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HUMAN-CENTRED TEACHING IN THE AGE OF ARTIFICIAL INTELLIGENCE: A SURVEY OF TEACHERS IN UZBEKISTAN

Abstract. The rapid development of generative artificial intelligence (AI) is transforming educational practices and redefining the professional responsibilities of teachers. Although AI offers opportunities for personalised learning, assessment, and instructional support, its increasing integration into education raises important questions about the preservation of human interaction and the central role of teachers. This study examines teachers’ perceptions of human-centred teaching in the age of artificial intelligence in Uzbekistan. A quantitative descriptive survey was conducted among 74 teachers through an online questionnaire administered between 9 and 11 November 2026. The questionnaire explored participants’ familiarity with human-centred teaching, frequency of AI use in educational activities, perceptions of changes in teachers’ professional roles, the importance of face-to-face communication, and expectations regarding the future relationship between teachers and AI. The findings indicate that 67.6% of respondents were at least somewhat familiar with the concept of human-centred teaching, while 68.9% reported using AI tools at least several times a week. Furthermore, 90.5% agreed or strongly agreed that face-to-face communication positively influences student motivation. Nevertheless, perceptions of the future of teaching were divided: 43.2% expected teachers to remain central to education with AI serving as a supportive tool, whereas 35.1% believed that AI would assume many teaching responsibilities. The findings suggest that teachers increasingly incorporate AI into their professional activities while continuing to recognise the importance of interpersonal relationships in education. The study highlights the need for systematic teacher training, ethical guidelines, and educational policies that ensure the responsible and human-centred integration of AI. Given the small, non-random sample, the findings should be interpreted as exploratory and cannot be generalised to the entire teaching population of Uzbekistan.

Keywords: human-centred artificial intelligence, generative AI, teachers, human interaction, educational technology, teacher professional development, student motivation, Uzbekistan.

SUN’IY INTELLEKT DAVRIDA INSONGA YO‘NALTIRILGAN TA’LIM: O‘ZBEKISTON O‘QITUVCHILARI O‘RTASIDA O‘TKAZILGAN SO‘ROVNOMA TAHLILI

Annotatsiya. Generativ sun’iy intellekt texnologiyalarining jadal rivojlanishi ta’lim jarayonini tubdan o‘zgartirib, o‘qituvchilarning kasbiy faoliyati va mas’uliyatiga yangicha talablarni qo‘ymoqda. Sun’iy intellekt shaxsiylashtirilgan ta’lim, bilimlarni baholash va o‘quv materiallarini tayyorlashda keng imkoniyatlar yaratishi bilan birga, ta’limda insoniy muloqotni saqlash hamda o‘qituvchining yetakchi rolini ta’minlash ma-

salalarini ham dolzarb etmoqda. Mazkur tadqiqotning maqsadi O‘zbekistondagi o‘qituvchilarning sun’iy intellekt davrida insonga yo‘naltirilgan ta’limga munosabatini o‘rganishdan iborat. Tadqiqotda miqdoriy-deskriptiv yondashuv qo‘llanilib, 2026-yil 9–11-noyabr kunlari 74 nafar o‘qituvchi ishtirokida onlayn so‘rovnoma o‘tkazildi. So‘rovnoma ishtirokchilarning insonga yo‘naltirilgan ta’lim tushunchasidan xabardorligi, sun’iy intellekt vositalaridan foydalanish chastotasi, o‘qituvchining kasbiy roli o‘zgarishi, bevosita muloqotning ahamiyati hamda ta’limning kelajagi haqidagi qarashlarini qamrab oldi. Natijalarga ko‘ra, respondentlarning 67,6 foizi insonga yo‘naltirilgan ta’lim tushunchasidan hech bo‘lmaganda ma’lum darajada xabardor, 68,9 foizi esa sun’iy intellekt vositalaridan haftasiga bir necha marta yoki har kuni foydalanadi. Ishtirokchilarning 90,5 foizi o‘qituvchi va o‘quvchi o‘rtasidagi bevosita muloqot o‘quvchilarning motivatsiyasiga ijobiy ta’sir ko‘rsatishini ta’kidlagan. Shu bilan birga, respondentlarning 43,2 foizi kelajakda o‘qituvchi ta’lim jarayonida markaziy o‘rinni saqlab qolishini, 35,1 foizi esa sun’iy intellekt ko‘plab o‘qituvchilik vazifalarini o‘z zimmasiga olishini kutmoqda. Tadqiqot natijalari o‘qituvchilar sun’iy intellekt imkoniyatlaridan faol foydalanayotgan bo‘lsalar-da, insoniy munosabatlar va bevosita muloqotni ta’limning muhim tarkibiy qismi sifatida qadrlashlarini ko‘rsatadi. Shu munosabat bilan pedagoglar uchun tizimli malaka oshirish dasturlarini tashkil etish, sun’iy intellektdan foydalanishning axloqiy me’yorlarini ishlab chiqish va inson manfaatlariga yo‘naltirilgan ta’lim siyosatini shakllantirish zarurligi asoslanadi. Tanlanmaning kichikligi va tasodifiy bo‘lmaganligi sababli natijalarni O‘zbekistonning barcha o‘qituvchilariga umumlashtirish mumkin emas.

