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Development of a Hybrid Experiential Learning Model with Real-Time AI Feedback for Videography-Based Entrepreneurship Education

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Abstrak

In the era of Society 5.0, the integration of Artificial Intelligence (AI) into hybrid learning models is essential to enhance students' entrepreneurship competencies, especially in arts education. Videography, a crucial course within the Visual Arts Education program at Universitas Negeri Malang, faces several challenges such as limited feedback in scriptwriting, constrained practical sessions, and inadequate access to advanced equipment. To address these issues, this study aims to develop an innovative hybrid learning model based on the experiential flipped classroom, integrated with real-time AI feedback assistance. The research employs the ADDIE development framework and Borg & Gall's ten-step model to ensure model validity, effectiveness, and practicality. Quantitative data were collected through surveys and pre-post tests, while qualitative data were obtained from interviews and observations. The final product is a digitally integrated learning platform featuring AI-assisted assessment tools designed to accelerate students' video production skills and entrepreneurial mindset. The study successfully developed a validated and effective instructional model, significantly enhancing students' learning engagement and production outcomes in videography education.

Keywords: hybrid learning, artificial intelligence, videography education

INTRODUCTION

In the era of Society 5.0, higher education institutions are increasingly required to integrate advanced digital technologies into learning systems to foster 21st-century competencies. In the context of arts education, especially within Visual Arts Education programs, the videography course plays a strategic role in equipping students with both technical and creative skills essential for adapting to the demands of the creative industry. However, traditional videography learning models often fall short in providing flexible and efficient instruction, particularly when it comes to delivering timely feedback and facilitating independent learning. These limitations hinder the development of students' entrepreneurial competencies, which are crucial in today's media-driven economy[1].

The urgency to address these challenges is heightened by the growing relevance of video as a dominant medium for communication, promotion, and education[2]. As social media and digital content consumption increase, students must be prepared not only to produce creative works but also to understand how to package and market them. Unfortunately, constraints such as limited class hours, lack of real-time instructor feedback, and underutilization of digital tools in the learning process continue to impede the full potential of videography courses. This gap necessitates the development of a new learning model that integrates technology, pedagogy, and entrepreneurship.[3]

Recent advancements in Artificial Intelligence (AI) and flipped classroom strategies present new opportunities for innovation in educational practices. Several studies have shown the benefits of experiential learning and real-time AI feedback in enhancing student engagement and learning outcomes. However, most existing models are either general-purpose or not

tailored to the needs of interdisciplinary and creative domains like videography. There is a lack of hybrid instructional models that leverage AI for formative assessment while simultaneously fostering entrepreneurial mindsets in arts students [4]. This study aims to fill that gap by proposing a comprehensive, AI-integrated hybrid learning model based on experiential and flipped learning theories[5][6][7].

The primary objective of this research is to develop and validate a hybrid experiential flipped classroom model integrated with AI-based real-time feedback assistance. This model is specifically designed for videography courses within arts education to enhance students' video production competencies and entrepreneurial readiness. The development process followed the ADDIE framework and Borg & Gall's research and development steps[8][9], involving need analysis, model design, validation by experts, and implementation through limited and extended field testing with 100 students of the Universitas Negeri Malang.

The results of this study indicate that the proposed model significantly improves student engagement, feedback accuracy, and learning outcomes[10]. The integration of AI tools enabled more personalized and immediate feedback during pre-production and editing phases, which led to higher quality video projects. Additionally, students reported an increase in motivation and autonomy in managing their learning. These findings suggest that the model has strong potential to be scaled and adapted across other creative disciplines that require a blend of technical practice and entrepreneurial thinking.

One of the main problems in videography education within arts programs is the lack of effective feedback mechanisms during the production stages, especially in scriptwriting. Students often struggle to transform their ideas into structured narratives due to limited support and guidance. Time constraints in face-to-face learning sessions, coupled with the high demand for individualized feedback, create challenges for lecturers to provide in-depth mentoring. Furthermore, many students lack access to proper equipment and professional editing software, which hinders their ability to develop high-quality video products with commercial value.

Several conventional solutions have been implemented to address these problems. These include extending studio hours, offering additional consultation sessions outside class, and integrating collaborative group projects. In some cases, lecturers have attempted to use digital platforms such as Google Classroom or email to give asynchronous feedback on student work. While these approaches have provided marginal improvements, they are still limited by the absence of real-time responsiveness and structured guidance, especially in the pre-production phase where creativity and planning are crucial[11].

The results of these conventional solutions have been mixed. Students report improvements in their technical execution but still face difficulties in self-regulating their learning and applying feedback in a timely manner. Moreover, the fragmented nature of feedback delivery often leads to miscommunication and decreased motivation. As a result, the quality of student video projects remains inconsistent, and the entrepreneurial potential embedded in videography education remains largely untapped.

