

## AI APPLICATION FOR LEARNING EXPERIENCE PERSONALISATION IN TEACHING VIETNAMESE LITERATURE IN SECONDARY GRADES: A CASE STUDY

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**Abstract.** The rise of artificial intelligence (AI) in education has transformed how educators approach teaching and learning. With the increasing focus on personalized learning, AI technologies have emerged as powerful tools to tailor educational experiences to individual students. In literature education, particularly in teaching Vietnamese literature in secondary schools, AI has the potential to revolutionize traditional pedagogical approaches by providing personalized support, feedback, and learning paths. This paper analyses the concept and impact of personalized learning pathways, explores the application of AI, and presents a case study of AI integration in personalizing the learning pathways in teaching writing for secondary school students in Hanoi. The research results emphasize that AI can effectively support students' writing activities in certain steps; at the same time, the students also provided feedback on the strengths and limitations of AI based on their application. The research findings provide a concrete example and potentially inspire other studies in this area.

**Keywords:** personalized learning experience, AI application, student-centered learning theory.

### 1. Introduction

Personalized learning was initially developed in the form of mentorship between teachers and learners which are human-human interaction. Rooted in the recognition of diverse student needs, personalized learning seeks to tailor instruction to individual abilities, preferences, and interests, thereby fostering greater engagement and deeper learning. However, achieving such personalization at scale poses significant challenges, particularly in large classrooms with limited teacher resources.

The emergence of artificial intelligence (AI) has created new opportunities for tackling these difficulties, providing tools that empower educators to design and execute personalized learning experiences with greater efficacy. AI-driven platforms can evaluate students' comprehension of literary devices or cultural backgrounds and recommend additional resources customized to their individual needs. Furthermore, AI can enhance formative assessment by providing instantaneous insights into student progress, allowing educators to adjust their education dynamically (Riegel, 2024). These capabilities offer significant potential for education, as the incorporation of AI could facilitate personalized learning within a culturally relevant framework.

This pedagogical shift is particularly critical in teaching Vietnamese Literature, where in traditional teaching methods, analyses and interpretations are often somewhat directive, and

students are influenced by those directions. In many cases, students lack the opportunity to express their insights or have their own interpretations accepted. According to the 2018 General Education Curriculum for the Literature subject, writing instruction needs to follow a 4-step process: (1) preparation (determining the topic, purpose of writing, etc.); (2) brainstorming and outlining; (3) writing the draft; (4) reviewing and editing. This process is unified for the creation of all types of texts at all grade levels. At the same time, this process emphasizes the unique role of each individual student, meaning that students play a central role in deciding which topic to write about, how to brainstorm and outline, how to choose language and express themselves in writing, as well as mastering the editing and refining of their written products. The personalization aspect is profoundly reflected throughout the writing process.

The purpose of this study is to explore how AI supports personalized learning in Vietnamese literature instruction for secondary school students, especially in teaching writing. By conducting a qualitative literature review, the research aims to examine the potential benefits of AI-driven personalization, identify its limitations, and present a case study of AI integration in personalizing the learning pathways in Literature for students at a secondary school in Hanoi. Specifically, the study seeks to answer the following research questions:

*1. How can AI tools be effectively utilized in writing instruction to support personalized learning?*

*2. What are the benefits of using AI to personalize writing instruction in the Literature subject for secondary school students?*

*3. What are the limitations and challenges of integrating AI into writing instruction in particular, and teaching Vietnamese Literature and Language in general?*

By addressing the research questions, this study aims to contribute to the broader discourse on AI's role in transforming education, providing insights into how technology can enhance the teaching and learning of literature.

## **2. Content**

### **2.1. Literature Review**

#### **2.1.1. Personalized Learning**

Personalized learning is underpinned by various learning theories, including constructivism, differentiated instruction, and self-regulated learning. Constructivist theories (Piaget, 1950; Vygotsky, 1978) posit that learners actively construct knowledge based on prior experiences and interactions. This aligns with personalized learning, as it allows students to build on their existing knowledge through instructional strategies. Differentiated instruction (Tomlinson, 2001) plays a crucial role in personalized learning, emphasizing the adaptation of content, process, and products to meet learners' individual needs.