Kalit so‘zlar: insonga yo‘naltirilgan sun’iy intellekt, generativ sun’iy intellekt, o‘qituvchilar, insoniy muloqot, ta’lim texnologiyalari, pedagoglarning kasbiy rivojlanishi, o‘quv motivatsiyasi, O‘zbekiston.

ОБУЧЕНИЕ, ОРИЕНТИРОВАННОЕ НА ЧЕЛОВЕКА, В ЭПОХУ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА: ОПРОС ПРЕПОДАВАТЕЛЕЙ УЗБЕКИСТАНА

Аннотация. Стремительное развитие генеративного искусственного интеллекта (ИИ) трансформирует образовательную практику и предъявляет новые требования к профессиональной деятельности преподавателей. Несмотря на широкие возможности ИИ в области персонализированного обучения, оценивания знаний и разработки учебных материалов, его активное внедрение в образование актуализирует вопросы сохранения человеческого взаимодействия и ведущей роли преподавателя. Цель данного исследования заключается в изучении отношения преподавателей Узбекистана к обучению, ориентированному на человека, в эпоху искусственного интеллекта. В исследовании применялся количественный описательный подход. Онлайн-опрос охватил 74 преподавателя и проводился с 9 по 11 ноября 2026 года. Анкета включала вопросы об осведомлённости участников относительно концепции обучения, ориентированного на человека, частоте использования инструментов ИИ в образовательной деятельности, изменении профессиональной роли преподавателя, значении непосредственного общения и представлениях о будущем образования. Полученные результаты показали, что 67,6% респондентов были хотя бы в определённой степени знакомы с концепцией обучения, ориентированного на человека, а 68,9% использовали инструменты ИИ ежедневно или несколько раз в неделю. При этом 90,5% участников согласились или

полностью согласились с тем, что непосредственное общение преподавателя с учащимися положительно влияет на их учебную мотивацию. Вместе с тем мнения о будущем образования разделились: 43,2% респондентов считают, что преподаватель сохранит центральную роль, используя ИИ в качестве вспомогательного инструмента, тогда как 35,1% полагают, что искусственный интеллект возьмёт на себя значительную часть преподавательских обязанностей. Результаты исследования свидетельствуют о том, что преподаватели активно осваивают возможности ИИ, одновременно сохраняя высокую оценку межличностного взаимодействия в образовательном процессе. Полученные данные подчёркивают необходимость систематической профессиональной подготовки педагогов, разработки этических рекомендаций и формирования образовательной политики, обеспечивающей ответственное внедрение ИИ с учётом человеческих ценностей. В связи с небольшим объёмом и нерепрезентативным характером выборки результаты исследования не могут быть распространены на всю совокупность преподавателей Узбекистана.

Ключевые слова: искусственный интеллект, ориентированный на человека, генеративный искусственный интеллект, преподаватели, человеческое взаимодействие, образовательные технологии, профессиональное развитие педагогов, учебная мотивация, Узбекистан.

INTRODUCTION

The rapid advancement of artificial intelligence (AI), particularly generative AI, has become one of the most significant developments influencing contemporary education. Unlike earlier educational technologies, which primarily focused on information storage, administrative processes, and online content delivery, generative AI systems can produce original texts, respond to individual requests, and adapt their outputs to users' needs. These capabilities have introduced new possibilities for interaction between learners, teachers, and digital technologies, while also raising important questions about the future of teaching and learning (Mørch & Andersen, 2023; Karunanayaka, 2026).

