial Intelligence

Dilek Demirkan^{1a} 

¹ Ministry of National Education, Manisa, TÜRKİYE

<https://orcid.org/0000-0002-9820-0004>

Research Article

DOI: 10.5281/zenodo.14559811

Abstract

Artificial intelligence plays an important role in the context of digital teacher competencies. It can be used to provide students with customized learning experiences, reduce teachers' workload, monitor and evaluate students' performance, improve students' learning processes, and help teachers better understand students' needs. The purpose of this research is to determine the thoughts and awareness of teachers about the use of artificial intelligence technologies in education. The case study method was used to determine and increase the awareness of teachers working in project schools on artificial intelligence. The study group of the research consisted of teachers working in project schools in Yunusemre District of Manisa province. A total of 10 teachers, 2 from each project school, were interviewed. In the analysis of teachers' views on the use of artificial intelligence in education; The steps of coding the data, finding the themes, arranging the codes and themes, defining and interpreting the findings were followed. In the study, it was concluded that teachers would use artificial intelligence in education as an opportunity that would be beneficial in various aspects of teaching and learning.

Keywords: *Addiction, Artificial intelligence, ChatGPT, Education, Teachers' perspectives*

Cite as: Demirkan, D. (2024). The views of teachers working in project schools on artificial intelligence. *Journal of Emerging Educational Studies*, 1(1), 12-19. <https://doi.org/10.5281/zenodo.14559811>

^a**Corresponding Author:** Dilek Demirkan, **E-mail:** dilekdemirkan82@gmail.com

INTRODUCTION

Artificial intelligence is a field of study that is based on human intelligence and can imitate it through computers, producing products in various areas of daily life. With artificial intelligence, it is possible to develop computer systems that artificially produce the intelligent thoughts and behaviors of beings in nature (Aydın, 2017; Balaban & Kartal, 2015). Artificial intelligence is of great importance in the context of 21st-century digital teacher competencies. Artificial intelligence can be used to reduce the burden on human teachers, improve the learning process, provide customized learning experiences for students, and monitor and evaluate students' performance. Artificial intelligence can identify students' learning styles, needs, and skills, and provide learning materials and assignments accordingly. Additionally, it can monitor students' progress and success and provide feedback according to their needs. In this way, teachers can more effectively track students' progress and provide customized learning experiences for them. Additionally, artificial intelligence can also reduce teachers' workload. Teachers can respond to students' needs more quickly and effectively thanks to the feedback and analyses provided by artificial intelligence. Additionally, artificial intelligence can help teachers better understand students' needs by monitoring their performance. Using today's technologies, students are completing their homework without any effort. The teacher, who is unaware of this issue, mistakenly believes that the student did it themselves and gives an unfair grade. However, there are different programs that prove the use of these technologies. Students will hesitate to do their homework themselves from teachers who use these technologies, and thus education will achieve its intended purpose. The study can be expanded to direct these questions to administrators, or teachers who become aware of the existence of these technologies can request their administrators to organize a seminar on this topic. In conclusion, artificial intelligence plays an important role in the context of digital teacher competencies. It can be used to provide students with personalized learning experiences, reduce teachers' workload, monitor and evaluate students' performance, improve students' learning processes, and help teachers better understand students' needs. Therefore, identifying and increasing teachers' awareness of this issue will contribute to education.

Purpose and Importance of the Research

The general purpose of the research is to determine the opinions and thoughts of the teachers working in the project schools in Yunusemre District of Manisa Province.

In this research, by including teachers' views on the use of artificial intelligence in education, it will contribute to filling the literature gap in Turkey. Additionally, by determining teachers' views on "the use of artificial intelligence in education," it will serve as a guide for preparing the necessary information programs during the digitalization process.

To the extent that it is accessible, the literature review indicates that the topic has not yet been the subject of research in Turkey. Therefore, this research may encourage new studies that approach the problem from different perspectives. The data obtained were analysed using the content analysis method.

METHOD

Research Model

The case study method was used to determine their awareness. Cohen et al. (2007) state that case study studies focus on the dynamic and multifaceted connections between human relationships, events and other external factors. For these reasons, the case study method is considered to be appropriate for the nature of the study.

Working Group

The study group of the research was consisted of the teachers working the project schools located in Yunusemre central districts of Manisa province. Two teachers from each school are interviewed.

