ARTIFICIAL INTELLIGENCE LITERACY APPLIED TO ASSIGNMENT PRACTICES UNDER EDUCATIONAL ADMINISTRATION IN HENAN VOCATIONAL COLLEGES

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Abstract

From an educational administration perspective, teachers' Artificial Intelligence (AI) literacy connects directly to four stages of assignment practices in vocational education：design, implementation, evaluation, and management. This paper first explains the concept of assignment practices. It then traces their evolution in vocational education; Next, it defines AI literacy and highlights the unique context of vocational training. Studies show that AI can speed up assignment design, it can give more precise and timely feedback, it can expand learning resources and improve management. However, in higher vocational education, this potential often fails to become real results. The main reason is differences in teachers' AI literacy. Therefore, this paper reviews key concepts and current challenges, it outlines future research directions, it provides a foundation for empirical studies on teacher AI literacy, assignment practices, and ethical governance in vocational colleges.

Keywords: Artificial Intelligence literacy, assignment practices, educational administration.

Introduction

Since 2015, when OpenAI was founded, generative AI tools like ChatGPT and DeepSeek have spread quickly. Since 2022, they have reshaped education in an intelligent environment. Teachers use these tools to adapt instructional content. Some assessment processes are already automated (Ng et al., 2021).In China, vocational education has always focused on practice. When AI is deeply integrated into higher vocational education, it can improve many assignment-related practices. These include curriculum planning, assessment, task allocation, and project investigation (OECD, 2023; Çela et al., 2024). To turn this potential into classroom results, AI must match course objectives, industry standards, and assignment cycles. This depends on teachers' AI literacy (Ng et al., 2021; Yusop et al., 2022).

In today's fast-changing education, AI literacy is essential for teachers (Ng et al., 2021). To use AI effectively, teachers must improve their AI literacy; research further confirms that the level of teacher AI literacy directly shapes the quality and fairness of assignment practices (Yusop et al., 2022). To support teacher skills and smart education governance, Henan Province started the "Artificial Intelligence + Education" Three-Year Action Plan (2025–2027) (Henan Provincial Department of Education, 2025). Yet, many teachers still cannot integrate AI well.

They often use it in easy but shallow ways, without embedding it deeply into assignment practices (Bećirović et al., 2025). Against this background, this paper focuses on vocational colleges, it looks at the whole assignment cycle from an educational administration perspective. Through a literature review, it explains teacher AI literacy, examines its application within assignment practices, and identifies the key challenges and limits.

Definition of Assignment Practices

Assignment practices are a component of teaching management within educational administration, serving to connect the theoretical knowledge acquired in the classroom with practical skills. Through assignments, educators can not only demonstrate instructional objectives but also assess students' learning outcomes, provide feedback, and continuously improve the quality of teaching and institutional effectiveness. To fully leverage the role of assignments, it is essential to understand their conceptual foundations, historical evolution, and specific applications in vocational education. Especially in the context of rapid advancements in artificial intelligence, these insights are important for rethinking the design and implementation of assignments in modern education.

Definition and Evolution of Assignment Practices

Assignment practice is essentially a link between teaching and learning (Cela et al., 2024). One end connects to the theoretical instruction in the classroom,The other extends to students' written work and skill-based assignments (Balducci, 2024). It is not just a simple after-class task; It works as a benchmark for evaluating learning outcomes, It also serves as a channel for obtaining instructional feedback， In addition, it drives the joint progress of both teachers and students (Yan, 2025). To understand this educational tool more deeply, we must look at its historical development. This includes its path within vocational education. In today's rapid AI advancements, this understanding becomes especially important. It helps us anticipate how traditional assignment models will be broken down and redefined (Nyaaba et al., 2024).

In recent years, assignment design has demonstrated two clear trends, one is a stronger focus on authenticity task contexts, the other is more attention to active learner participation. The emergence of generative artificial intelligence has made it possible to design learning tasks that simulate real workplace scenarios, this change significantly increases the appeal of the learning experience, it also improves learner engagement (Annapureddy et al., 2024). From the perspective of educational administration, the widespread use of AI tools has improved assignment workflows. It has made design processes more transparent and convenient. It has also made evaluation more standardized (Carenzio & Triacca, 2022).

