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PROFESSIONAL-ADAPTIVE MODEL OF TRANSFORMING WOMEN IN UZBEKISTAN FROM AI CONSUMERS TO CREATORS

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Abstract: The rapid development of artificial intelligence is fundamentally changing the demand for digital competencies. In particular, the gap between women's level of artificial intelligence usage and their level of independently applying it to create professional and innovative solutions is one of the pressing issues. The purpose of this study is to develop a professional-adaptive AI education model aimed at transitioning women in Uzbekistan from basic users of artificial intelligence to creators of practical solutions. The research utilized methods of system analysis, comparative analysis, model design, and digital educational platform prototyping. The model includes identifying the user's professional field, assessing initial AI competence, forming an individual learning pathway, and providing AI training sessions and practical projects aligned with professional tasks. The SheTechAI platform was developed as a technological prototype of the model. As a result of the research, a four-stage competence model is proposed, aimed at advancing AI education from 'providing knowledge about AI' to 'solving real professional problems and creating new solutions using AI'.

Keywords: artificial intelligence, women, AI literacy, digital competence, adaptive education, vocational education, AI creator, generative AI, SheTechAI, information technology.

INTRODUCTION

Artificial intelligence is no longer merely a tool for IT specialists; it is penetrating various processes in education, medicine, entrepreneurship, services, creativity, and daily life. Uzbekistan is not lagging behind these technological transformations. In the Strategy for the Development of Artificial Intelligence Technologies in Uzbekistan until 2030, increasing AI-based products and services, developing infrastructure, and strengthening human capital are designated as priority tasks. In 2026, Uzbekistan climbed 25 positions in the global AI Readiness Index rating, reaching 62nd place, with a target set to enter the top 50 by 2030 [1]. The participation of women in this process is of special significance. According to 2026 Coursera data, women accounted for 58.9% of users enrolled in GenAI courses in Uzbekistan. This indicator led to Uzbekistan being recognized as a 'Global Leader' in GenAI education [2]. However, this indicator cannot be equated with women's active participation in creating AI technologies. According to UNESCO data, globally only 22% of specialists in the field of AI are women [3]. Thus, an important scientific question arises between these two indicators: If women are actively entering AI education, how can we transform them from AI users into specialists who create new solutions using AI? This research seeks an answer to precisely this question.

Research Problem

The vast majority of existing AI education programs teach users how to utilize AI tools. However, forming an educational pathway based on the user's profession, initial background, individual needs, and real-world professional problems requires a dedicated methodical approach.

Research Purpose

To develop a professional-adaptive AI education model that guides women in Uzbekistan from the stage of basic artificial intelligence usage to the stage of solving professional problems and creating new digital solutions using AI.

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Research Question: How should an AI education model tailored to professional fields be structured to elevate women's AI competency from basic usage to the level of independently creating AI solutions?

Hypothesis: If AI education is adapted to the user's professional field, initial preparation, and individual needs, the likelihood of transferring AI knowledge to real professional tasks and independently creating AI solutions increases.

MATERIALS AND METHODS

The study was based on a conceptual-model and technological prototyping approach. The main stages of the research include:

- **Problem Identification** — Analysis of the gap between women's participation in AI education and their professional involvement in the AI field.
- **Professional Segmentation** — Development of a mechanism to categorize users according to their professional fields.
- **Competence Model** — Proposal of a model consisting of stages such as AI Consumer, AI User, AI Creator, and AI Innovator.
- **Adaptive Learning Pathway** — Formulation of educational content and practical tasks matching the user's profession.
- **Prototyping** — Technological implementation of the model through the SheTechAI digital platform.
- **Evaluation Model** — Development of criteria to compare the user's baseline and final AI competencies.

Table 1. Proposed Competence Model

Stage	User Activity	Expected Competence
I. AI Consumer	Receives ready answers from AI	AI literacy
II. AI User	Performs professional tasks using AI	Practical AI competence
III. AI Creator	Creates new solutions using AI	Creative and technological competence
IV. AI Innovator	Creates AI-based projects or products	Innovative competence

The main distinction of this model is that the ultimate goal of education is not limited to knowing how to write prompts. The user must be able to identify a real professional problem related to their field using AI, develop a solution, and transform it into a practical product.

