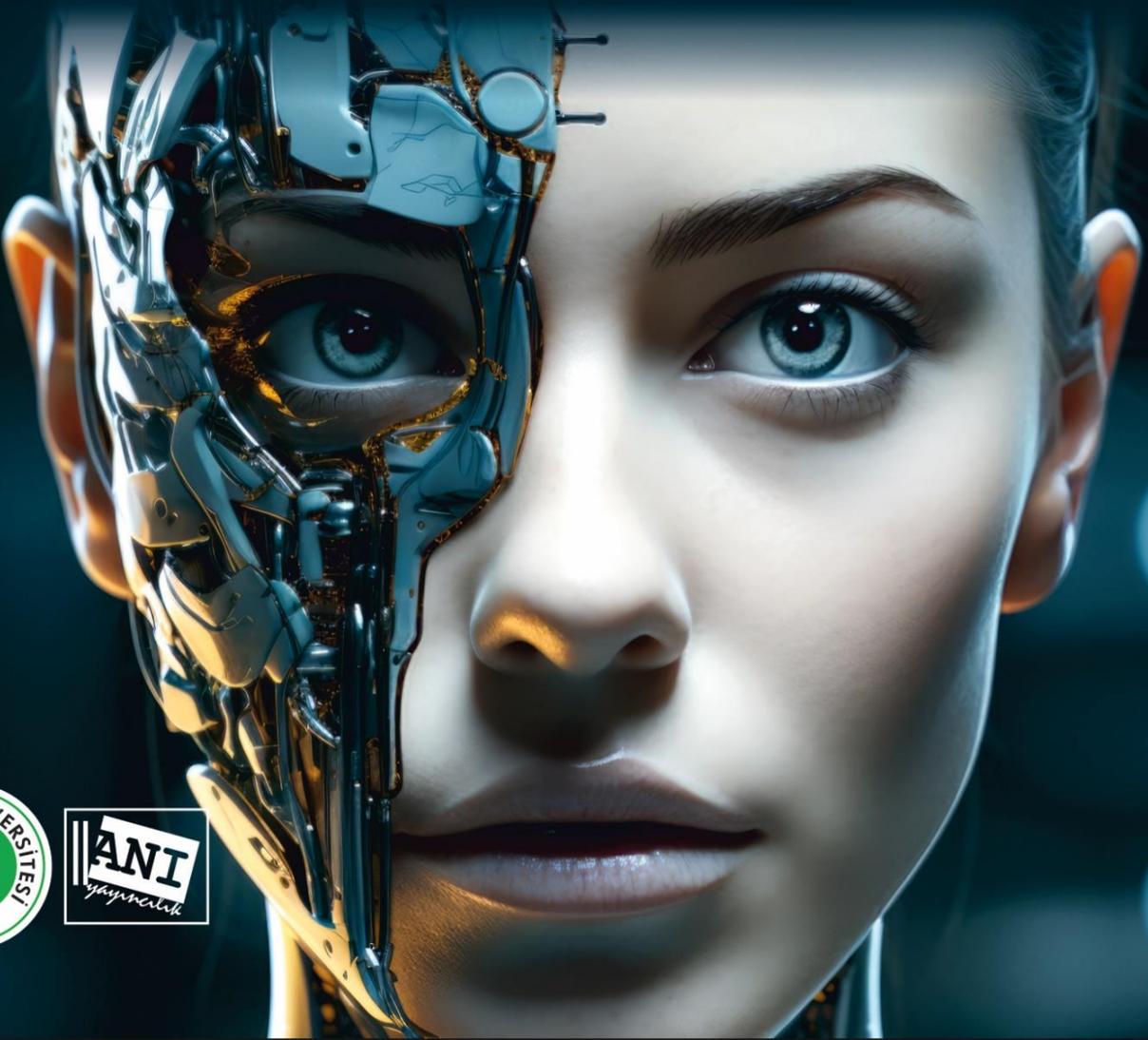


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# XI International Eurasian Educational Research Congress