Focus of Assignment Practices in Vocational Education

In vocational education, assignment design often connects closely with real work contexts, it focuses strongly on building students' professional skills and workplace competencies. This approach measures learning effectiveness, it also helps learners apply their knowledge flexibly in complex real-world situations (Villarroel et al., 2024). Policy research also shows that high-quality vocational education needs well-designed assignments and practical tasks. These help connect learning content to labor market demands (OECD, 2023).

At present, more flexible types of assignments are entering classrooms. For example,

the "Assignment Menu" model gives students to a choice among different types of task types within set learning objectives. This approach greatly improves learner autonomy and motivation (Faculty Focus, 2024). Artificial intelligence has created new opportunities for assignment practices. Many university teaching centers advise careful use of AI in assignment design. They aim to build students' critical thinking and information evaluation skills. This includes skills in analyzing, revising, and refining AI-generated content (Cornell CTI, n.d.). Some institutions call for rethinking assignment design in the AI era. They want to stop academic misconduct. They also want to promote creativity and problem-solving (University of Iowa, 2023). In this situation, teachers' AI literacy is essential. It affects the quality and innovation of assignment practices. It also decides whether students can use AI effectively in their future jobs (Yusop et al., 2022).

Understanding Teachers' AI Literacy in Vocational Education

Against the backdrop of increasingly intelligent education systems, AI literacy has become an essential component of teachers' professional competence (Zawacki-Richter et al., 2019). For vocational education teachers, AI literacy means more than knowing how AI works , it also means being able to apply AI tools. It requires integrating them with teaching goals, learning contexts, and industry needs (Yusop et al., 2022). To study this topic clearly, we must first define AI literacy and its main parts. Then we can examine the features and focus areas of teachers' AI literacy in vocational education (Villarroel et al., 2024).

Definition of AI Literacy

AI literacy is now seen as a key skill in the digital age. It means being able to understand AI technologies. It also means being able to use them and judge them critically. People with AI literacy are aware of AI's effects on society, ethics, and daily life (Ng et al., 2021; Zawacki-Richter et al., 2019). Long and Magerko (2020) call AI literacy "a set of competencies." These skills help people assess AI systems critically. They also help people communicate and work with AI. AI literacy also lets people take part in public life where AI is present. Their definition stresses critical thinking and responsible use. Ng et al. (2021) add more detail. They say AI literacy should include knowing how transparent and explainable AI decisions are. It should also include the skill to find ethical risks. Finally, it should cover the ability to use AI in different contexts in the right way.

AI Literacy in the Vocational Education Context

In the educational, AI literacy means more than knowing how to use tools. It includes cognitive skills, it also includes ethical awareness and the ability to work with others. How AI literacy is used depends on the context. It must match teaching goals and learner needs (Ng et al., 2021). In vocational education, AI literacy focuses on practical use and matching industry needs. Teachers must design assignments that reflect real tasks. They must include industry-specific technologies. They need to give feedback that students can act on. They must check if AI-generated work meets industry standards (OECD, 2023; Xie, 2024).

In this field, AI literacy stresses the need to "use it well and use it right." This includes skills like simulation-based training, fault diagnosis, and giving practical job-specific guidance (Çela et al., 2024).

Applications of AI Literacy in Assignment Practices

Al literacy is used in many stages of assignment practices. It starts from designing tasks, it continues through assessing learner performance. lt also includes managing instructional activities (Yan et al., 2025). In vocational education, assignments often connect to real workplace contexts. Using Al in a strategic way can make them more relevant. It can also improve efficiency and increase learner engagement (Balducci, 2024). However, these benefits only appear when teachers use Al tools thoughtfully and critically. They must ensure Al use fits teaching goal sand meets ethical standards (Nyaaba et al., 2024).The next sections look at three main areas where Al literacy matters. These are assignment design, assessment and feedback, and assignment management with instructional support (Ng et al., 2021).

Integration of Artificial Intelligence into Assignment Design

In skill-based and context-driven curricula, AI integration makes task designs closer to real-world scenarios. Teachers with high AI literacy often use generative tools like ChatGPT and DeepSeek to create assignments with AI. They adjust difficulty to match learner differences. They make sure assignments fit course objectives. These tools also help teachers quickly create many task versions. These versions can support the step-by-step development of complex skills (Annapureddy et al., 2024).