The emergence of publicly accessible generative AI applications, particularly following the introduction of ChatGPT in late 2022, accelerated discussions about the integration of artificial intelligence into educational institutions. Teachers increasingly encounter AI-supported tools in lesson preparation, assessment, feedback provision, and the development of instructional materials. However, the rapid adoption of these technologies has not always been accompanied by sufficient pedagogical guidance, institutional policies, or professional development opportunities. Consequently, teachers are often required to make decisions about the appropriate use of AI without having comprehensive knowledge of its educational implications (Karunanayaka, 2026).

The integration of AI into education presents both opportunities and challenges. On the one hand, AI-powered applications can support personalised learning, facilitate the preparation of teaching materials, improve feedback processes, and assist educators in identifying individual learning needs (Mørch & Andersen,

2023). Learning analytics and intelligent educational systems may also contribute to more flexible learning environments by providing students with information about their progress and helping them regulate their learning activities (Anastasiades et al., 2026). On the other hand, excessive dependence on automated systems may reduce direct interaction between teachers and students, weaken learners' independent thinking, and create concerns regarding data privacy, academic integrity, and unequal access to technology. There is also a risk that the increasing reliance on AI-generated content may gradually undermine the professional judgement and pedagogical authority of teachers (Karunanayaka, 2026).

These concerns have contributed to the growing importance of human-centred artificial intelligence (HCAI). This approach places human needs, values, autonomy, and well-being at the centre of technological development and implementation. In educational settings, human-centred AI is intended to enhance teachers' and students' capabilities rather than replace their intellectual and social contributions. It emphasises human oversight, responsible data use, transparency, and the preservation of meaningful educational relationships (Anastasiades et al., 2026; Mørch & Andersen, 2023).

A practical example of this distinction can be observed in academic writing. A conventional generative AI application may produce an entire essay in response to a single prompt. A human-centred approach, however, would prioritise supporting the student's own writing process through suggestions, feedback, and explanations. In this way, AI becomes a learning assistant rather than a substitute for the learner's intellectual effort (Mørch & Andersen, 2023).

Within this framework, teachers continue to play an essential role. Their responsibilities extend beyond delivering information or operating digital platforms. Teachers guide intellectual development, encourage critical thinking, provide emotional support, establish ethical standards, and create an environment in which meaningful learning can take place. Farida (2025) emphasises that the increasing influence of AI may transform the position of teachers from traditional knowledge providers into curators of knowledge, ethical guides, and critical decision-makers. Therefore, the integration of AI should not be understood merely as a technological transformation but also as a pedagogical and ethical process.

Despite the growing international literature on human-centred AI in education, the perspectives of teachers working in Uzbekistan remain insufficiently explored in the context of the present study. Educational practices and attitudes towards technological innovation are influenced by institutional, cultural, social, and professional conditions. Therefore, findings from other national contexts cannot automatically be applied to the Uzbek educational environment. Understanding how local teachers perceive AI, how frequently they use it, and whether they consider human interaction essential is important for developing appropriate educational strategies and professional development programmes.

In response to this research gap, the present study examines teachers' perceptions of human-centred teaching in the age of artificial intelligence in Uzbekistan. The research is guided by the following questions:

RQ1. To what extent are teachers in Uzbekistan familiar with the concept of human-centred teaching?

RQ2. How frequently do teachers in Uzbekistan use AI tools in their teaching activities?

RQ3. How do teachers perceive the influence of AI on their professional roles and the importance of face-to-face communication in education?

RQ4. How do teachers anticipate the relationship between human educators and AI systems developing over the next five years?

By addressing these questions, the study aims to contribute to the discussion on responsible AI integration and the preservation of human-centred educational practices in Uzbekistan.

LITERATURE REVIEW

The relationship between artificial intelligence and education has attracted increasing scholarly attention, particularly following the widespread availability of generative AI applications. Earlier discussions of educational technology primarily focused on improving access to information, supporting administrative activities, and facilitating digital learning environments. Contemporary generative AI systems have expanded these possibilities by producing texts, explaining complex concepts, generating learning materials, and providing immediate responses to individual users. Nevertheless, their educational value depends not only on technical capabilities but also on the pedagogical principles guiding their implementation.