## CONFERENCE PROCEEDINGS



XI INTERNATIONAL EURASIAN  
EDUCATIONAL RESEARCH CONGRESS

EJERCONGRESS 2024  
CONFERENCE  
PROCEEDINGS

May 21-24, 2024/ Kocaeli University - Türkiye

**Editor**

Distinguished Professor Şenel POYRAZLI,  
Penn State University, USA



## **XI. INTERNATIONAL EURASIAN EDUCATIONAL RESEARCH CONGRESS**

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# Main Theme

*“Designing the Future: Changing Paradigms and Transhumanism with Artificial Intelligence in Education”*

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## Sub-Themes

- Academic freedom, autonomy, and social responsibility in education
- Artificial intelligence and educational applications
- Augmented reality applications
- Barriers to learning
- Blended learning
- Computer-assisted measurement and evaluation
- Core skill sets for students and teachers
- Design of school buildings in the future
- Designing and delivering a digital strategy
- Digital competence
- Digital parenting
- Distance Education
- Earthquake Education
- Post Earthquake Trauma Training
- Earthquake and Effective Psychosocial Intervention Methods
- Earthquake and Trauma
- The Impact of Earthquakes on School Staff
- Education and society
- Education for healthy living and healthy communities
- Education for a sustainable life
- Education in the digital age: Primary, secondary, high school, higher education, and application examples
- Educational leadership in the digital age
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*This book has been compiled with contributions from 61 authors representing 35 different universities in Turkiye, the United States, and Iran, as well as Turkiye's Ministry of National Education. Among the contributors, there are 51 authors from 31 universities 6 authors from education institutions in Turkey, 3 authors from 2 universities in the United States, and 1 author from a university in Iran.*

# CONTENTS

<b>Congress Committees.....</b>	<b>iv</b>
<b>Main Theme.....</b>	<b>ix</b>
<b>Sub-Themes .....</b>	<b>ix</b>
<b>Ejercongress Sponsors.....</b>	<b>xi</b>
<b>Author Information.....</b>	<b>xii</b>
<b>The Prospective Mathematics Teachers' Opinions on the Use of Tinkercad .....</b>	<b>1</b>
Ayşe Tuğçe Bodur, Mevhibe Kobak Demir	
<b>A Review of Generative Artificial Intelligence (GENAI) Tools in Second/Foreign Language Teaching.....</b>	<b>8</b>
Cansu Aykut Kolay, Büşra Gölbaşı	
<b>Exploring Student Science Teachers' Academic Self-Regulated Learning Strategies in Technology Integration .....</b>	<b>15</b>
Ebru Mazlum Güven	
<b>Analysis of E-Storybook on Bullying Written by PreSchool Preservice Teachers .....</b>	<b>21</b>
Esra Ünlüer	
<b>The Effect of Gametics Game Program on Visual Perception and Attention Skills: An Experimental Study on Third-Grade Students.....</b>	<b>26</b>
İbrahim Bilginer, Kerim Koral, Elif Çelebi Öncü, Esra Ünlüer	
<b>What is Artificial Intelligence?: Analyzing the Drawings of Preschool Children .....</b>	<b>31</b>
Hilal Yılmaz	
<b>Examination of Artificial Intelligence Literacy Levels of Psychological Counseling Candidates: A Qualitative Study .....</b>	<b>40</b>
İrem Topuz, Beyza Nur Çelik	
<b>Investigating the Change of Pre-service Middle School Mathematics Teachers' Conceptualization of Algebraic Thinking.....</b>	<b>46</b>
Makbule Gozde Didis Kabar, Janet Walkoe, Mary Ziegler Zimmerman	

