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2026 Volume 4, Issue 4
Contemporary Education Frontiers
ISSN:3029-1879 (Online)
ISSN: 3029-1860 (Print)

Transformation and Reconstruction of the Teaching Evaluation System for Continuing Education in the Age of Artificial Intelligence

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Abstract: Artificial intelligence is changing the learning space, teaching organization, and quality assessment mechanisms for lifelong learning. The traditional teaching evaluation system has many problems at present, such as narrow evaluation purposes, dispersed indices, a lack of participation by the evaluated subjects, and late feedback. Based on the international situation of digital transformation in continuing education, this paper explores how artificial intelligence can promote changes in the form of teaching evaluation and examines the main problems of continuing education evaluation in responding to competence development through learning data analysis, cross-curricular collaboration, and support for teaching improvement. The research shows that the goals of the teaching evaluation system for continuing education should be shifted to focus on the development of abilities, the indicators refined by learning data, stronger professional judgment of teachers, extended channels for learners to express themselves, and a closed-loop feedback mechanism for curriculum improvement. The reconstruction of the evaluation system supported by artificial intelligence needs to integrate technological efficiency with the framework of educational values, and thus the evaluation can better serve the continuous development of adult learners.

Keywords: Continuing education; Artificial intelligence; Teaching evaluation

Online publication: April 26, 2026

1. Introduction

Global Digitalization is Changing the System of Lifelong Learning. Continuing education provides support for the renewal of competence and career transition among older adults in society. With the introduction of artificial intelligence in education, one has been able to collect data on students' learning behaviors continuously, examine the teaching process flexibly, and alter the focus of evaluation from outcomes to the way in which they are achieved. Learners in continuing education have different ages, occupational backgrounds and learning foundations, and therefore a single evaluation system will not effectively show their progress. Research on the teaching evaluation system of continuing education in the age of artificial intelligence helps meet the new demands for international quality assurance of lifelong learning [1].

2. Artificial intelligence promotes the transformation of teaching evaluation forms in continuing education

2.1. Digital migration of continuing education learning scenarios

Artificial Intelligence is Changing the Learning Environment for Lifelong Education Around the World. UNESCO has addressed the problems of artificial intelligence in education management and pointed out that countries need to build a reasonable system for using artificial intelligence in learning, teaching and evaluation. The European Union's Digital Education Action Plan also proposes the goal of high-quality, inclusive and accessible digital education in terms of educational reform by 2027. Therefore, the places for continuing education have expanded from traditional classrooms to online courses, mobile learning platforms and virtual training environments. Adult learners have different jobs and are busy with work, so they cannot study at any time. A number of digital learning scenarios integrate course materials, learning activities, task submission and competency training into one platform. Teaching evaluation has therefore moved away from a single test and started observing all the behaviors in learning off-campus continuously.

2.2. Continuous generation of learning process data

Foreign studies on adult competencies have found that people of different ages are not all equally educated or experienced. Assessments of continuous learning should know what learners have learned previously and how well they have been learning. Artificial intelligence turns the learning process into recordable data, and thus, learning duration, resource selection, discussion participation, assignment revision and test responses can all be used as evaluation materials. The object of assessment has moved from final grades to the learning process, and the time of assessment has gone from the end of a course to the stages of learning. The purpose of the data is not to increase the quantity of administrative documents, but rather to find learning deficiencies, skill shortcomings and support needs in order to conduct an effective evaluation of continuing education tailored to the varied circumstances of adult learning [2].

3. Practical difficulties facing the teaching evaluation system of continuing education

3.1. Evaluation objectives insufficiently respond to changes in learning competence

3.1.1. Learning outcomes are emphasized more than competence formation

Artificial intelligence continues to change job content, and the goals of continuing education have moved from knowledge supplementation to ability construction. Literacy, numeracy, and adaptive problem-solving skills are considered the basic competencies by the OECD Adult Skills Survey for enabling adults to live and work continuously. According to the 2023 survey, the level of basic digital skills among older people is quite varied in different countries, and some groups have been excluded from using digital life. Most teaching evaluation in continuing education still uses course scores, exam results and homework completion. Evaluation goals are still at the level of verifying learning outcomes, thus failing to observe learners' judgments, expressions and problem-solving behaviors in real-life situations. Adult learners are often in their working lives, so the results of learning should be visible in changes in how they approach their work. The existing evaluation objectives pay insufficient attention to this process of competence formation, and thus the results of the evaluation do not support the career renewal function of continuing education.

