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ARTIFICIAL INTELLIGENCE IN SCHOOL COUNSELING: OPPORTUNITIES, RISKS AND PRINCIPLES FOR RESPONSIBLE USE

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Abstract

This article examines the role of artificial intelligence (AI) in school counseling and argues that AI-based tools should support, rather than replace, the professional work of school counselors. Drawing on an analytical review of international policy documents, professional standards, empirical studies and the legislation of the Republic of Uzbekistan, the paper identifies four main areas of application: administrative and data-management support, academic and career guidance, early identification of students who may need help, and conversational agents for social-emotional support. Studies of mental health chatbots report short-term reductions in self-reported depressive symptoms among young adults; however, the overall quality of the evidence remains limited, safety has rarely been evaluated, and school-age children have seldom been studied. The article also discusses the key risks of AI use: breaches of confidentiality, algorithmic bias, inaccurate or harmful responses, and the weakening of the human relationship that lies at the core of counseling. Particular attention is paid to Uzbekistan, where the Strategy for the Development of Artificial Intelligence Technologies until 2030 and the Law on Personal Data create both opportunities and obligations for schools. The paper concludes with practical principles for responsible use: human oversight, data protection, transparency, evidence-based tool selection, AI literacy for counselors, clear crisis protocols and linguistic and cultural adaptation.

Keywords

artificial intelligence, school counseling, student well-being, career guidance, chatbots, data privacy, professional ethics, Uzbekistan.

Introduction

School counselors play a central role in supporting students' academic achievement, career planning and social-emotional development. According to the American School Counselor Association (ASCA), a comprehensive school counseling program should be data-informed and should devote most of the counselor's time to direct and indirect services for students. In practice, however, counselors face heavy workloads. Since 1965, ASCA has recommended a ratio of 250 students per school counselor, yet the national average in the United States was 376 students per counselor in the 2023–2024 school year. Similar pressures exist in many other education systems, where a single counselor or school psychologist is often responsible for an entire school.[1;2]

At the same time, AI technologies, and generative AI in particular, have spread rapidly in education since late 2022. In response, international organisations have issued guidance on their use. UNESCO's guidance on generative AI in education and research calls for a human-centred approach, stresses the protection of data privacy and proposes a minimum age of 13 for the independent use of such tools in the classroom. The U.S. Department of Education has likewise emphasised that humans must remain "in the loop" when AI is used to make or support educational decisions [3;4].

MATERIAL AND METHODS

The question of AI in education is also highly relevant for Uzbekistan. The Law on Education (2020) establishes the principles of the national education system [5], while the "Digital Uzbekistan – 2030" Strategy sets the goal of the digital transformation of public services and the social sphere, including education [6]. Presidential Resolution PQ-4996 of 17 February 2021 introduced measures to create conditions for the accelerated adoption of AI technologies [7], and Presidential Resolution PQ-358 of 14 October 2024 approved the Strategy for the Development of Artificial Intelligence Technologies until 2030 [8]. Among its targets, the Strategy aims to raise the volume of AI-based software products and services to 1.5 billion US dollars and to place Uzbekistan among the top 50 countries in the Government AI Readiness Index [8]. These policies make it timely to ask how AI can be used in schools, including in counseling services, in a safe and effective way.

The purpose of this article is to analyse the opportunities and risks of using AI in school counseling and to formulate practical principles for its responsible use. The study addresses three questions: (1) In which areas of school counseling can AI tools be applied? (2) What does current research say about their effectiveness and limitations? (3) Which ethical and organisational conditions are necessary for their safe use, particularly in the context of Uzbekistan?

METHODS

The study is based on a qualitative analytical review. Four groups of sources were examined: (a) international policy documents on AI in education issued by UNESCO and the U.S. Department of Education; (b) professional standards for school counselors, namely the ASCA National Model and the ASCA Ethical Standards for School Counselors; (c) peer-reviewed research on AI in education and on digital mental health interventions, including a systematic review, a randomised controlled trial, an observational study and a meta-analysis; and (d) normative legal acts of the Republic of Uzbekistan on education, digital development, AI and personal data. Content analysis and comparative analysis were used to identify the main areas of application, the reported outcomes and the ethical requirements relevant to school counseling.

RESULTS AND DISCUSSION

Areas of application of AI in school counseling

The review shows that AI tools can be applied in four main areas of school counseling. These areas, together with their potential benefits and main risks, are summarised in Table 1.

Table 1. Main areas of AI application in school counseling

Area of application	Examples of AI functions	Potential benefit	Main risk
Administrative and data work	Drafting letters and reports, summarising meeting notes, analysing attendance and grade data	More counselor time for direct work with students	Entering identifiable student data into unsecured tools
Academic and career guidance	Matching student interests and results with programmes and	Personalised, always-available information	Outdated, inaccurate or biased recommendations

Area of application	Examples of AI functions	Potential benefit	Main risk
	occupations; answering routine questions		
Early identification	Predictive models flagging attendance drops or falling grades	Earlier, proactive support	False positives, labelling and stigma
Social-emotional support	Conversational agents offering psychoeducation and self-help exercises	Low-threshold support between sessions	Unsafe responses in a crisis; weak evidence for children

Administrative and data-management support

A considerable share of a counselor's working day is spent on documentation, correspondence and reporting. Generative AI tools can help draft letters to parents, prepare presentation materials, summarise meeting notes and analyse anonymised data on attendance and achievement. Because the ASCA National Model recommends that school counselors spend at least 80 percent of their time on direct and indirect student services, automating routine tasks can free time for work with students. The condition is that only anonymised or non-identifiable data are processed, and only in tools approved by the school. [2]

Academic and career guidance

AI-based recommender systems can match students' interests, abilities and academic results with educational programmes and occupations, and chat assistants can answer routine questions about admission requirements at any time of day. A systematic review of AI applications in higher education identified four main categories of use: profiling and prediction, assessment and evaluation, adaptive systems and personalisation, and intelligent tutoring systems. The same review noted that most studies were written from a technical perspective, with little critical reflection on ethical issues and pedagogical theory. For school counseling, this means that AI-generated career recommendations should be treated as a starting point for discussion, not as a final decision. [9]

Early identification of students who need support. Predictive analytics can detect patterns such as sudden drops in attendance or grades that may signal academic or

personal difficulties. Such systems may help counselors reach students earlier. At the same time, predictive models inevitably produce false positives and false negatives, and labelling a student as "at risk" may lead to stigma. Every automated alert should therefore be verified by a professional who knows the student and the context.