Table 1. Information regarding the participants

Teacher	Branch
T1	Maths
T2	Biology
T3	History
T4	Literature
T5	Geography
T6	Chemistry
T7	Music
T8	Maths
T9	English
T10	Physics

Data Collection

As a data collection tool, teachers' views on artificial intelligence were obtained by using semi-structured interview forms. In this context, the questions to be asked to teachers are as follows. 1)What do you think artificial intelligence is? 2)What are the concepts or words that come to your mind when you think of artificial intelligence? 3) What are your views on the use of artificial intelligence in education. 4)To what extent can artificial intelligence be used in education? 5)What is ChatGPT? What are your precautions for your students to use artificial intelligence in their assignments and projects? What would be your attitude if they use it? 6)How can artificial intelligence replace teachers in the future? 7)According to teachers, what are the disadvantages of using artificial intelligence technologies? 8) According to teachers, what are the advantages of using artificial intelligence technologies? In addition, in case the questions were not understood, additional questions were asked for clarification. The interviews with the teachers lasted approximately 20-25 minutes. The interviews were recorded with the permission of the participants. This research is limited to the scope of interviews with teachers working in project schools in Yunusemre District of Manisa Province. The comments and evaluations to be made as a result of the research are

limited to the views of the teachers participating in the research on the use of artificial intelligence in education.

Data Analysis and Interpretation

The interviews conducted within the scope of the research were analysed and interpreted using content analysis, one of the qualitative data analysis techniques. Qualitative research data are analysed in four stages (Yıldırım & Şimşek, 2011):

1) Coding the data, 2) finding themes, 3) organizing the codes and themes, 4) describing and interpreting the findings. The interview texts were analysed and the data obtained were coded. The following steps were followed in analysing the data collected in this study.

1. Transcribing the recorded interviews.
2. In-depth analysis of the answers given to the interview questions was conducted and the codes frequently repeated by the teachers were tabulated.
3. In line with the answers received, a framework was created and three main themes were identified.

Themes: teachers' thoughts on the use of Artificial Intelligence, the areas where Artificial Intelligence helps the education process, and the process of Artificial Intelligence's existence in the education sector were determined to be presented under three main themes.

4. In the analysis process, teachers were given code numbers as (T1, T2, T3...).

In order to reflect the views of the participants clearly, direct quotations were used in the presentation of the findings.

FINDINGS

Teachers' views

Ten teachers were asked the question “What do you think artificial intelligence is?” and the majority of the teachers thought that the use of artificial intelligence in education could enrich students' learning experiences and provide teachers with more resources and tools. For example, AI-supported learning systems can provide customized content according to students' needs or help teachers monitor and evaluate student performance;

He was concerned that artificial intelligence could replace human interaction in the educational process. Given that there are individual differences among students and that teachers' skills such as empathy, motivation and personalized guidance are important, some artificial intelligence has deficiencies in these aspects (Interview with S5, May 2023).

It creates planning by evaluating the student's information. Education software personalizes according to the students. It better understands student deficiencies and provides personalized support. In this context, the place of artificial intelligence in education is important and its use is positive Artificial intelligence has many benefits for education. Each individual has different abilities and learning styles. With a program developed through artificial intelligence, individuals can identify and overcome their own deficiencies (T7).

Participants believe that artificial intelligence should be used in a timely manner in order to achieve the goals of teaching as soon as possible.

It also emphasized that Artificial Intelligence will play a role in increasing efficiency in education, especially by supporting rapid access to information. Artificial Intelligence can support the teaching process by saving time in education. The striking ones among the teachers' opinions regarding this situation are given below; The use of Artificial Intelligence in education will occupy a very important place in increasing the quality and economy of education (T2).

We have to use technology to improve the efficiency of the education system. Artificial Intelligence increases the economy of education, especially in terms of time (T6).

Teachers should emphasize AI ethics and responsibilities to students. This is the data privacy, sensitivity to bias, impacts on people and society, and proper use of AI systems (Interview with S9, May 2023).

The use of AI tools can help students and streamline processes. However, if AI completely replaces the learner and does the assignments, it can diminish the learner's learning experience and prevent them from achieving real learning goals. Students may miss the opportunity to express their own ideas, develop problem solving skills and actively participate in the learning process (T10).

Artificial Intelligence saves time in education by enabling people to access the information they need (T7).