As an alternative, this study proposes a hybrid learning model that combines experiential learning, flipped classroom methodology, and real-time AI feedback assistance. This approach allows students to study theoretical materials independently before attending studio sessions and receive instant, structured feedback through AI tools during their production

workflow[12]. By integrating AI into the learning process, students benefit from personalized guidance and timely corrections, particularly in scripting and editing stages. This also reduces the workload on lecturers while maintaining feedback quality and frequency.

The implementation of this model has shown promising results. It enhances student engagement, boosts autonomy, and improves the quality of their video outputs. Students demonstrate a deeper understanding of the production process and greater confidence in promoting their works as commercial products. This model not only solves the issues of limited feedback and time but also transforms videography education into a space for entrepreneurial growth. Therefore, it presents a scalable and innovative solution for creative education in the digital age.

Haryoko's 2024 study focuses on the development of an Artificial Intelligence (AI)-based learning model in vocational schools (SMK) in Indonesia[13]. The research highlights the potential of AI to enhance students' learning experiences through real-time performance analysis and interactive learning environments. The model was designed to enable teachers to track student progress dynamically while offering content tailored to individual needs. The study emphasizes the importance of AI in creating adaptive, student-centered educational systems aligned with the demands of Industry 4.0 and Society 5.0.

The research employed a research and development (R&D) approach using the ADDIE model. Data were collected from vocational school students and teachers through surveys and observations. Validation was conducted by educational experts in the field of technology and pedagogy, and feedback was used to improve the AI integration in the model. The model's implementation phase involved classroom trials where teachers used the AI-assisted system to monitor and guide students' learning progress.

The results showed a significant increase in student engagement, participation, and learning outcomes. However, infrastructural limitations particularly in rural schools—were noted as barriers to full implementation. This study contributes to the current research by providing empirical evidence of the feasibility and impact of AI-based feedback systems in secondary education. It also supports the integration of real-time AI feedback in the proposed hybrid model for videography education at the higher education level.

The primary aim of this research is to develop and validate a hybrid experiential flipped classroom learning model that integrates real-time Artificial Intelligence (AI) feedback assistance to enhance videography education in the Visual Arts Education program. This model is designed to strengthen students' video production skills while simultaneously fostering their entrepreneurial competencies. The research seeks to construct a comprehensive instructional framework that allows students to engage with theoretical content independently before class and apply their learning during hands-on studio sessions. By embedding real-time AI-powered feedback mechanisms into the learning process, the model aims to provide instant, personalized guidance particularly during the critical stages of pre-production and post-production. Additionally, the study evaluates the model's validity, effectiveness, and practicality through a series of expert reviews, limited trials, and large-scale field implementations. Ultimately, the research aims to produce a scalable and adaptive learning solution in the form of a digital platform and supporting instructional materials, which can be applied to other creative disciplines in response to the evolving demands of Society 5.0.

Sridharta's research in 2021 explores the integration of entrepreneurial skills into early childhood education through an interactive learning model. The study recognizes the importance of cultivating entrepreneurial mindsets from an early age and proposes a structured model to enhance critical thinking, creativity, collaboration, and communication among young learners. The focus was to design a curriculum that makes entrepreneurship education engaging and age-appropriate.

Using a design-based research methodology, Sridharta conducted a needs analysis involving kindergarten students and teachers. Teaching modules were created based on these findings and validated by early childhood education experts. The model was tested in a classroom setting, where observational and interview data were collected to evaluate its effectiveness and applicability.

The findings indicated that the model was both feasible and effective in building foundational entrepreneurial competencies in young learners. The approach increased students' interest in creative activities and self-initiative. Although the research context was early childhood, it contributes to this study by demonstrating that entrepreneurship education can be embedded meaningfully in various learning stages. It also supports the idea that creative disciplines, such as videography, can be powerful entry points for entrepreneurial development when supported by suitable instructional models.

Leksono's 2022 study centers on developing a learning model using culturally-based video media specifically, cowongan traditional rituals as instructional content for teaching explanatory texts in high school. The aim was to utilize local wisdom to engage students in meaningful learning while strengthening their writing and cultural literacy skills. The study emphasizes the role of multimedia, especially video, in enhancing student motivation and contextual understanding.

This study applied the Research and Development (R&D) method, including the stages of needs analysis, media design, validation by subject-matter experts, and classroom implementation. The learning media was designed using local cultural references and integrated with explanatory text writing modules. Qualitative and quantitative data were collected to assess the instructional effectiveness.