Effective implementation of personalized learning requires a combination of pedagogical strategies, teacher professional development, and technological infrastructure. Blended learning models, such as the flipped classroom approach, provide a flexible structure for personalized learning by allowing students to engage with instructional content at their own pace before participating in interactive classroom activities (Bergmann & Sams, 2012). Competency-based education (CBE) enables students to progress based on mastery rather than seat time, aligning with the core principles of personalized learning (Patrick et al., 2013). CBE allows learners to advance upon demonstrating proficiency in a particular skill, ensuring that they fully grasp concepts before moving on to more complex topics. Personalized learning plans (PLPs) are also widely adopted as structured frameworks to track student progress and tailor educational experiences. These plans incorporate formative assessments, student reflections, and teacher feedback to continually adjust learning paths (Rickabaugh, 2016).

The increased reliance on AI and learning analytics raises ethical concerns regarding data privacy and algorithmic biases. Ethical AI use must prioritize transparency, fairness, and accountability to ensure that personalization does not reinforce existing biases (Baker & Hawn, 2021). Teachers also face difficulties in transitioning from traditional pedagogical approaches to personalized learning models, requiring substantial professional development and institutional support (Pane et al., 2017). A lack of teacher readiness and confidence in using learning technologies can hinder successful implementation. Additionally, the increased workload for educators in designing and monitoring individualized learning experiences can lead to burnout if adequate support is not provided (Robinson et al., 2019). Critics argue that personalized learning may lead to excessive individualization, potentially reducing collaborative learning opportunities and social interactions among students. Over-reliance on technology-driven personalization can also contribute to issues of learner isolation, as students may engage with digital content independently rather than participating in meaningful discussions and teamwork.

Research indicates that personalized learning positively influences student engagement, motivation, and academic achievement (Bingham et al., 2018). A meta-analysis by Zheng et al. (2020) reveals that students in personalized learning environments demonstrate higher learning gains compared to those in traditional settings. Personalized learning fosters self-regulated learning skills, which are critical for lifelong learning and adaptability in an increasingly digital world (Greene & Azevedo, 2010). Students who engage in personalized learning develop higher levels of metacognition, goal-setting abilities, and intrinsic motivation, which contribute to their long-term academic success (Dabbagh & Kitsantas, 2012). However, the effectiveness of personalized learning varies based on implementation quality, technological infrastructure, and educator preparedness (Pane et al., 2017). Studies indicate that while personalized learning can benefit students who are self-motivated and possess strong executive functioning skills, those with lower self-regulation may struggle without structured guidance (Azevedo & Hadwin, 2005).

### **2.1.2. Generative AI**

Generative AI (GenAI) is rooted in deep learning and natural language processing (NLP), particularly in the development of large-scale neural networks such as Generative Adversarial Networks (GANs) and Transformer-based models like OpenAI's GPT and Google's BERT. The use of generative AI in education aligns with constructivist learning theories, which emphasize active learning, scaffolding, and knowledge construction through interaction with technology. Cognitive load theory suggests that by automating content generation and feedback, GenAI can help reduce extraneous cognitive load, allowing learners to focus on higher-order thinking skills. Some potential benefits of GenAI in education can be discussed as follows:

**Personalized learning through text and image generation:** GenAI can generate customized educational content tailored to individual students' needs. Research has shown that AI-generated tutoring systems enhance learner engagement by providing real-time, customized feedback (Luckin et al., 2021).

**Automated assessment and feedback:** GenAI facilitates automated grading and feedback for written assignments, helping educators save time while providing immediate responses to students. AI-powered text generation tools, such as Grammarly and OpenAI's GPT-based assessment models, have demonstrated high accuracy in evaluating grammar, coherence, and argumentation quality (Wang & Heffernan, 2022).

## **2.2. Methodology**

### **2.2.1. Participant and Context**

Times School Khai Son Middle School (a member of the International Education Joint Stock Company) began enrollment for its first academic year in 2023. As a new school in Hanoi, the school always strives to provide an advanced educational approach and learning experiences that

meet the increasing learning demands of students. The school leaders have focused on the issue of personalizing students' learning and training. The Vietnamese Literature teacher from Times School Khai Son Middle School participating in this study has a university degree in Vietnamese language pedagogy. She has 11 years of teaching experience. She is quite proficient in using information technology and is familiar with personalizing students' learning paths as well as incorporating AI into teaching at certain stages. Regarding the students, there are 12 ninth-grade students (15 years old) from Times School Khai Son Middle School participating in the study, divided into 3 groups: a group with progressive essay writing results scoring below 5 (4 students); a group with progressive essay writing results scoring between 5 and 7 (5 students); and a group above 7 (3 students) – based on the results of formative assessments from the previous school year. They are all quite proficient in using computers. Their parents facilitate their computer use for studying, including researching materials and creating learning products according to specific requirements for each subject.