<b>Exploring Facilitators and Barriers of Culturally Responsive Teaching in Early Childhood Classrooms: A Qualitative Meta-Synthesis.....</b>	<b>54</b>
Nida Altıparmak Cengiz, Elif Güvelioğlu, Feyza Tantekin Erden	
<b>The Impact of Online Professional Development on Teachers: A Systematic Review of the Literature .....</b>	<b>61</b>
Nur Banu Yiğit, Elif Güvelioğlu, Feyza Tantekin Erden	
<b>Teachers' Accountability Behaviors in Monitoring and Assessing Student Progress .....</b>	<b>78</b>
Özen Yıldırım, Huriye Sert	
<b>Education in the Digital Age: A Virtual Space Study in the Context of History and Technology .....</b>	<b>87</b>
Özge Kaya, Kader Sürmeli	
<b>The Level That Grandmothers' Parenting Styles Predict Children's Attachment Security and Social Skills .....</b>	<b>92</b>
Özlem Erkal, Ege Akgün	
<b>Preservice Preschool Teachers' Attitudes Toward Artificial Intelligence and Their Views on the Use of Artificial Intelligence in Education .....</b>	<b>99</b>
Rahime Çiçek	
<b>Subitizing in Preschool Education: A Bibliometric Analysis .....</b>	<b>105</b>
Rahime Çiçek	
<b>Comparison of the 2018 Social Studies Course Curriculum and the 2024 Draft Social Studies Course Curriculum .....</b>	<b>110</b>
Samet Karakuş, Yavuz Akbaş	
<b>Integrating Artificial Intelligence into Foreign Language Learning: Learners' Perspectives .....</b>	<b>121</b>
Selami Aydın, Maryam Zeinolabedini	
<b>An Investigation of EFL Instructors' Perceptions of Online Testing and Assessment by Certain Variables .....</b>	<b>127</b>
Selami Aydın, İrem Gedil	

<b>Sixth Grade Students' Construction Processes of Circle, Disc, and Their Basic Elements in a Dynamic Mathematics Software Supported Environment .....</b>	<b>134</b>
Yüksel Emre Harmanbasi, Rezan Yilmaz	
<b>The Effect of Orienteering Education on 5th Grade Students' Self-Efficacy, Science-Based Entrepreneurship, and Anxiety .....</b>	<b>143</b>
Uluhan Kurt	
<b>Contemporary Methods in Medical Education: Video-Supported Flipped Learning in Clinical Skills ...</b>	<b>148</b>
Aysel Burcu İbili, Özlem Sürel Karabilgin Öztürkçü, Fadime Beyza Gençay, Orçun Çetin, Emin İbili	
<b>The Effectiveness of Providing Immediate Feedback in Improving the Teaching Practice Skills of Special Education Teacher Candidates: Bug-in-ear (BIE) Auditory Technology Coaching .....</b>	<b>153</b>
Özge Boşnak	
<b>The Process of Constructing the Concept of Similarity in a Concrete Manipulative-Supported Environment in 8th-Grade .....</b>	<b>157</b>
Cangül Şimşek Esen, Rezan Yilmaz	
<b>Merging Self-regulated Learning and Cooperative Learning in Mathematics: Self-regulated Jigsaw IV .....</b>	<b>166</b>
Esmâ Nur Gözütok, Ceyda Özçelik, Ali Arslan	
<b>Needs Analysis to Determine the Autonomous Learning Levels of Teacher Candidates .....</b>	<b>172</b>
Eylül Balâ Altunay, Duygu Demirtaş, Özge Okul	
<b>Determination of Building Hall Rouge with GIS in External Exams Held at DEU Campuses .....</b>	<b>177</b>
Mertcan Mutlular, Vahap Tecim	
<b>Addressing Eco-Anxiety in Turkish Schools: A Document Analysis of the Environmental and Climate Change Education Curriculum .....</b>	<b>183</b>
Meryem Demir Güdül, Seray Tatlı Dalioglu	
<b>Mathematics in Cultural Context: A Framework for Developing and Implementing EthnoSTEAM-Oriented Lesson Plans .....</b>	<b>188</b>
Rabia Gul Kirikcilar, Ahmet Sukru Ozdemir	
<b>The Investigation of the Effect of Discourse Goals on Argumentation Quality.....</b>	<b>195</b>
Pınar Seda Çetin, Gülüzar Eymur	

<b>Investigation Of The Effect Of Skill-Based Questions on the Attitudes of 8th Grade Students Toward Mathematics Teaching.....</b>	<b>199</b>
---	------------

Yeliz Çelen, Hanife Aleyna Okuyucu

<b>Investigating Variables Affecting Teacher Candidates' Exam Preparation Skills Using Machine Learning Techniques.....</b>	<b>203</b>
---	------------

Emine Yavuz

<b>Bridging the Intermediate Plateau: AI in English Learning at EMI Universities .....</b>	<b>207</b>
--	------------

Serpil Tekir

<b>Unveiling the Potential of Natural Approach in Language Teaching: Field Testing .....</b>	<b>214</b>
--	------------