The results demonstrated that students significantly improved their writing performance and showed increased enthusiasm for learning. The integration of local culture into video-based instruction also encouraged a sense of identity and deeper engagement. This research supports the present study by validating the impact of video media as a pedagogical tool. It underscores the importance of meaningful content and real-world connections both of which are essential elements in the development of an experiential videography learning model integrated with AI.

METHOD

The research design consists of **ten stages** following Borg and Gall's model: (1) needs analysis, (2) literature review, (3) initial product development, (4) expert validation, (5) limited field testing, (6) product revision, (7) wider field testing, (8) final product revision, (9) dissemination, and (10) full-scale implementation. Simultaneously, the ADDIE model Analysis, Design, Development, Implementation, and Evaluation was used to structure the

instructional development cycle. These dual models ensure that the learning model is both pedagogically sound and technologically integrated.

The research was conducted at the **Department of Art and Design, Universitas Negeri Malang**, during an odd semester. The **research subjects** were **100 students** from the Visual Arts Education program who enrolled in the videography course, divided into four classes (semester 3 and 5). In addition, **lecturers** and **instructional experts** served as validators for model content, presentation quality, language use, and instructional graphics.

Data collection techniques included:

- **Questionnaires** and **interviews** for needs analysis and user responses.
- **Observations** of teaching and learning processes using the model.
- **Validation checklists** filled out by content and media experts.
- **Learning outcome tests** (pre-test and post-test) to assess effectiveness.
- **Focus group discussions (FGDs)** with lecturers and students for qualitative feedback.

For **data analysis**, both **quantitative and qualitative** approaches were used:

- **Descriptive statistics** and **paired sample t-tests** (and ANOVA where appropriate) were used to analyze the impact of the model on learning outcomes.
- **Aiken's V** was applied to measure the content validity of instruments.
- **Descriptive percentage analysis** was used to evaluate practicality from student and lecturer responses.
- **Triangulation of data sources and methods** ensured the reliability and credibility of findings.

This comprehensive methodology allows the developed model to be tested not only for its theoretical validity and instructional effectiveness but also for its adaptability and user-friendliness in real classroom contexts. The use of AI for real-time feedback was embedded in the platform prototype to evaluate its contribution to enhancing student performance in each phase of video production: pre-production, production, and post-production.

The diagram illustrates the development process of an Experiential Flipped Classroom Model integrated with AI-based real-time feedback for student videography projects, aimed at enhancing entrepreneurship education. Triggered by the impact of the pandemic and the increasing reliance on online learning platforms, the model addresses the urgency of adapting videography courses to a more dynamic and technologically supported environment. Key elements influencing the model include entrepreneurship goals, the need for effective pre-production, production, and post-production processes, and the integration of constructive input through digital platforms. The model utilizes machine learning-based assessment tools to provide real-time feedback to students, ensuring timely and personalized learning support.

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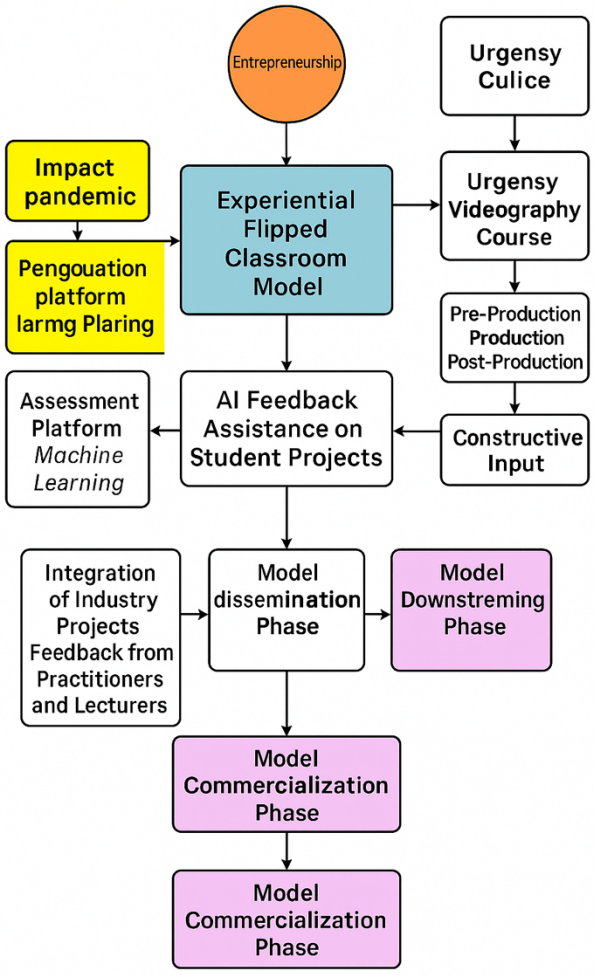

Pic. 1. Development Model Chart

The AI feedback system is embedded into a broader educational ecosystem that involves collaboration with industry practitioners (DUDI) and academic lecturers. The model proceeds through several key phases: dissemination, where the model is introduced and tested; downstreaming (hilirisasi), where feedback is refined and contextualized; and commercialization, where the model is prepared for wider institutional and market adoption. The final goal is to produce a scalable, innovative instructional model that bridges academic learning with industry demands, enhances student creativity, and promotes entrepreneurial outcomes in higher education, particularly in creative fields like videography.