The following sentences support the views of the participants that Artificial Intelligence will develop further over time and when it can have human-like functions, it will have an auxiliary role in education, and even the role of the teacher will change over time and will be actively used in every field.

This is a learning mechanism, and this mechanism exhibits human-like behaviors and has numerical, sensory, and behavioral structures. These structures will be helpful in every aspect of human life (T1).

...understanding the student's deficiencies, providing support advantages for personal development, changing the teacher's role, etc... (T4).

It can be interpreted that with the inclusion of artificial intelligence in education, it can take on the role of an assistant to the teacher, thereby lightening the teacher's workload. While the participants generally expressed positive views on the use of Artificial Intelligence in education, a participant with an opposing view emphasized the importance of experiential learning in education, stating: "I do not find it right to take away from children many emotions and behaviors that they can learn by doing and experiencing, even touching stones and soil, and hugging their teachers" (T3).

The idea that the use of Artificial Intelligence will lead to a mechanical understanding of educational life is clearly expressed in this statement. It is thought that the socio-economic status of the participant's duty area, who advocates this view, may influence their opinion differently from others.

Although there are concerns that artificial intelligence robots will replace the teaching profession, the participants were asked, "Considering that there will be changes and transformations in many areas with the development of Artificial Intelligence, do you think your profession is at risk?" The question was posed, and based on the opinions gathered from teachers, the majority of the participants expressed the view that artificial intelligence

products would play a significantly supportive role for teachers and would never pose a danger.

I definitely don't see any danger. Our era is developing rapidly, and we teachers must closely follow this flow. It will help us and adapt education to the development of the world (T1).

I don't think it's in danger. Artificial intelligence definitely cannot replace a teacher. Our mass is human; social and emotional. We cannot completely entrust the future to Artificial Intelligence (T5).

A teacher is inspiring, a role model. He knows his students holistically. According to him, he changes his reactions. Therefore, Artificial Intelligence cannot replace a teacher (T6).

No. Humans are social beings. There are teachers who convey emotions that artificial intelligence cannot replicate, beyond just delivering lessons. (T8).

Teachers have emphasized that artificial intelligence products, when limited to the concept of robots, can never replace humans emotionally. It has been observed that the participant profile has limited knowledge about the development of artificial intelligence products. On the other hand, two participants interviewed expressed that if artificial intelligence continues to advance, it could pose a danger to the teaching profession.

If it goes too far, it is a sign that it is in danger. An environment that disregards the teacher's role and profession can be created (T4).

If teaching is done by robots working with Artificial Intelligence, which will further develop in the future, through a coding system, I might think that my profession is in danger (T7).

DISCUSSION AND CONCLUSION

In this study, the opinions of teachers working in project schools that receive students with points in qualified secondary schools of educational organizations on the use of artificial intelligence in education were studied and it was aimed to determine the awareness of teachers and to increase the quality of education. Teachers' Opinions on the Use of "Artificial Intelligence" in Education and its Areas of Use Within the framework of the research, "teachers' opinions" were evaluated according to the results of the interviews with 10 teachers. As a result of the interviews with the teachers, it was concluded that the teachers who reported that they spent most of their time for tasks outside their job description, that they could not exhibit their teaching leadership qualities in order to deliver the documents on time, and that they needed support service personnel, especially in the organization of documents, so if artificial intelligence products can provide support in this area, it can be very useful. Hence, if "artificial intelligence use" takes on a supportive role in paperwork for teachers, it will save time and provide an opportunity for teachers to spend more time with their students and families.

According to another finding, personalized programs can be created thanks to artificial intelligence, and as a result, an increase in success rates will be possible. Students who perform at 50% in a traditional classroom can achieve 98% performance with mastery training and one-on-one support. (Bloom, 1984; Lewin, 2018). Advanced learning analytics with intelligent software that can predict at-risk students and identify issues by marking problems, it is possible to facilitate teachers in understanding what the deficiencies are (New Brightspace Insights, 2015). These intelligent learning management systems, which compile

students' data, are helpful to teachers in preparing personalized learning plans for students. As a result of the correct guidance, future plans can be made more accurately.

On the other hand, it has been concluded that the use of Artificial Intelligence in Education may lead to some negative situations. Thanks to Artificial Intelligence, generations that quickly access ready-made information may become increasingly lazy, and individuals who communicate with a mechanical structure will not be emotionally satisfied. Similarly, Russel et al. (2007: 305) concluded that the use of technology harms certain aspects of student learning; it makes students lazy, reduces their research skills, and decreases the quality of student writing.