Mørch and Andersen (2023) examine the significance of human-centred AI in education and argue that technological systems should strengthen human learning and teaching rather than replace them. Their perspective highlights the importance of preserving students' intellectual participation and teachers' professional judgement. In this context, the educational application of AI should be evaluated according to whether it supports meaningful learning, encourages independent thinking, and improves the quality of human interaction.

Anastasiades et al. (2026) similarly emphasise that human-centred AI should be designed and implemented in accordance with human needs, ethical principles, and educational objectives. Their conceptual discussion identifies human oversight, responsibility, and the development of teachers' professional competencies as important conditions for successful AI integration. These considerations suggest that the effectiveness of AI in education cannot be measured exclusively through efficiency or automation. Its contribution should also be assessed in terms of educational quality and human well-being.

The professional role of teachers is another major theme in the literature. Popenici and Kerr (2017) discuss the potential implications of artificial intelligence

for teaching and learning in higher education. They argue that AI may transform conventional educational practices while creating new opportunities for teachers to focus on activities that require human judgement, interpretation, and interpersonal understanding. Rather than treating AI as an inevitable replacement for educators, they encourage a humanistic approach in which technology supports the broader purposes of education.

Farida (2025) further develops this discussion by examining how AI may influence educational authority and the professional identity of teachers. The author describes AI as an increasingly influential participant in knowledge-related processes, particularly through prediction, personalised learning recommendations, and automated decision-making. This development raises questions about who determines the content, direction, and priorities of education. In this regard, teachers should remain active participants in educational decision-making rather than becoming passive users of algorithmic systems.

Karunanayaka (2026) also highlights the need to reconsider teacher education in response to the rapid development of generative AI. The author argues that technological change should be accompanied by appropriate professional preparation and pedagogical guidance. Teachers need to understand not only how AI applications function but also when their use is appropriate, what limitations they have, and how they may affect learners' autonomy and critical thinking. This perspective reinforces the importance of continuous professional development.

Empirical research has also explored teachers' and students' attitudes towards AI in education. Chan and Tsi (2024), in their study involving 399 students and 184 teachers in Hong Kong, investigated perceptions of whether generative AI could replace teachers in higher education. Their findings highlighted the continuing importance of human qualities such as creativity, emotional understanding, and interpersonal communication. Although participants recognised the potential of AI, human contributions remained significant in their perceptions of effective teaching.

Chiu et al. (2024) examined the relationship between teacher support and student motivation when learning with AI-based chatbots. Their findings indicate that students' motivation and perceived competence are connected to the support they receive from teachers. This suggests that the presence of AI does not eliminate the importance of pedagogical guidance. On the contrary, effective integration of AI may require teachers to provide additional support in helping students interpret information, evaluate responses, and maintain active engagement in learning.

The ethical dimension of AI integration is addressed by Adams et al. (2022), who discuss the new ethical responsibilities emerging for teachers in technology-supported educational environments. Issues such as student privacy, transparency, accountability, and the appropriate use of automated systems require educators to develop new forms of professional awareness. Tang (2024) also identifies both the benefits and challenges of AI in teaching and learning, including improved effi-

ciency in assessment and feedback, alongside concerns related to ethical responsibility, data protection, and unequal technological access.

Research conducted in Uzbekistan provides an additional perspective on the subject. Mirzayev et al. (2025) investigated university EFL teachers' perceptions of ChatGPT and identified both positive expectations and ethical concerns. Their findings suggest that teachers recognise the potential of generative AI for language teaching while remaining aware of issues associated with accuracy, academic integrity, and responsible use. Although their study involved a relatively small group of seven participants, it provides a relevant starting point for further research into teachers' experiences with AI in the Uzbek educational context.

Andersen and Yang (2025) examined K–12 teachers' perspectives on teaching with generative AI in the United States. Their research provides further evidence that teachers' attitudes towards AI are shaped by questions of professional readiness, educational purpose, and the practical implications of technology adoption.

Overall, the reviewed literature demonstrates that AI can contribute to educational development when its implementation is guided by pedagogical objectives and human values. However, questions remain concerning teachers' familiarity with human-centred teaching, the frequency of AI use, and the perceived importance of direct human interaction in Uzbekistan. The present study addresses these issues by examining the experiences and expectations of teachers working in different educational contexts.

METHODOLOGY

Research Design

The study employed a quantitative descriptive survey design to investigate teachers' perceptions of human-centred teaching in the age of artificial intelligence. A cross-sectional approach was adopted, meaning that data were collected at a single period rather than through repeated observations. This design was considered appropriate because the primary objective was to identify existing attitudes, reported practices, and expectations among participating teachers.