Pınar Mercan Küçükakın, Özge Dönmez

# Examination of Artificial Intelligence Literacy Levels of Psychological Counseling Candidates: A Qualitative Study

İrem Topuz

Istanbul Maltepe University, Türkiye

Beyza Nur Çelik

Sakarya University, Türkiye

## Abstract

This qualitative research aims to examine the artificial intelligence literacy levels of psychological counseling candidates. Within the scope of the research, semi-structured interviews were conducted with 3rd and 4th-year students of the Guidance and Psychological Counseling program, and the views of 18 participants were analyzed. The data were processed using thematic analysis with the QDA Miner Lite 3.0 program. According to the research findings, participants stated that artificial intelligence lacks human aspects but can function as a support assistant for psychological counselors. In terms of ethical issues, privacy concerns were prominent, and some participants expressed that artificial intelligence could help resolve ethical dilemmas. In the context of future-oriented views, it was emphasized that artificial intelligence literacy should be increased, integrated into the curriculum, and current technologies should be followed. Concerns about trust and danger indicate that confidence in artificial intelligence needs to be increased. Regarding usage problems and purposes, it was stated that the correct and effective use of artificial intelligence could increase the efficiency of counseling processes. The research reveals a significant gap in artificial intelligence literacy among psychological counseling candidates and highlights the need to strengthen education in this area. The majority of participants have limited knowledge about artificial intelligence, showing the necessity of placing more emphasis on this topic in educational programs. Additionally, it is understood that artificial intelligence tools currently used in psychological counseling practice will play an even more critical role in the future. The study emphasizes that to support the professional advancement of psychological counseling candidates, their artificial intelligence literacy levels must be increased.

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**Keywords:** *Artificial intelligence literacy, Ethics, Psychological counseling, Qualitative research*

## Introduction

Artificial intelligence (AI) is a rapidly spreading technology that is effective in a range of sectors such as transportation, agriculture, scientific research, health, justice, digital security, financial services, marketing, and advertising (OECD, 2019). There are numerous definitions of the concept of AI in the literature. According to Wang et al. (2023), AI is defined as the science and engineering of creating intelligent machines, especially intelligent computer programs, that aim to mimic human thinking and learning abilities. Hall and Pesenti (2017) describe AI as "digital technologies that enable computer systems to perform highly complex tasks efficiently and accurately." Due to its potential, AI is on the path to becoming one of the leading technological skills of the 21st century (Ng et al., 2021). Therefore, understanding the operating logic of AI systems, effectively using AI to take advantage of its benefits, and avoiding its disadvantages, has become increasingly important (Çelebi et al., 2023; Wang et al., 2023). AI literacy, in this context, involves individuals' awareness of the effective use of AI applications, their ethical implications, and their possible impacts on individuals and society (Kong et al., 2023; Su et al., 2023; Yetişenoy & Rapoport, 2023). Hence, understanding, managing, and effectively using AI technologies, which are becoming widespread in every aspect of daily life, require possessing AI literacy.

AI is expected to play an important role in mental health services in the future (Luxton, 2014). There is limited research examining the relationship between AI and the field of psychological counseling and guidance (Canpolat, 2021; Fulmer, 2019; Oh et al., 2017). The literature indicates that computer technologies and software can be used in psychological counseling and guidance and can make significant contributions to this field (Baker & Gerler, 2008; Hayden et al., 2008; Kesici, 2008). In Turkey, the most used field of information technologies in Psychological Counseling and Guidance (PDR) has been career counseling (Kuzgun, 1992). In a study by Canpolat (2021) aimed at revealing psychological counselors' views on the usability of AI in PDR, it was thought that AI-supported PDR programs could be used in vocational and educational guidance but could not replace psychological counselors in personal-social guidance. Although AI is not effectively used in all subfields of psychological counseling and guidance today, it has widespread and functional use in important subfields such as career counseling and vocational guidance. Additionally, it would not be wrong to think that AI can make significant contributions to other subfields of PDR in the future. For example, in the psychological counseling process, AI can analyze the emotional states of clients and help provide emotional support. Furthermore, it can track clients' therapy