### **2.2.2. Data collection and Analysis**

The data for this study were collected over 2 weeks. Specifically, the researcher met with the teacher to analyse the ongoing teaching plan, interview about her experience in teaching the writing section in the Vietnamese Literature and Language textbook, regarding how students are guided to approach the writing process; tools and forms of self-assessment; personalized orientation for learners and its manifestation in various steps in the teaching process... From there, the researchers and teacher agreed on selecting the steps in the writing process where AI support would be utilized. After having a dataset of learning tasks supported by AI, the teacher proceeded with the teaching as planned. The students would carry out individual tasks throughout the writing process, where each student engaged in learning the writing content according to the curriculum implementation schedule: *Writing an argumentative essay about a problem that needs to be solved (in the current student life)*. The specific content used is based on the 9th-grade Literature textbook from the “Connecting Knowledge with Life” series published by Vietnam Education Publishing House. After the learning process, the students completed a questionnaire to evaluate their level of satisfaction, concerns, difficulties and needs for continued use of AI for learning.

## **2.3. Results and Discussion**

### **2.3.1. Initial perceptions of AI use in writing instruction**

The analysis of the teaching plan and interviews with the teacher before the case study show that the teacher often required students to read the content requirements for the type of assignment at home, and memorize those requirements by themselves. The teacher usually did not provide additional learning resources but only asked students to use the textbook. In class, the teacher would activate this self-memorization part by asking students to restate the requirements; organizing for students to answer true/false and multiple-choice questions to reinforce and standardize their understanding. At this point, the teacher used common information technology software. GenAI assisted with presentation formats and organizing games but did not engage in designing the specific content of the questions.

To prepare writing topics, the teacher often relied on suggestions from textbooks and drew on students' background knowledge. For example, in teaching how to write an argumentative essay about an issue that needs addressing, the teacher selected suggestions from the textbook that included topics such as: *cross-gender friendships; ways to resolve conflicts and disputes among students; how to handle conflicts between generations in families*; etc... Generally, teachers did not use GenAI to guide students in preparing writing topics.

For brainstorming and outlining, the teacher used GenAI quite actively to enrich their own ideas as well as suggestions from textbooks. To avoid model essays, the teacher did not write illustrative essays. Instead, she typically observed the students' writing process and products. In the content of teaching argumentative essays on issues under examination, the teacher asked her

students to write an additional paragraph to clarify a point. The tasks were assigned verbally, without any illustrations. The teacher did not use any teaching aids at this stage.

Checking and editing written work is found to be the stage where teachers most frequently use GenAI. Class time was limited, in revising and self-editing their essays, the teachers provided data for GenAI to design assessment tools. When the students submitted their work, AI analyzed it based on the existing criteria description, provided feedback, and even guided students on how to revise. Based on her personal experience, the teacher only provided general answers and some notes. The teacher lacks experience in writing commands sufficient for GenAI to understand and handle the various situations while evaluating students' work.

### **2.3.2. Instructional changes and pedagogical reflections after the case study**

After discussing with the researcher, the teacher proposed to apply AI in all stages of the writing teaching process instead of just a few stages as initially planned. Accordingly, we guided the teacher on the principles of writing prompts and practiced writing specific prompts. We conducted monitoring and gathered feedback from the students after the learning process.

For the stage of understanding the requirements for the writing assignment: based on the requirements provided in the textbook, the teacher used GenAI to establish a bank of questions. The teacher asked AI to create a variety of questions, including true/false, multiple-choice, multiple response and fill-in-the-blank. The teacher evaluated the relevance and coverage of the knowledge in the questions. From there, she selected and grouped every 10 questions into a self-study. The students were allowed to choose one of the proposed question sets and complete it. In class, the students presented the information they had self-studied. The results of the students' knowledge retention tests showed that 10 out of 12 students found it easier and more convenient to memorize the requirements for the type of writing compared to just memorizing information from the textbook. However, 5 out of 12 students feel that doing these exercises is quite time-consuming and wish to self-study with textbooks.