The research focused on four interconnected dimensions: familiarity with human-centred teaching, frequency of AI use in teaching activities, perceptions of changes in teachers' professional responsibilities and the importance of face-to-face communication, and expectations regarding the future relationship between teachers and AI.

Participants and Sampling

A total of 74 teachers participated in the survey. The sample included 49 female respondents (66.2%) and 25 male respondents (33.8%). Regarding geographical distribution, 68 participants (91.9%) reported living in Uzbekistan, while six respondents (8.1%) lived in other countries.

The participants represented different levels of professional experience. Twenty-two teachers (29.7%) had less than one year of teaching experience, an-

other 22 (29.7%) reported between two and five years of experience, 14 (18.9%) had between five and ten years of experience, and 16 (21.6%) had more than ten years of teaching experience.

A non-probability convenience sampling method was used. The questionnaire link was distributed through Telegram groups for teachers and shared by the researchers with their professional and personal contacts. Participation was open to individuals who were willing to complete the survey. Therefore, the sample represents voluntary responses rather than a randomly selected or nationally representative group of teachers.

Research Instrument

Data were collected using a questionnaire developed by the authors. The instrument consisted of 15 questions, including both closed-ended and open-ended items. The questions were designed to obtain information about participants' professional backgrounds, familiarity with human-centred teaching, patterns of AI use, perceptions of the changing role of teachers, the importance of face-to-face communication, and expectations concerning the future of education.

The questionnaire was written in English and administered through Google Forms. Closed-ended questions provided predefined response options, while open-ended questions allowed participants to express their opinions and expectations in their own words.

It should be noted that the questionnaire was developed specifically for this exploratory study and was not subjected to a formal validation procedure or pilot testing. Consequently, the findings should be interpreted as descriptive evidence of the participating teachers' reported perceptions.

Data Collection Procedure

The survey was conducted over three days, from 9 to 11 November 2026. The questionnaire was distributed electronically, allowing participants to complete it at a convenient time. Participation was entirely voluntary, and respondents were not required to provide their names or email addresses.

Data Analysis

The collected data were analysed using descriptive statistical procedures. Google Forms' summary functions were used to calculate the number and percentage of responses for each closed-ended question. Percentages were calculated based on the total number of respondents (N = 74) and rounded to one decimal place.

Responses to open-ended questions were examined through a basic thematic grouping process. Similar statements were organised according to their central ideas, allowing recurring perspectives to be identified. The findings are presented through descriptive explanations and numerical percentages rather than comparative statistical tests.

Given the exploratory nature of the research, no causal relationships or statistically significant differences between participant groups were examined.

Ethical Considerations

Ethical principles were considered throughout the data collection process. Participants were informed that their participation was voluntary and that the questionnaire was anonymous. No email addresses or directly identifying personal information were collected. Respondents were free to decide whether to participate and could choose not to submit their responses. The information obtained was used exclusively for the purposes of the present academic study.

RESULTS

The survey was completed by 74 teachers. The findings are presented according to the four research questions and focus on participants' familiarity with human-centred teaching, their use of AI tools, perceptions of changes in the teaching profession, the importance of face-to-face communication, and expectations regarding the future of education.

Participants' Background Characteristics

The demographic profile of the respondents indicates that women represented the larger proportion of the sample, accounting for 49 participants (66.2%), while men accounted for 25 participants (33.8%). Most respondents were residing in Uzbekistan (91.9%), whereas 8.1% reported living in other countries.

The participants also represented different stages of professional development. A total of 22 respondents (29.7%) had less than one year of teaching experience, while the same number reported between two and five years of experience. Fourteen participants (18.9%) had between five and ten years of experience, and 16 (21.6%) had more than ten years in the teaching profession. This distribution provided perspectives from both relatively new teachers and those with longer professional experience.

Familiarity with Human-Centred Teaching (RQ1)

The findings indicate that the majority of participants had at least some awareness of human-centred teaching. Specifically, 20 teachers (27.0%) described themselves as very familiar with the concept, while 30 respondents (40.5%) reported being somewhat familiar with it. Together, these groups represented 50 participants, equivalent to 67.6% of the total sample.