processes and provide feedback to counselors. On the other hand, AI can be used to analyze large data sets to understand clients' psychological tendencies and behaviors and develop preventive strategies. AI can also contribute to the professional development of psychological counselors by helping them learn new therapy techniques and stay updated. While AI provides and can provide many advantages to the field of PDR, some potential disadvantages may also arise. For instance, AI may have limitations in meeting the emotional needs of clients, providing trust, and ensuring empathy compared to a human. Moreover, since AI systems may have access to personal and sensitive information, they can endanger clients' privacy and confidentiality. Therefore, AI may lead to some ethical issues that pose risks. In conclusion, considering the advantages and disadvantages AI can provide to both psychological counselors and clients in the field of psychological counseling and guidance, it can be said that AI literacy, which involves awareness of the effective use of AI, its positive and negative impacts on individuals and society, and its ethical implications, will be an important requirement for psychological counselors and candidates. This research will examine the AI literacy levels of 3rd and 4th-year students of the Psychological Counseling and Guidance department, considering that young people are more open to using digital technology and AI and adopt these technologies more (Chui & Francisco, 2017; Anderson et al., 2018) and that their knowledge of the PDR field is higher than other class levels.

## Method

### Research Model

In this study, the views of psychological counseling candidates on artificial intelligence literacy were examined using qualitative research. Qualitative research is related to how individuals in society make sense of their experiences. In this study, phenomenology, one of the qualitative research types, was used. Phenomenology is considered a suitable qualitative research method for studying intense human experiences (Merriam, 2018).

### Study Group

The study group of this research consists of 3rd and 4th-year students of the Guidance and Psychological Counseling program. The participants are 18 people in total, including 4 men and 14 women. The convenience sampling method was used to determine the study group.

### Data Collection

The research data were obtained by asking semi-structured interview questions. Sample questions for these interviews are as follows: How much do you think you know about artificial intelligence? Why do you want to use artificial intelligence tools? What problems have you encountered while using artificial intelligence tools? How much do you

trust artificial intelligence technology? How do you explain your feelings of trust or distrust? How do you think artificial intelligence technology will affect the field of psychological counseling in the future? How do you think artificial intelligence technology will affect the psychological counseling process in terms of ethics? What are your suggestions to increase artificial intelligence literacy? Informed consent was obtained from the participants, and voice recordings were taken during the interviews.

## Data Analysis

Interview audio recordings were transcribed. Thematic analysis was used for data analysis. The research data obtained from the transcripts were loaded into the QDA Miner Lite 3.0 program, and the content analysis method was used. Content analysis is defined as a method that examines a text by coding and summarizing it into themes (Büyükoztürk et al., 2016). In the research, a total of 113 codes were reached. During the analysis process, the expressions in the interviews were examined.

## Findings

While presenting the findings, the results related to the formation of artificial intelligence literacy themes were prioritized. Subsequently, the participants' views on artificial intelligence and psychological counseling were presented in themes and categories. Examples of expressions from each participant were included. Table 1 shows the themes, categories, frequencies, and percentages related to artificial intelligence literacy.

**Table 1**

*Distribution of Participant Views According to Relevant Approaches*

Theme	Category	Frequency	Percentage
Artificial Intelligence and Psychological Counseling	Lack of human aspect	5	%27.8
	Use of counseling skills	4	%22.2
	Support-assistant	3	%16.7
Ethics	Privacy	3	%16.7
	Ease of solving ethical dilemmas	3	%16.7
	No problem	2	%11.1
Future-Oriented Views	Curriculum integration	5	%27.8
	Increase in literacy level	4	%22.2
		3	%16.7

	Keep up with the technology		
Trust and Concerns	Danger	4	%22.2
	Distrust	3	%16.7
Usage Issues	Instruction	3	%16.7
	No negative experiences	2	%11.1
		2	%11.1
	Incorrect Answer		
Purpose of Use	Obtaining information	5	%27.8
		4	%22.2
	Doing homework	3	%16.7
	Supervision		
Artificial Intelligence Tools	ChatGPT	5	%27.8
	VR Glasses	4	%22.2
	Call Annie	3	%16.7