Is Artificial Intelligence a Threat to the Teaching Profession?

Based on the results of the interviews conducted within the framework of the research, the "opinions of teachers" were evaluated to determine whether Artificial Intelligence raises concerns among teachers about the safety of their profession.

Leading scientists in the world, such as Stephen Hawking, have warned that artificial intelligence could pose a threat to humanity one day, but the prevailing view is that the situation is not so dangerous in every field. According to a report published by the McKinsey Global Institute (2017: 4), approximately half of today's work activities could be automated by 2055.

Although certain categories of activities, such as data processing or collection, performing physical activities, and operating machines in a predictable environment, have a high technical potential for automation, the likelihood for other activities, such as sensitivity, interacting with stakeholders, applying decision-making expertise, and managing and developing people, is significantly lower. Additionally, according to the same research, management (35%) and education (27%) rank as the two sectors with the lowest automation potential compared to other sectors. The findings obtained from the research are consistent with the mentioned studies, and teachers and school administrators do not believe that artificial intelligence will endanger their professions; instead, they see such developments as opportunities for their careers. In the Artificial Intelligence in Education Workshop held in September 2018, it was stated that "the concern of teachers that their profession will disappear due to artificial intelligence or other high-tech products needs to be alleviated." However, based on the results obtained, it was concluded that teachers do not have job-related concerns." The fact that education and management are among the most difficult areas to automate with artificial intelligence is due to the lack of the "empathy" feeling that technology has not yet reached. This deficiency is considered the most important aspect of a teacher and a manager. The relationship established between empathy, collaboration, and communication processes necessitates considering empathetic communication skills as an important managerial competency. (Demirbolat, 1999; Ekinici et al., 2012: 762). In educational organizations where empathetic relationships are developed, qualitative relationships are established among employees, and there may be a reduction in conflicts. As a result, it is possible for job satisfaction and relationships to improve positively. (Ekinici et al., 2012).

Declaration of AI Use

The author(s) acknowledge that none of the artificial intelligence tools or platforms have been used in the preparation of this manuscript except for the proofreading phase, in which minor spelling and punctuation mistakes were detected, and revised by the author(s).

REFERENCES

- Aydın, Ş. E. (2017). *Yapay zekâ teknolojisi (yapay zekâların dünü bugünü yarını)*. Yüksek Lisans Dönem Projesi, Çukurova Üniversitesi, Adana. https://www.academia.edu/35714946/YAPAY_ZEK%C3%82_TEKNOLOJ%C4%B0S%C4%B0 (15.06.2023).
- Balaban, M. E., & Kartal, E. (2015). *Veri madenciliği ve makine öğrenmesi*. Çağlayan Kitabevi
- Bloom, B. S. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6), 4-16.
- Cohen, L., Manion, L. & Morrison, K. (2007). *Research methods in education* (5th ed.). Routledge Falmer.
- Demirbolat, A. O. (1999). Yönetici ve empatik yaklaşım. *Eğitim ve Bilim*, 24(114).
- Ekinci, A., Bindak, R., & Yıldırım, M. C. (2012). İlköğretim okulu yöneticilerinin öğretmenlerin mesleki sorunlarına empatik yaklaşımlarının ikili karşılaştırmalar metodu ile incelenmesi. *Gaziantep Üniversitesi Sosyal Bilimler Dergisi*, 3, 762.
- Lewin, D. (2018). Toward a theory of pedagogical reduction: Selection, simplification, and generalization in an age of critical education. *Educational Theory*, 68(4-5), 495-512.
- New Brightspace Insights™ Empowers Instructors with Data from Across the Entire Education Ecosystem, Enabling Them to Predict Learners at Risk Then Help Them in Real-Time. (2015, 16 June). [Çevrim-içi <https://www.d2l.com/newsroom/releases/new-brightspace-insights-empowers-instructors/>], 20.05.2024.
- Russell, M., O'Dwyer, L. M., Bebell, D., & Tao, W. (2007). How teachers' uses of technology vary by tenure and longevity. *Journal of Educational Computing Research*, 37(4), 393-417.
- Yıldırım, A. & Şimşek, H. (2011). *Sosyal bilimlerde nitel araştırma yöntemleri*. SeçkinYayıncılık.