However, 19 teachers (25.7%) stated that they had heard about the concept but knew little about it. Another five respondents (6.8%) indicated that they were not familiar with it at all. Thus, approximately one-third of the participants (32.4%) had limited or no knowledge of human-centred teaching.

These results suggest that the concept has reached a considerable proportion of the surveyed teachers, although a substantial knowledge gap remains. Familiarity, however, was measured through self-assessment and does not necessarily demonstrate a comprehensive understanding of the theoretical and practical principles of human-centred education.

Frequency of AI Use in Teaching Activities (RQ2)

The survey revealed that AI tools were already incorporated into the professional activities of many respondents. Thirty-five teachers (47.3%) reported using AI applications every day, making daily use the most common response. Another 16 participants (21.6%) stated that they used AI several times a week.

Combined, these two groups accounted for 51 respondents, or 68.9% of the sample. Fourteen teachers (18.9%) reported occasional use, while nine participants (12.2%) stated that they never used AI tools in their teaching activities.

The results indicate that AI has become a relatively frequent component of the professional practices of the surveyed teachers. Nevertheless, the questionnaire did not examine which specific applications were used or the particular tasks for which AI was employed. Therefore, the frequency of use should not automatically be interpreted as evidence of pedagogically effective or human-centred implementation.

Perceptions of Changes in the Professional Role of Teachers (RQ3)

Participants were also asked to assess the extent to which artificial intelligence was changing the professional role of teachers. The largest group, consisting of 30 respondents (40.5%), believed that AI was transforming the teaching profession to a moderate extent.

At the same time, 17 teachers (23.0%) perceived these changes as substantial, while 22 respondents (29.7%) believed that AI was changing the teaching profession to a very great extent. Combined, these two groups represented 39 participants (52.7%). Only five teachers (6.8%) considered the changes to be relatively small.

These findings suggest that more than half of the surveyed teachers already perceive AI as a significant factor influencing their professional responsibilities. Although the nature of these changes may differ across educational contexts, the results indicate that teachers are increasingly aware of the need to adapt their professional practices to technological developments.

The Importance of Face-to-Face Communication

One of the most notable findings concerns teachers' attitudes towards direct communication with students. When asked whether face-to-face communication improves students' motivation, 34 respondents (45.9%) strongly agreed and 33 participants (44.6%) agreed.

Together, positive responses accounted for 67 teachers, representing 90.5% of the sample. Only seven respondents (9.5%) disagreed with the statement, while none selected the strongly disagree option.

The high proportion of agreement demonstrates that direct interpersonal communication remains highly valued among the surveyed teachers. Despite the increasing use of AI-supported educational technologies, participants generally considered face-to-face interaction an important element of student motivation and the teaching-learning process.

Teachers' Expectations Regarding the Future of Education (RQ4)

The final part of the survey examined how participants anticipated the relationship between teachers and artificial intelligence developing over the next five years.

The largest group, comprising 32 respondents (43.2%), expected teachers to remain central to education, with AI serving as a supportive tool. Another 10 participants (13.5%) believed that teachers and AI would function as equal partners in educational activities.

However, 26 respondents (35.1%) anticipated that AI would take over many teaching responsibilities. Three participants (4.1%) emphasised that human interaction in education would continue to remain important, while another three respondents (4.1%) stated that it was difficult to predict how the situation would develop.

These findings reveal differing expectations concerning the future of the teaching profession. Although the largest group continues to support a teacher-centred model assisted by AI, a considerable proportion anticipates a more substantial transfer of educational responsibilities to automated systems.

Taken together, the results demonstrate three important tendencies: relatively frequent AI use among the surveyed teachers, strong recognition of the importance of face-to-face communication, and uncertainty about the long-term distribution of responsibilities between human educators and AI systems.

DISCUSSION

This study explored teachers' perceptions of human-centred teaching in the age of artificial intelligence in Uzbekistan. The findings highlight their familiarity with the concept, frequency of AI use, perceptions of professional changes, and expectations regarding the future of education.

First, although 67.6% of respondents were familiar with human-centred teaching, nearly one-third had limited or no knowledge of the concept. This indicates the need for professional development that addresses not only the technical use of AI but also its pedagogical and ethical aspects. This finding is consistent with Karunanayaka (2026), Anastasiades et al. (2026), and Tang (2024), who emphasise the importance of teacher preparation and continuous professional development.