For the pre-writing preparation activity: The teacher guided students to use GenAI to identify and select some feasible topics. The prompt consisted of a three-part structure: (1) clearly defining the role of the questioner; (2) specific requests regarding the quantity and content of information; (3) specific requests regarding the quality of information. For example, the teacher guided the students to use the prompt as follows: *"You are a 9th-grade student tasked with writing an argumentative essay presenting your opinion on a problem that needs to be addressed (related to students' current lives), think about 20 truly practical, relevant, and familiar issues that you can write about."* 100% of students claimed that "asking" GenAI helps them explore more topics than what they are immediately familiar with. For example, when thinking about issues in students' lives today, they listed problems such as school violence, banning the use of mobile phones, and exam pressure. Meanwhile, when asking GenAI with the prompt as above, AI suggested overlapping or different topics, thereby expanding the writing options for students: *Imbalance between study and entertainment; Pressure from family; Use of social media; Lack of life skills; Lack of career guidance; Lack of opportunities to develop talents; Peer pressure; Stigma and discrimination; Cybersecurity issues; Lack of a positive learning environment; Issues with online learning; Weak teamwork skills...* Thus, all 12 out of 12 students believed that using AI to find topics is very useful and they would continue to use it if given the opportunity.

For the brainstorming and outlining activity: the teacher set up GenAI as a "virtual" teacher to assist students. To prevent students from relying on the tool while still fostering their ability to analyze issues and be creative in problem-solving, the teacher requested AI to adhere to the following principles: (1) Always be the "person" asking questions and requiring students to respond before providing the next question or feedback; (2) Only provide guidance on ideas and outline frameworks with sufficient quantity and quality instead of giving a specific outline for a single topic; (3) Comments and developments are based on students' suggestions rather than the

teacher modeling a specific topic; (4) The teacher's feedback should be specific, straightforward, and clearly tells students what they are doing right and what they need to improve; (5) Always praise and encourage students to continuously revise until they achieve an outline. The prompt written by the teacher is as follows:

*“You are a friendly and helpful teacher, and your goal is to guide students in finding ideas and outlining an essay on a current issue in student life. Do not share your guidance with the students. Plan each step before proceeding.*

*First, introduce yourself to the students and ask if they have identified a specific topic to write about. What ideas have they found for this writing? How will they arrange those ideas in the introduction, body, and conclusion? Wait for the students' responses and do not continue until they answer this question.*

*To respond to students' ideas, students need to name and explain what that issue is specifically in 1-3 sentences. They need to mention at least 2 manifestations of that issue with clear evidence. Evidence may include statistical information or references from the media. Students also need to state the impacts of that issue on life, such as effects on health, psychology, and relationships. They should mention at least 2 specific impacts. Students should also propose solutions to address or improve the issue, originating from the family, teachers, or themselves. The solutions need to be clear and specific, with at least 2 solutions. Each explanatory content, expression, impact, and solution is presented as a main idea consisting of several sub-ideas. Finally, students need to relate and express their personal feelings about the mentioned issue.*

*Wait for the students' responses and do not continue until they answer these questions. Once the students have provided complete answers to the above questions, thank them and give feedback on their ideas and outlines. The feedback should be specific, straightforward, and balanced, clearly indicating to the students what they are doing well and what they need to improve, such as the quantity or quality of their ideas. Let them know if they are on the right track or need to change something.*

*Then, ask the students to try again. Wait for their response. When you see the revision, ask the students if they want feedback on that revision. If the students do not want feedback, end the conversation amicably. If they want feedback, provide it based on the above rules and compare their original work with the newly revised work.”*

Based on these principles and prompt, the students uploaded their work to the link provided by the teacher for brainstorming and outlining support; received feedback; revised and refined until they were satisfied with their outline product. The teacher encouraged each student to adjust their outline at least 1-2 times. The revision history was saved and provided to the teacher to review learning process. In the survey, 8 out of 12 students expressed interest and satisfaction with being supported by GenAI in finding ideas and outlining their work. The students believed that GenAI did a good job of developing and expanding ideas for their writing in a quite convincing manner. GenAI analyzed each point and assessed whether it was reasonable. At the same time, it suggested what students needed to add to make their writing more vivid without overlapping with other works. All 8 students agreed that it would be great to continue receiving GenAI support for different types of writing in the future. 4 out of 12 students felt that having GenAI support was good, but the excessive suggestions from AI compared to their original work overwhelmed them. They also thought that such suggestions were cumbersome and it would be difficult for them to write based on such a “bulky” outline. They agreed to use AI but on the condition that they would selectively choose some points that matched their abilities.