When the participants' views on artificial intelligence and psychological counseling were examined in terms of themes and categories, various approaches emerged. Some participants expressed that artificial intelligence lacks human aspects and therefore could create deficiencies in counseling processes, while others believed that artificial intelligence may be inadequate in applying psychological counseling skills. On the other hand, it was also stated that artificial intelligence could function as a support assistant to counselors. Ethically, a portion of the participants voiced privacy concerns, while some thought that artificial intelligence would not pose ethical problems and could facilitate solving ethical dilemmas. In terms of future-oriented views, participants emphasized the need to increase artificial intelligence literacy, integrate artificial intelligence tools into the educational curriculum, and follow current technologies. Regarding trust and concerns, some participants expressed distrust towards artificial intelligence and raised concerns about its dangers. In terms of usage issues, participants stated that they might experience directive problems, would not face any issues using artificial intelligence, or that artificial intelligence might provide incorrect answers. As for the purpose of use, participants mentioned that they could use artificial intelligence for doing homework, obtaining information, and for supervision purposes. Finally, among artificial intelligence tools, ChatGPT, virtual reality glasses, and Call Annie were noted as popular tools. These findings reflect the various views and general trends of participants regarding artificial intelligence and psychological counseling.

When examining the artificial intelligence literacy levels of university students, certain recurring patterns emerged. The participant statements selected and displayed for each topic category within the scope of content analysis were carefully

chosen. Additionally, participants' statements and genders are presented in an abbreviated form at the end of the relevant statements. High frequency was considered in the inclusion of concepts.

## Artificial Intelligence and Psychological Counseling

### Lack of Human Aspect

*"We need compassion because we are human. I don't think it will reflect that as a human would."* P1, female.

### Use of Counseling Skills

*"The psychological counseling process is not mechanical; it is a process where emotions are dominant. Artificial intelligence can reflect thought, but it cannot reflect emotion."* P12, female.

### Support-Assistant

*"I see it as a facilitator for sessions, an assistant in using techniques."* P17, male.

According to the participants, while artificial intelligence may struggle to reflect human compassion in psychological counseling, it can play a facilitating role in applying techniques, although it may be limited in completely mechanizing a process with emotional depth.

## Ethics

### Privacy

*"I have concerns about the security of the data."* P2, female.

### No Problem

*"I don't think there is any ethical issue. Only the data needs to be well-protected."* P14, female.

### Ease of Solving Ethical Dilemmas

*"Solving ethical dilemmas is difficult for me. Because you shouldn't involve a lot of emotions in ethical dilemmas. Maybe it can help us at this point."* P3, female.

According to the participants, while artificial intelligence could assist in solving ethical dilemmas, there are concerns about data security, and despite not seeing an ethical issue, the importance of data protection is emphasized.

## Future-Oriented Views

### Increasing Literacy Level

*"The literacy level should be increased. Maybe if we went back 100 years, we would think of television as something scary. But now we benefit from television. So, we shouldn't be so close to technology."* P7, female.

## Curriculum Integration

"I think courses should be offered in universities, maybe even in high schools, to break prejudices about these issues." P1, female.

## Keep Up with the Technology

"I think it's essential to follow every technological development. To keep up with the current." P13, male.

According to the participants, to benefit from technological developments, it is necessary to increase literacy levels, add technology-related courses to curricula, and continuously follow current developments.

## Trust and Concerns

### Distrust

"I wouldn't use it to do my job or an assignment. I don't trust it that much. I don't think it's that advanced right now." P2, female.

### Danger

"I think it poses all kinds of threats. There could be things we can't even imagine. I think it can reach unimaginable dimensions." P16, female.

According to the participants, the lack of trust and concerns about artificial intelligence stems from the belief that it is not yet sufficiently advanced and the worry that its potential dangers could reach unimaginable dimensions.

## Usage Issues

### Instruction

"When the question is very complex, it either misunderstands the question or sometimes can't give the exact answer I want. It changes according to the directive." P2, male.

### Smooth Operation

"I haven't had any problems. I've been using ChatGPT for a year." P11, female.

### Incorrect Answer

"It gives wrong answers. I don't have much experience because I don't use it much, but I encountered wrong answers." P9, female.

According to the participants, while some experience issues with artificial intelligence, such as misunderstanding complex questions and giving incorrect answers, others do not encounter such problems.

## Artificial Intelligence Tools

### ChatGPT

"I used ChatGPT. I saw people around me making it do assignments. So, I tried it out to see what it was like." P2, female.

## VR Glasses

"I used VR glasses in a workshop. They had created scenarios. We had a safe area. After putting on the glasses, I found myself on the edge of the sea." P17, male.