3.1.2. Personalized development is difficult to include in the evaluation vision

Continuing education learners have different age structures, occupations and learning bases. Unified evaluation goals cannot explain the growth paths of all learners. According to UNESCO's report on adult learning, the scope of adult education should be expanded to include more people, and quality improvement needs to address issues of equity and accessibility in learning opportunities. In practice, continuous education assessment often uses the same course standards for all learners, and learners' prior knowledge and professional needs or other factors affecting their learning pace are

usually ignored in the assessment design. Artificial intelligence can record learning behavior, but the current evaluation system has not been fully transformed into proof of individual development. Whether learners move from low-level tasks to high-level tasks, whether they form stable learning strategies, and whether they can transfer course knowledge to occupational settings are often not presented in evaluation results. If individualization of development is not included in the evaluation scope, continuing education will be reduced to a certificate-acquisition mechanism.

3.2. Evaluation indicators make insufficient use of data resources

3.2.1. Process data collection standards are fragmented

Digital platforms can collect a large amount of data on the process of continuous education, but this data is not automatically an evaluation tool. The EU Digital Education Action Plan suggests that the education and training system should be updated for the digital age to create high-quality, inclusive and convenient digital learning environments. Continuing education institutions have collected various data in the platform construction process, including login frequency, learning duration, test records, discussion information and resource access paths. The standards for the data of various platforms are also inconsistent, and the collection standards have not been unified. Some systems only save whether the learners have completed the learning tasks, but do not record how well the learners understand the tasks, how they correct their answers, or how competence progress has been made. Data of different granularities are not comparable, and thus quality evaluations for courses, projects, and institutions are difficult to make across these units. The data processed at the back end of the platform have not yet been utilized as teaching evaluation evidence.

3.2.2. Intelligent analysis results lack pedagogical interpretation

Artificial intelligence evaluation tools can create learning profiles, risk alerts and competence labels, but the algorithmic output cannot be considered pedagogical judgment. According to the guidance provided by UNESCO on generative artificial intelligence in education, educational institutions should assess whether the ethical and teaching purposes of artificial intelligence systems are suitable for education before allowing students to use these tools. Some platforms for continuous education evaluation directly use the amount of learning time, number of clicks and answer accuracy as indicators of learning quality, disregarding the non-linear characteristics of adult learning. A short learning period is not necessarily due to a lack of interest in learning, and frequently reviewing materials does not mean poor learning ability. Intelligent analysis that lacks pedagogical interpretation will easily result in mechanical labels and be unable to design effective interventions for teachers or enable learners to understand the meaning of the competence in the evaluation results. An overly strong emphasis on technology-driven output in the evaluation indices may lead to an excess of data without meaningful educational interpretation.

3.3. Evaluation subjects are insufficiently adapted to collaborative evaluation

Now that artificial intelligence is used to grade students in their daily lives, all sides have begun to participate. UNESCO's AI Competence Framework for Teachers suggests that teachers need to learn artificial intelligence ethics, the technical basis of AI, artificial intelligence pedagogy, and professional development in AI to protect the rights of teachers and promote human agency. Although continuing education teachers need to use platform data for evaluation in practice, they are often not given sufficient rights to interpret this data, revise the evaluation results or question the model. After the technological system issues a warning, it is not clear whether teachers can modify their judgments, what kind of basis should be recorded for such adjustments, and when manual review is required. Teachers' assessment responsibilities have been strengthened, but their corresponding professional authority has not been adjusted accordingly; thus, it may be that responsibility is transferred elsewhere or there is an imbalance in rights and duties. If teachers are only to accept the results from the platform passively, then evaluation will be reduced to technology.

4. Reset evaluation objectives around competence growth

4.1. Establish job competence-oriented evaluation standards

With the rise of artificial intelligence, the aim of continuing education evaluation is now to promote the growth of job skills. Development of evaluation standards based on real-work tasks to change industry competence requirements, vocational qualification standards, and changes in job tasks as course evaluation objectives. According to the OECD adult skills survey, literacy, numeracy, and adaptive problem-solving skills are required, and evaluation of adult learning should focus on the learner's ability to act in complex situations rather than just memorization of knowledge. Continuing education institutions can invite professional teachers, industry mentors and employer representatives to work together on the main job tasks and form a list of competence units. Course evaluation should be linked to actual tasks, and supporting materials such as case studies, project reports, work plans and operation records can be used as evidence. The artificial intelligence system is responsible for collecting data on learning; teachers need to judge the level of competence achievement, and industry mentors must approve the tasks. As the focus of evaluation shifts from knowledge mastery to performance capability, continuing education needs to meet the global demand for continuous reskilling in the labor market.

