NEWSLETTER

Factors Influencing Teacher Satisfaction with Human-Machine Collaborative Teaching: A Study Based on Structural Equations and Fuzzy-Sets Qualitative Comparative Analysis

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HUMAN-MACHINE collaboration, as an important application of intelligent technology, is of vital significance for the advancement of digital transformation in education. Amid the progress in human-machine collaborative teaching, its practical effects and factors influencing teacher satisfaction with it are questions pending in-depth investigation. This study established a model of the factors relating to teacher satisfaction with human- machine collaborative teaching, based on the expectancy confirmation theory, motivation theory and information system success model, in combination with the analysis of interviews.

The empirical research results showed:

- Amusement perception was the necessary factor in the teacher's continuance intention to adopt human-machine collaborative teaching. The information quality and system quality of human-machine collaborative teaching were core factors for the teacher's continuance intention to use it.
- Among the four factors relating to teacher satisfaction with human-machine collaborative teaching, namely the expectancy confirmation, amusement perception, information quality, and system quality, the expectancy confirmation had the greatest effect on it, whereas the amusement perception posed the slightest effect.
- Among the three factors relating to the perception of the usefulness of human-machine collaborative teaching, namely the expectancy confirmation, information quality, and system quality, the expectancy confirmation had the greatest effect on it, while the information quality exerted the minimal effect.

Based on research findings, the article makes suggestions as follows.

- Innovate the human-machine collaborative teaching modality by integrating machine intelligence into classroom teaching to in-

crease teacher-student, inter-student, and human-machine interaction.

- Enhance the mutual support between teachers and machines to realize technology-enabled, individualized instruction and boost the professional level of teachers.
- Increase intelligent instruction literacy of the teacher to fully leverage the high efficiency of artificial intelligence technology and infuse AI into day-to-day teaching.
- Establish partnerships between schools and AI experts to effectively implement relevant human-machine collaboration technologies in teaching and engage external AI specialists to provide teachers with targeted training to improve the outcomes of human-machine collaborative teaching

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