Regarding the writing activity, it is a highly personalized activity, so the teacher did not use GenAI. The students were required to write each section of the introduction, conclusion, and choose one argument to write about in the body.

For the activity of checking and editing written work: in class, the teacher spent time guiding and agreeing on writing assessment criteria based on expected outcomes, illustrating corrections for some pieces depending on time constraints. Subsequently, the teacher assigned the students the task of self-checking and evaluating their writing at home based on the AI tool set up by the teacher. The principles for setting up AI were as follows: (1) Do not provide the answers immediately but first ask students to reflect on and consider the test questions that the teacher has already addressed specifically in class; (2) Do not present a single, fixed illustrative answer for a specific topic but establish the content of comments based on the general requirements of the writing genre; which includes content for both paragraphs and the entire piece so that students can spend time revising each paragraph as well as the whole text; (3) Comments and developments are based on students' suggestions rather than the teacher modeling for a specific example; (4) Teacher feedback should be specific, straightforward, clearly indicating to students what they are doing right and what they need to improve in terms of content and form; (5) Always praise and encourage students to identify issues in their writing so that they continuously strive to improve their own work. Below is a prompt that the teacher set up:

*"You are a friendly and helpful teacher, your goal is to guide students in editing their argumentative essay about an issue in students' lives today that they have written. Do not share your editing guidance with the students immediately. Plan each step before proceeding.*

*First, introduce yourself to the students and ask them if they have completed their writing, request the students to post any excerpt or the entire essay they have written. Wait for the students' response and do not continue before they do this.*

*For the paragraph, ask the students to check for format, whether there are spelling mistakes, inappropriate word usage, or grammatical errors in any sentence? Are there connecting words to link between sentences? Does the paragraph have any line breaks? Regarding content, ask the students what the purpose of writing this paragraph is? What is the main content of the paragraph? Is there a topic sentence and other sentences that clarify the topic? Is there any sentence that goes off-topic? Are there sentences that provide specific arguments and reliable evidence? In the paragraph analyzing the manifestations of the discussed issue, students need to write at least 5 sentences. Among them, there should be a topic sentence that makes a general comment on the manifestations. A few sentences stating the first manifestation and evidence. A few sentences stating the second manifestation and evidence. The evidence should be drawn from reality, consisting of data or reliable quotes.*

*For the essay, ask the students to check whether the structure includes all three parts: Introduction, Body, and Conclusion. Can the boundaries between the parts be clearly identified? Does the Introduction introduce the issue to be discussed, as shown by accurately naming the issue? Does the Body consist of several paragraphs, each expressing a main idea such as the manifestation, the impact, and solutions to the issue? Are the sentences specific, clear, and focused on the content? Does the Conclusion mention the student's personal connection?*

*Wait for the students' responses and do not proceed until they answer these questions. Once the students have provided complete answers to the above questions, thank them and give specific, straightforward, and balanced feedback on their writing. Let them know if they are on the right track or if something needs to change. However, the teacher should not suggest specific sentences, only ideas for the writing. Then, ask the students to try again, meaning to revise their work based on your feedback. Wait for their response. When you see the revision, ask the students if they want feedback on that revision. If they do not want feedback, end the conversation amicably. If they do want feedback, provide it based on the above rules and compare their original work with the newly revised work".*

For example, a student introduced their paragraph. The virtual teacher that has been set up will provide feedback on the student's work, suggesting ways for the student to revise:

*“Thank you for sharing this paragraph! To revise together, we will consider both form and content. I have some questions for you to self-check your paragraph first.*

*Regarding form:*

- 1. Spelling and grammar errors: Do you see any spelling mistakes or word usage errors?*
- 2. Use of conjunctions: Are the sentences in the paragraph coherently linked? Have you used conjunctions to connect ideas between sentences?*
- 3. Paragraph structure: Are the sentences in the paragraph properly separated, or are they written continuously according to the rules of a persuasive paragraph?*