Conversational agents for social-emotional support. The most widely studied application is the use of chatbots that offer psychoeducation and exercises based on cognitive behavioural therapy. In a randomised controlled trial with 70 college students aged 18–28, two weeks of using the Woebot chatbot significantly reduced depressive symptoms compared with a control group that read an information e-book on depression, while anxiety decreased in both groups [10]. A real-world evaluation of the Wysa app found that more engaged users reported greater improvement in self-reported depressive symptoms than less engaged users [11]. However, a systematic review and meta-analysis of 12 studies concluded that the evidence for the effectiveness of mental health chatbots was weak, and only two of the included studies assessed safety [12]. Moreover, most of these studies involved adults or young adults rather than school-age children. Consequently, chatbots may serve as a supplementary resource between sessions, but not as a substitute for a counselor.

Risks and ethical challenges

Confidentiality and data protection. Counseling relies on trust, and the ASCA Ethical Standards require school counselors to protect the confidentiality of student information and to understand the limits and risks of the technologies they use [13]. Entering a student's name, health information or family circumstances into a public chatbot may expose these data to third parties. In Uzbekistan, the Law on Personal Data (2019) regulates the collection and processing of personal data and, as a general rule, requires the consent of the data subject [14]. School counselors must therefore use only approved tools and remove identifying information before any processing.

Algorithmic bias and inaccuracy. AI systems learn from existing data and may reproduce social biases, for example by recommending certain careers more often to one gender or social group. Generative models can also produce confident but incorrect statements. Holmes, Bialik and Fadel note that the ethics of AI in education extends

beyond data privacy to questions of fairness, transparency and the purposes for which AI is used [15]. Any information that AI provides to students must be checked by the counselor. Crisis situations. A chatbot cannot reliably recognise and respond to a student who is at risk of harming themselves or who is experiencing abuse. Schools that offer AI-based support tools must ensure that such tools clearly direct students to a counselor, a trusted adult or emergency services, and that counselors retain full responsibility for crisis intervention.

The human relationship. Personality develops through communication and interaction with other people, a view that is firmly established in Uzbek psychological science. The counseling relationship itself, built on empathy, trust and understanding of the student's family and cultural context, is a key condition for effective help. Excessive reliance on AI may weaken this relationship and reduce students' opportunities to develop interpersonal skills. AI should therefore strengthen, not replace, human contact.[16]

Unequal access. Students differ in their access to devices, internet connectivity and digital skills. If counseling services increasingly depend on digital tools, students from rural or low-income families may be disadvantaged. Schools should keep traditional, face-to-face channels of support fully available.

Principles for the responsible use of AI in school counseling

Based on the analysed documents and studies, the following principles are proposed for school counselors and school administrations:

1. Human oversight. AI may assist, but decisions about students are made by a qualified counselor.
2. Data minimisation and protection. Only the data that are strictly necessary are processed, identifying information is removed, and only tools approved by the school or education authority are used.
3. Transparency. Students and parents are informed when and how AI tools are used in counseling services.
4. Evidence-based selection. Preference is given to tools whose effectiveness and safety have been evaluated, and their limitations are taken into account.

5. AI literacy. Counselors receive professional development on how AI works, its strengths and its limitations.

6. Crisis protocols. Every AI-based support tool includes clear referral pathways to a counselor and to emergency services.

7. Linguistic and cultural adaptation. Tools are adapted to the languages of instruction, including Uzbek and Karakalpak, and to local cultural norms.

Implications for Uzbekistan

The national AI Strategy until 2030 lists education among the priority sectors for AI adoption and emphasises the development of human resources and public AI skills [8]. For school counseling services, this suggests several practical steps: piloting AI tools for administrative and career guidance tasks in selected schools before wider adoption; including AI literacy and data protection in the professional development of school psychologists and counselors; developing Uzbek- and Karakalpak-language tools that reflect the national education system and labour market; and preparing methodological guidelines that align AI use with the Law on Education and the Law on Personal Data [5], [14]. Such an approach would allow schools to benefit from AI while protecting students' rights and well-being.

Conclusion

Artificial intelligence offers school counselors real opportunities: it can reduce administrative workload, personalise academic and career information, help identify students who need support earlier, and provide supplementary self-help resources. These opportunities are especially valuable where each counselor serves a large number of students. However, the current evidence on AI-based emotional support remains limited, particularly for children and adolescents, and the risks related to confidentiality, bias, inaccurate information and crisis response are significant.

The analysis leads to the conclusion that AI should be viewed as an assistant to the school counselor, not as a replacement. Its responsible use requires human oversight, strict data protection, transparency towards students and parents, evidence-based selection of tools, ongoing professional development and clear crisis protocols. In Uzbekistan, the implementation of the Strategy for the Development of Artificial

Intelligence Technologies until 2030 creates favourable conditions for introducing such tools into school counseling, provided that their use is guided by ethical principles and the national legislation on personal data. Further research is needed on the effectiveness of AI tools for school-age students in Uzbekistan and on counselors' readiness to use them.

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