Technological Prototype

To implement the model into practice, the SheTechAI platform was developed. The main components of the platform include:

- Identification of professional orientation
- Assessment of AI literacy

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- Formation of an individual AI learning pathway
- AI Academy
- AI Lab
- Prompt engineering exercises
- Tasks based on professional scenarios
- Competence evaluation
- User AI competence profile

Thus, SheTechAI is regarded in this study not as a final standalone result, but as a technological prototype created to empirically test the proposed scientific-methodical model.

RESULTS

As a result of the study, a professional-adaptive model focused on the step-by-step development of women's AI competence was created. The key novelty of the model consists in directly linking AI education to the user's professional activities.

For instance, for a teacher, the ultimate goal of AI education is not simply 'writing a prompt', but rather developing lesson materials using AI, creating tasks tailored to students' levels, and personalizing the learning process.

For a female entrepreneur, AI competence can manifest through market analysis, customer communication, content creation, and business process automation.

For a student, searching for scientific information, data analysis, formulating research questions, and developing scientific projects with AI assistance may be paramount.

On this basis, the principle of "AI → Profession → Problem → Solution" was proposed.

As the primary technological outcome of the research, this principle was integrated into the educational and practical modules of the SheTechAI platform.

Significant attention is also devoted to developing human capital in AI within Uzbekistan's 2026 technological policy. Under the 'Five Million AI Leaders' project, it was recorded that 1.8 million youth and civil servants received AI training in 2026. Furthermore, in June 2026, the 'STEM WOMAN — AI Enabling Everyone' forum was held in Uzbekistan, where opportunities for girls and women in AI, STEM, tech careers, innovation, and entrepreneurship were discussed [6]. This process demonstrates the practical relevance of the problem advanced in this study.

DISCUSSION

The obtained results indicate that while involving women in AI education is important, keeping education merely at the user level is insufficient. The 58.9% figure can be seen as an important indicator demonstrating high interest among Uzbek women in GenAI education. However, it cannot be interpreted as the proportion of AI creators. This exact discrepancy forms the core problem of this study. The global indicator — that only 22% of AI specialists are women — highlights that a gender gap persists at the technology creation stage [4].

This gap is not merely an issue of educational access. It is essential to increase women's participation in creating technological products, conducting research, launching startups, and making strategic decisions in AI. In 2026, dedicated programs aimed at enhancing women's AI literacy, cybersecurity, data literacy, and digital safety are being implemented in Uzbekistan [3]. Therefore, the next phase must be:

Teaching AI Usage ➔ Solving Professional Problems with AI ➔ Teaching the Creation of New AI-Based Solutions

The proposed professional-adaptive model is specifically aimed at facilitating this transition. However, there is an important limitation to this study: at the present stage, large-scale experimental statistical results regarding the efficiency of the model are not provided. Therefore,

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the assertion that 'the model increases AI competence' should be regarded not as a definitive conclusion, but as a scientific hypothesis to be tested. In the next stage, evaluating the model's effectiveness using experimental and control groups is planned.

CONCLUSION

This study addressed the problem between the high engagement of women in Uzbekistan in AI education and the global gender gap in professionally creating AI technologies.

2026 data indicating that female users account for 58.9% of GenAI course enrollments in Uzbekistan reflects high interest among women in AI education. At the same time, the fact that only 22% of global AI specialists are women underscores an existing gender disparity at the AI creation stage [2].

Based on this, the study proposed a competence model comprising the stages: “AI Consumer ➔ AI User ➔ AI Creator ➔ AI Innovator”. The core innovation of the model lies in connecting AI education directly to the user's professional domain and real-world problems rather than limiting it to general technological knowledge.

The SheTechAI platform was developed as a technological prototype of this model. The platform combines professional orientation, personalized AI learning pathways, AI Academy, AI Lab, prompt practice, and scenario-based tasks. Through future experimental trials, the impact of the model on women's AI competence can be evaluated using quantitative and qualitative metrics.

Consequently, it is proposed to view 58.9% not as a final destination, but as a starting point. The ultimate goal is not merely transforming women into AI consumers, but empowering them as technological creators who generate new value using AI in their professional fields.

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