*Regarding content:*

- 1. Purpose of the paragraph: What is the purpose of this paragraph? What is the main message you want to convey?*
- 2. Structure of ideas: Does the paragraph have a clear topic sentence, and do the other sentences clarify the idea? Is there any sentence that is not closely related to the main topic?*
- 3. Arguments and evidence: Are the points you made specific enough, and do you have practical examples or data to illustrate them? For instance, which sentence reflects specific manifestations of performance pressure?*

*Please answer these questions for self-checking first. Then, the teacher will review them with you in more detail and provide specific feedback.”.*

The students’ survey responses after using GenAI for self-checking and editing their essays show that 12 out of 12 students enjoyed this activity. Although they were guided by the teacher in class, they found self-checking their essays quite challenging because when doing it themselves, they easily forgot what they already knew. Therefore, having a “virtual teacher” at home to “tutor” made it easier for them to identify the strengths and weaknesses in their work. The teacher not providing the answer immediately but instead posing questions for students to self-check gave them the opportunity to revisit their work and ponder deeply about it. Next, students revised certain points based on the questions and received thorough suggestions. This process helped the students feel relatively proactive and respected during the editing practice. However, 7 out of 12 students believed that revising a paragraph is easier than revising an entire paper. The repeated revisions can also easily lead to student frustration, so they hope to only have to revise once, with the “AI teacher” providing “gentler” feedback.

The information gathered above indicates that the integration of GenAI in the teaching writing process has introduced advanced adaptive learning systems that dynamically personalize the educational experience. GenAI can construct tailored learning paths that adjust in real-time, ensuring that students receive instructional materials and exercises aligned with their current proficiency level. The teacher used GenAI as a virtual teacher – *an extension of themselves* – to assist students in the self-learning process. The teacher's settings for AI were based solely on the general learning objectives without focusing on a specific topic; at the same time, she included suggestions and feedback at different levels, thus meeting the needs of various students, different discussion topics, and varying levels of discussion. AI is claimed to support the students in accordance with their levels of demand and expectations. Notably, GenAI provided the students with many questions for self-reflection and feedback on each activity in the writing process; offering rich and diverse feedback for students to access and select according to their personal needs. The provision of immediate, tailored feedback is one of the most significant contributions of GenAI to Vietnamese Literature and Language education. Traditional assessment methods often rely on delayed teacher feedback, which may hinder timely student correction and comprehension. AI-powered feedback mechanisms, in contrast, can analyze written responses and provide instantaneous, detailed commentary on grammar, coherence, argumentation, and stylistic elements. These real-time evaluations play a crucial role in fostering self-regulated



learning, as students receive continuous formative assessments that help them refine their skills progressively. Because the information is relevant to them, most students find learning easier and more effective in certain situations. Students also feel more interested and self-motivated in self-study at home without direct supervision or even pressure from teachers. One of the fundamental pedagogical challenges in writing instruction lies in accommodating diverse student needs while maintaining curricular coherence. GenAI addresses this issue by dynamically differentiating content and adjusting the learning pace based on individual student readiness. In a classroom, students often progress at different rates, making it challenging for instructors to provide equitable attention to all learners. AI-driven platforms can assign scaffolded tasks, such as guiding struggling students through step-by-step analytical frameworks while presenting high-achieving students with open-ended, self-directed prompts.

AI is useful, but this can have a dual nature. In addition to the positive aspects, the negative aspect is that if teachers do not clarify the role of AI for students, they may become overly reliant, losing their initiative in the writing process—a process that expresses their dynamic and unique self. The students' perceptions of the role and necessity of GenAI are not entirely uniform. This relates to the setup that the teacher has established. Many students reported high engagement, but some students also reported their cognitive overload and may experience confusion due to the abundance of ideas presented. Furthermore, if GenAI is set up in a one-sided manner, providing suggestions and prompts without critical questioning or encouraging inquiries, students become even more passive. Therefore, the advantages and challenges of using GenAI to help students personalize their learning paths are closely related to how teachers understand and set it up.