However, good integration depends on teachers knowing what AI can do and what it cannot do. If teachers do not check if AI meets industry standards, problems can occur. Allowing AI outputs that do not match field requirements can mislead learners. This can harm the teaching process (Çela et al., 2024).

Artificial Intelligence in Assessment and Feedback

In vocational education, practical tasks need feedback that is timely, it must also be specific and actionable. As AI tools become common, teachers are trying automated grading systems, they also use language models and feedback generators to make assessment processes faster. Teachers with higher AI literacy use these tools selectively. They also check the AI outputs critically to keep teaching quality high (Ng et al., 2021).

Low AI literacy can cause over-reliance on automated grading. It can also lead to using unverified feedback. These problems can reduce assessment authenticity. They can also weaken the teacher's professional role (Bećirović et al., 2025). Ethical issues also appear. These include fairness, transparency, and data protection. Teachers need to use professional judgment to balance automation with personal feedback.

Artificial Intelligence in Assignment Management and Instructional Support

In the management and support stage of assignments, AI can track submission progress, it can detect possible academic misconduct, it can also create class profiles through visual dashboards to help decision-making. However, these users require teachers to understand how the system works, they must know its limits and ethical issues, they also need to make sure the tools match instructional goals (Zawacki-Richter et al., 2019). Therefore, using AI in assignment practice has clear potential to improve quality and efficiency. At the same time, it raises the skill requirements for teachers' AI literacy. Building professional capacity is a key to gaining these benefits.

Problem Analysis

The use of artificial intelligence (AI) tools has changed assignment practices in vocational colleges. It has moved them from manual processes to intelligent and data-driven management models (Balducci, 2024). Teachers with high AI literacy use generative AI, intelligent grading, and learning analytics. These tools help them design tasks faster. They also improve feedback quality and make management more precise (Yan et al., 2025). However, these advantages do not always lead to consistent results. In practice, several problems remain (Villarroel et al., 2024):

First, AI literacy levels vary greatly among teachers, this causes uneven quality in assignments and feedback across classes and courses (Bećirović et al., 2025; Çela et al., 2024).

Second, technology and curriculum systems are weakly connected. AI tools often do not match learning management systems (LMS) or curriculum standards. Without reusable templates and guidelines, it is hard to create a full "design–implementation–evaluation" cycle (Ng et al., 2021; Zawacki-Richter et al., 2019).

Third, ethical risks and academic integrity problems are growing. Generative AI makes it easier to produce "acceptable" assignments. Without clear rules and detection systems, teachers may overuse AI. This can distort evaluation. To maintain fairness, assignments should be redesigned, and AI use should be disclosed (Ng et al., 2021; Long & Magerko, 2020).

Finally, training and support systems are incomplete. Current training is mostly short lectures. There are few chances for ongoing updates or peer support. As technology changes, teachers often lack reliable resources to adapt (Çela et al., 2024; Zawacki-Richter et al., 2019).

In summary, teachers in China's vocational colleges are still in the early stages of AI literacy. Most have a positive attitude toward AI. However, gaps in understanding, shallow use, weak ethics control, and poor support systems still limit the stability and progress of assignment practices (Yusop et al., 2022).

Conclusion

This paper is based in the real context of vocational education; it examines the meaning and evolution of "assignment practices" from an educational management perspective. Assignments are not just simple after-class tasks, they act as a bridge between teaching and learning. For example, in the design, assessing, and managing assignments, teachers' AI literacy affects the quality of the work, it also affects the learning experience of students. Notably, new tools such as generative AI, intelligent grading, and learning analytics have changed assignment practices, designs are faster, feedback is more accurate, learning resources are more diverse, management processes are also more refined. These changes have made teaching management lighter and more efficient. However, these benefits do not always lead to stable results in practice. On one hand, AI literacy levels differ greatly among teachers, some use AI tools well to improve assignments, others still use traditional manual grading. On the other hand, technology and curriculum systems are often weakly connected. AI tools are often "add-ons" instead of being built into course goals. Ethical and academic integrity issues in assignment practices are also increasing, week training and support system leave many teachers feeling powerless in the face of technological change. In summary, this paper explains key

concepts and identifies main challenges, it offers useful guidance for improving teachers' AI literacy in educational management.

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