4.2. Include learning transfer outcomes in evaluation content

The principal content of continuous education is learning transfer. After the learners complete a course, whether they can apply the knowledge to their work, change their old ways of working, and form an independent judgment in a new technological environment should be included in the evaluation system. According to the report by UNESCO on adult education, the purposes of adult education now include learning, life adaptation, participating in society, and achieving all-round development [3]. Continuing education institutions can set learning transfer as an independent evaluation index, conduct staged follow-up after the course concludes, and collect learners' work cases, task completion records and job improvement materials. Artificial intelligence tools can classify the themes of text materials, learning logs and project outcomes, help teachers identify transfer pathways, etc. Evaluation of learning transfer should not be based only on institutional data or self-assessments by students; a comprehensive assessment of course performance data, job task results and teacher evaluations can be conducted. After adding the transfer results to the evaluation goals, continuous education will change from a certificate orientation to one focused on continuous competency improvement.

4.3. Optimize evaluation indicators through learning data

4.3.1. Standardize process data collection rules

The Foundation of AI-assisted assessment is a stable data-collection norm. Continuing education institutions need to establish a unified data dictionary and clarify the meaning of indicators such as login records, resource learning, classroom interaction, assignment revision, test performance and feedback response. The EU Digital Education Action Plan proposes that the system for education and training in the digital era needs to have some basic requirements for data governance. Continue to avoid directly equating collectible data with measurable indicators in the continuing education platform. Learning time can be used to show participation, but it cannot determine the level of learning. Interaction frequency indicates the level of learning activity, but it is not an assessment of deep thinking. At the institutional level, the collected data should be divided into necessary data, auxiliary data and sensitive data, limited in scope, and manually verified. Data collection should also take into account the privacy demands of different national institutional environments; learners should be informed of the data collection, their consent should be obtained, and they need to be able to query the relevant information. Only after standardization of data can it be used for comparative analysis among courses in the evaluation.

4.3.2. Construct explainable intelligent analysis models

Intelligent analysis models for continuing education evaluation need to be explainable, especially when AI tools are directly involved in assessment design and learner performance judgment [4]. UNESCO's Recommendations on the

ethics of artificial intelligence put forward principles such as transparency, fairness and human oversight; at the same time, the EU Artificial Intelligence Act has introduced a concept of trustworthy AI into its institutional system. If an evaluation model cannot explain the origin of indicators, weightings and reasons for judgment, then teachers, students and administrators will not be convinced. Explain the model and reasons for certain indicators; establish a manual review mechanism for abnormal results to introduce intelligent assessment tools. Based on the course goals, teachers can modify the model's results, and this modification process should be saved for the next cycle of model optimization. Model explanation should not be restricted to technical documents; it should also be available in diagnostic language that teachers and students can understand. Explainable models can connect data analysis with educational judgment and reduce the inappropriate restrictions on adult learners by algorithmic labels.

4.4. Improve evaluation subjects based on multi-subject collaboration

Artificial intelligence can organize the data and identify abnormal behavior in real time; teachers are still professional specialists who must be involved in the process of education assessment. According to UNESCO's AI Competency Framework for Teachers, teachers in the age of artificial intelligence need to learn human-centered ideas, ethics and technology applications, instructional Design, etc. The course management system of continuing education institutions should be expanded to include teacher assessment functions, and their specific duties in goal setting, index interpretation, result moderation, etc., need to be clearly stipulated. Teachers should consider whether the platform data reflect the actual learning situation and identify evaluation bias caused by learners' work pressure, equipment problems, and differences in learning foundation. Institutions can offer data literacy training for teachers to help them learn about the application scope of learning profiles, intelligent alerts and algorithmic scores. Clarify the professional duties of teachers, and then AI can be used to provide additional support for assessment rather than replacing it [5]. Continuing education evaluation should form an operational relationship in which technology supports teachers and teachers use technology.

5. Conclusion

Artificial intelligence will change the nature of assessment in continuing education from a single-result evaluation to a comprehensive process evaluation, and thus learning data, competency performance and teaching feedback will serve as basic elements for quality judgment. The problems of setting goals, building indicators, coordinating subjects, and providing feedback have not been fully resolved in the existing evaluation system; as a result, it has failed to promote the actual effectiveness of continuing education in improving the abilities of adult learners. Looking ahead, the reconstruction of the teaching evaluation system for continuing education should be human-centered, fully exploit the auxiliary role of artificial intelligence in data integration, risk identification and personalized feedback, safeguard teachers' professional judgment, and respect learners' actual experiences. The main direction of the reform of assessment is to apply information technology in education to improve curriculum development and foster all-round growth of students.

Disclosure statement

The author declares no conflict of interest.

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