### 3. Conclusion

FitzGerald et al. (2018) point out that personalized learning is currently a recurring trend in government agencies, popular media, conferences, research documents, and technological innovation. Personalized learning adjusts the educational experience to meet the needs, preferences, and goals of each learner; it is a learning method aimed at tailoring the learning experience according to the unique needs, goals, and skills of each individual, which can be achieved by utilizing current teaching technologies that provide unique learning experiences in various learning environments. Therefore, personalized learning is not only a trend but also an inevitable requirement as advanced education aims to develop learners' competencies, focusing on the ability to apply and implement behaviors in practical situations. Generative AI is a valuable tool for supporting personalized learning in writing. It expands the writer's ideas, assisting them in discovering, supplementing, and editing those ideas and how to organize them. It also enhances the writer's critical thinking skills by posing questions for feedback and self-reflection. However, integrating AI into teaching can pose challenges for both teachers and students. For teachers, it is a challenge concerning “professionalism”, meaning knowing how to use AI effectively while ensuring that its usage is rooted in the values of the learning content. For students, the challenge lies in the “breadth” of information. Students may easily feel “overwhelmed” by the vast amount of information suggested by AI, while on the other hand, they lack the experience to know which information is suitable for them. Therefore, to effectively address the issue of applying AI to personalize students' learning paths, both teachers and students need to accurately assess the significance and role of AI, viewing it as a supportive tool and an enhancer rather than a complete replacement for human actions, thereby diminishing the role of individuals and humanity in the teaching and learning process.

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## REFERENCES

- [1] Riegel C, (2024). *Leveraging Online Formative Assessments Within the Evolving Landscape of Artificial Intelligence in Education*. In *Assessment Analytics in Education: Designs, Methods and Solutions*, Cham: Springer International Publishing, 355 - 371
- [2] Vygotsky L S, (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- [3] Tomlinson A, (2001). *How to differentiate instruction in mixed-ability classrooms*. ASCD.
- [4] Bergmann J & Sams A, (2012). *Flip your classroom: Reach every student in every class every day*. International Society for Technology in Education.
- [5] Patrick S, Kennedy K & Powell A, (2013). *Mean what you say: Defining and integrating personalized, blended and competency education*. International Association for K–12 Online Learning (iNACOL).
- [6] Rickabaugh J, (2016). *Tapping the power of personalized learning: A roadmap for school leaders*. ASCD.
- [7] Baker RS & Hawn A, (2021). Algorithmic bias in education. *International Journal of Artificial Intelligence in Education*, 31(1), 1-27.
- [8] Pane F, Steiner D, Baird D, Hamilton S & Pane D, (2017). *Informing progress: Insights on personalized learning implementation and effects*. RAND Corporation.
- [9] Robinson M, Maldonado N & Whaley S, (2019). Teacher perspectives on personalized learning: A case study. *Journal of Research on Technology in Education*, 51(3), 187-202.
- [10] Bingham AJ, Pane JF, Steiner ED & Hamilton LS, (2018). *Informing progress: Insights on personalized learning implementation and effects*. RAND Corporation.
- [11] Zheng B, Warschauer M, Lin C & Chang C, (2020). Learning in one-to-one laptop environments: A meta-analysis and research synthesis. *Review of Educational Research*, 90(4), 541-576.
- [12] Greene JA & Azevedo R, (2010). The measurement of learners' self-regulated cognitive and metacognitive processes while using computer-based learning environments. *Educational Psychologist*, 45(4), 203-219.
- [13] Dabbagh N & Kitsantas A, (2012). Personal learning environments, social media, and self-regulated learning: A natural formula for connecting formal and informal learning. *The Internet and Higher Education*, 15(1), 3-8.
- [14] Azevedo R & Hadwin AF, (2005). Scaffolding self-regulated learning and metacognition – Implications for the design of computer-based scaffolds. *Instructional Science*, 33(5-6), 367-379.
- [15] Luckin R, Holmes W, Griffiths M & Forcier LB, (2021). *AI for School Teachers*. Routledge.
- [16] Wang Y & Heffernan N, (2022). Evaluating the Effectiveness of AI-Powered Feedback in Writing Instruction. *Journal of Educational Computing Research*.
- [17] FitzGerald E, Kucirkova N, Jones A, Cross S, Ferguson R, Herodotou C, Scanlon E, (2018), Dimensions of personalisation in technology-enhanced learning: A framework and implications for design. *British Journal of Educational Technology*, 49(1), p.165–181, <https://doi.org/10.1111/bjet.12534>