## Call Annie

"For example, I downloaded an application called Call Annie to speak English. It's like it's talking to me." P2, female.

According to the participants, among artificial intelligence tools, ChatGPT is used for making assignments, VR glasses for creating virtual scenarios, and Call Annie provides English-speaking practice.

## Discussion and Suggestions

As a result, themes of artificial intelligence and psychological counseling, ethics, future-oriented views, trust and concerns, usage issues, purpose of use, and artificial intelligence tools were identified. After determining the themes, the categories of lack of human aspect, use of counseling skills, and support-assistant under the theme of artificial intelligence and psychological counseling were examined. Under the theme of ethics, the categories of privacy, ease of solving ethical dilemmas, and no problem were included. Under the theme of future-oriented views, the categories of curriculum integration, increasing literacy level, and keeping up with the current were presented. Under the theme of trust and concern, the categories of danger and distrust were examined. Under the theme of usage issues, the categories of instruction, smooth operation, and incorrect answers were included. Under the theme of purpose of use, the categories of obtaining information, doing homework, and supervision were examined. Finally, under the theme of artificial intelligence tools, the categories of ChatGPT, VR glasses, and Call Annie were included.

In the research, various views were presented on the lack of human aspect, use of counseling skills, and functioning as a support assistant in artificial intelligence and psychological counseling. Anderson et al. (2018) emphasize how artificial intelligence will shape human relationships and professional practices in the future. In this context, the role of artificial intelligence in psychological counseling applications needs to be correctly understood and evaluated.

In the interviews, significant concerns were expressed regarding privacy and ethical dilemmas. Maintaining confidentiality in counseling processes with artificial intelligence, preventing ethical violations, and ensuring the trust of clients are critical for maintaining professional standards. Participants expressed positive views on increasing artificial intelligence literacy, integrating it into the curriculum, and keeping up with the current. The OECD (2019) emphasizes the necessity of integrating artificial intelligence technologies into educational systems with their widespread use across society. Chui and Francisco (2017) also state that artificial intelligence defines new frontiers in the digital age, and educational programs need to adapt to these developments.

In the research, participants' concerns about distrust and the potential dangers of artificial intelligence were noted. Increasing confidence in artificial intelligence requires more information on the reliability and transparency of the technology. Similarly, Luxton (2014) highlights the importance of emphasizing critical aspects such as reliability and transparency for the adoption of artificial intelligence technologies in psychological practices.

The interviews also discussed issues that may arise with the use of artificial intelligence and its purposes (obtaining information, doing homework, supervision). Canpolat (2021) discusses how artificial intelligence tools can be used in psychological counseling and their advantages while also highlighting possible issues. The correct and effective use of artificial intelligence tools can increase the efficiency of counseling processes.

The results indicate that there is a significant gap in artificial intelligence literacy among psychological counseling candidates. The majority of participants have limited knowledge about artificial intelligence, demonstrating the necessity of emphasizing this topic more in educational programs. Additionally, it is understood that artificial intelligence tools currently used in psychological counseling practice will play an even more critical role in the future. Furthermore, participants expressed ethical concerns regarding the implementation of psychological counseling processes with artificial intelligence tools. As a result, the study provides valuable information on the impacts of artificial intelligence on the field of psychological counseling. It is thought that the use of artificial intelligence in psychological counseling will increase in the future. It is understood that psychological counseling candidates need to increase their artificial intelligence literacy levels from the moment they start their profession to adapt to this transformation.

Based on the research findings, it is recommended to add courses that increase artificial intelligence literacy to psychological counseling education programs and to increase practical training that allows students to use artificial intelligence tools. Additionally, strengthening education on ethical issues related to artificial intelligence and raising awareness among students about potential risks associated with artificial intelligence use, such as privacy and ethical dilemmas, are crucial. To increase artificial intelligence literacy, seminars, conferences, and knowledge competitions should be organized, and research projects on artificial intelligence should be encouraged in university psychological counseling departments. Furthermore, providing career development counseling and supervision services to students regarding the use of artificial intelligence technologies and updating programs based on student feedback are essential. These recommendations encompass the necessary education and practices for psychological counseling candidates to use artificial intelligence technologies more effectively and succeed in their profession. Increasing artificial intelligence literacy will contribute to conducting counseling processes more efficiently and effectively.