Second, the results show that AI is increasingly integrated into teachers' professional activities, with 47.3% using it daily and 68.9% at least several times a week. This finding is consistent with Mirzayev et al. (2025), who reported generally positive attitudes towards ChatGPT among Uzbek university EFL teachers. However, the present study did not examine the specific purposes of AI use. As Mørch and Andersen (2023) and Tang (2024) suggest, the educational value of AI depends on how it is incorporated into teaching rather than simply how frequently it is used.

Third, a significant finding is that 90.5% of respondents agreed or strongly agreed that face-to-face communication improves student motivation. This sup-

ports the human-centred approach, which views technology as a means of strengthening rather than replacing human relationships. Similar conclusions were reported by Chan and Tsi (2024) and Chiu et al. (2024), who highlighted the continuing importance of teacher support and interpersonal interaction. Nevertheless, the present findings reflect teachers' perceptions rather than direct measurements of student motivation.

Fourth, participants expressed different expectations about the future of teaching. While 43.2% believed that teachers would remain central to education with AI providing support, 35.1% expected AI to take over many teaching responsibilities. These concerns are consistent with Farida's (2025) discussion of the growing influence of algorithmic systems on educational decision-making. In contrast, Popenici and Kerr (2017) and Karunanayaka (2026) emphasise that AI should support teachers rather than replace their professional responsibilities.

From a practical perspective, the findings highlight the need for systematic teacher training in responsible AI use, including data protection, academic integrity, critical evaluation of AI-generated information, and the development of students' independent thinking. Educational institutions should also establish clear guidelines for AI integration and involve teachers in decisions about its implementation. As Adams et al. (2022) emphasise, the use of AI creates additional ethical responsibilities for educators. At the same time, maintaining meaningful communication between teachers and students should remain a central priority.

CONCLUSION

This study examined teachers' perceptions of human-centred teaching in the age of artificial intelligence in Uzbekistan through an online survey involving 74 participants. The findings provide an exploratory overview of teachers' familiarity with human-centred teaching, their use of AI tools, perceptions of changes in professional responsibilities, and expectations concerning the future of education.

The results demonstrate that 67.6% of respondents were at least somewhat familiar with human-centred teaching, while 68.9% reported using AI applications daily or several times a week. These findings suggest that AI technologies have already become part of the professional practices of many surveyed teachers. At the same time, the fact that approximately one-third of participants had limited or no familiarity with human-centred teaching indicates the need for further professional education and pedagogical guidance.

One of the most significant findings is that 90.5% of respondents agreed or strongly agreed that face-to-face communication improves students' motivation. This demonstrates that, despite the growing presence of AI in educational activities, direct interpersonal relationships continue to be highly valued by teachers. The result supports the central principle of human-centred education, according to which technological innovation should complement rather than replace the human dimensions of teaching and learning.

The findings also reveal differing expectations about the future of the teaching profession. While 43.2% of respondents believed that teachers would remain central to education with AI serving as a supportive tool, 35.1% anticipated that AI would take over many teaching responsibilities. This division of opinion reflects the uncertainty surrounding the long-term implications of artificial intelligence for teachers' professional identity and educational practice.

Overall, the study suggests that the teachers who participated in the survey are increasingly engaging with AI technologies while continuing to recognise the importance of human interaction, pedagogical responsibility, and professional judgement. The challenge for educational institutions is therefore not simply to introduce more advanced technologies but to ensure that their use contributes to meaningful learning and preserves the human values of education.

In practical terms, the findings support the development of systematic professional training in human-centred AI, the establishment of clear ethical and pedagogical guidelines, and the active involvement of teachers in decisions concerning technological integration. Particular attention should be given to data privacy, academic integrity, independent thinking, and the preservation of teacher-student communication.

However, the results should be interpreted within the limitations of the research design. The small, voluntary, and non-random sample does not allow conclusions to be generalised to all teachers in Uzbekistan. Future studies should involve larger and more representative participant groups, use validated questionnaires in Uzbek and English, and examine differences across educational levels, teaching subjects, and professional experience. Further research should also investigate the specific ways teachers use AI and explore students' perceptions of human-centred learning environments.

The central conclusion is that the future of education should not be defined by a choice between teachers and artificial intelligence. Rather, it should be based on a balanced relationship in which AI contributes technological opportunities while teachers retain responsibility for educational values, human relationships, and the intellectual development of learners.

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