## References

- Anderson, J., Rainie, L., & Luchsinger, A. (2018). Artificial intelligence and the future of humans. *Pew Research Center*, 10(12).
- Baker, S. B., & Gerler, E. R. (2008). *School counseling for the 21st century*. Pearson Merrill Prentice Hall.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2016). *Bilimsel araştırma yöntemleri* (2. Basım). Pegem Akademi.  
<https://doi.org/10.14527/9789944919289>
- Canpolat, M. (2021). Psikolojik danışmanlık ve rehberlikte yapay zekâ kullanılabilirliği üzerine bir araştırma [A research on the usability of artificial intelligence in psychological counseling and guidance]. *Milli Eğitim Özel Eğitim ve Rehberlik Dergisi*, 1(1), 1-25.
- Chui, M., & Francisco, S. (2017). Artificial intelligence the next digital frontier. *McKinsey and Company Global Institute*, 47(3.6), 6-8.
- Çelebi, C., Demir, U., & Karakuş, F. (2023). Yapay zekâ okuryazarlığı konulu çalışmaların sistematik derleme yöntemiyle incelenmesi [Examining studies on artificial intelligence literacy by systematic review method]. *Necmettin Erbakan Üniversitesi Ereğli Eğitim Fakültesi Dergisi*, 5(2), 535-560.
- Fulmer, R. (2019). Artificial intelligence and counseling: four levels of implementation. *Theory & Psychology*, 29(6), 807-819.  
<https://doi.org/10.1177/0959354319853045>
- Hall, W., & Pesenti, J. 2017. *Growing the artificial intelligence industry in the UK*, Report, HM Government, London, UK.
- Hayden, L., Poynton, T. A., & Sabella, R. A. (2008). School counselors' use of technology within the ASCA National Model's delivery system. *The Journal of Technology in Counseling*, 5(1), 6- 18.
- Kesici, S. (2008), A sample for guidance application of distance education technologies: A case study on graduate students' opinions about web-assisted career guidance systems. *Turkish Online Journal of Distance Education*, 9(1), 139- 156.
- Kong, S. C., Cheung, W. M. Y., & Zhang, G. (2023). Evaluating an artificial intelligence literacy programme for developing university students' conceptual understanding, literacy, empowerment and ethical awareness. *Educational Technology & Society*, 26(1), 16-30.
- Kuzgun, Y. (1992). İlköğretimde rehberlik [Guidance in primary education]. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 8, 39-42.

- Luxton, D. D. (2014). Artificial intelligence in psychological practice: Current and future applications and implications. *Professional Psychology: Research and Practice, 45*(5), 332–339. <https://doi.org/10.1037/a0034559>
- Merriam, S. (2018). *Qualitative research a guide to design and implementation*. (3). (S. Turan, Çev.). Nobel Yayıncılık. (2009).
- Ng, D. T., Leung, J. K., Chu, S. K., & M. Q. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence, 2*. <https://doi.org/10.1016/j.caeai.2021.100041>
- OECD. (2019). *Artificial intelligence in society*. OECD Publishing. <https://doi.org/10.1787/eedfee77-en>
- Oh, K. J., Lee, D., Ko, B., & Choi, H. J. (2017). A chatbot for psychiatric counseling in mental healthcare service based on emotional dialogue analysis and sentence generation. In 2017 18th IEEE International Conference on Mobile Data Management (MDM) (pp. 371-375). IEEE. <https://doi.org/10.1109/MDM.2017.64>
- Su, J., Ng, D. T. K., & Chu, S. K. W. (2023). Artificial intelligence (AI) literacy in early childhood education: The challenges and opportunities. *Computers and Education: Artificial Intelligence, 4*, 100124. <https://doi.org/10.1016/j.caeai.2023.100124>
- Wang, X., Li, X., & J. H. (2023). Junior high school artificial intelligence literacy: connotation, evaluation and promotion strategy. *Open Journal of Social Sciences, 11*(5), 33-49. <https://doi.org/10.4236/jss.2023.115004>
- Yetişensoy, O., & Rapoport, A. (2023). Artificial intelligence literacy teaching in social studies education. *Journal of Pedagogical Research, 7*(3), 100-110. <https://doi.org/10.33902/JPR.202320866>