RESULT AND DISCUSSION

Contextual Foundations and Model Conception

The first research objective aimed to design and develop a comprehensive hybrid experiential flipped classroom model tailored for the videography course in arts education, emphasizing entrepreneurship integration. The context for this development emerged from the urgent need to address learning challenges during and after the COVID-19 pandemic, particularly the lack of real-time feedback, time constraints in studio practice, and fragmented theoretical understanding. The model was conceived to bridge the gap between asynchronous online learning and face-to-face practical application, offering a coherent structure that enables students to engage with theoretical concepts before class and focus on project-based production during studio sessions. Rooted in Kolb's Experiential Learning Theory and flipped classroom pedagogy, the model was further strengthened with AI-based real-time feedback, allowing students to receive formative, machine-generated insights into their work progress. This foundational design was informed by a comprehensive needs analysis, which involved 100 students and several videography instructors at Universitas Negeri Malang. Students expressed a consistent need for a system that enables independent learning while still supporting iterative, guided project development. These findings became the foundation for developing a learning ecosystem that is reflective, responsive, and aligned with Society 5.0 values where technology and human-centered creativity intersect.

Instructional Design Process and Model Components

The model development followed the ADDIE instructional design framework: Analysis, Design, Development, Implementation, and Evaluation. During the Analysis phase, student needs were identified through surveys and interviews, highlighting specific difficulties in scripting, editing, and receiving timely critique. In the Design phase, the flipped classroom model was structured into clear syntax: pre-class engagement (watching curated tutorials, script analysis), in-class production (group-based video recording, editing), and post-class reflection with embedded feedback. The Development stage involved the creation of supporting materials such as an RPS (lesson plan), student worksheets, instructional guides, and AI-based assessment platforms. The AI component was integrated via machine learning algorithms designed to evaluate scripts, camera techniques, and video editing coherence generating feedback instantly based on pre-trained criteria. The model's uniqueness lies in its digital adaptability and focus on entrepreneurial project outcomes, pushing students to approach assignments with a commercial mindset. Each component was piloted in a sandbox environment to assess content flow, user interface, and feedback responsiveness. At this point, the model was reviewed by experts in education technology, entrepreneurship, and visual arts pedagogy, ensuring interdisciplinary alignment and academic rigor before moving into classroom trials.

Implementation and Pilot Testing

The implementation phase involved pilot testing the developed model in four videography classes involving 100 undergraduate students. Students were divided into two groups: one applying traditional instruction and the other implementing the newly developed hybrid experiential flipped classroom model. Prior to classroom sessions, students accessed online learning modules through the AI-integrated platform, completed individual tasks, and prepared scripts for collaborative projects. The in-class sessions emphasized practical application using DSLR cameras, lighting kits, and editing software while instructors facilitated discussions and supervised production. AI played a crucial role in reviewing script structure, shot composition, and scene continuity, providing suggestions and evaluations that instructors later validated. Observations revealed that students engaged more confidently with the production process, showed improved collaboration skills, and asked more critical questions, demonstrating a deeper understanding of both technical and narrative elements of videography. Moreover, students reported that the model helped them better manage their time and learning flow. The AI feedback allowed for faster revision cycles, reducing instructor workload and allowing personalized learning paths. The pilot also showed that students who engaged with the model produced more cohesive and creative video outputs compared to those in the traditional classes.

Evaluation of Effectiveness and Feedback from Stakeholders

Evaluation of the model's effectiveness was conducted through a combination of quantitative analysis (paired sample t-tests on pre- and post-tests) and qualitative feedback from students and lecturers. The t-test results showed a statistically significant improvement ($p < 0.05$) in students' understanding of videography principles and project execution skills. These improvements were especially notable in scripting accuracy, shot framing, and editing logic. Qualitative data revealed that students appreciated the flexibility to learn independently through video-based materials and real-time AI support, which allowed them to iterate and revise their projects outside class hours. Lecturers noted that the AI system helped streamline their assessment tasks and allowed them to focus more on coaching creative ideas rather than correcting technical flaws. Expert validators rated the model highly in terms of validity

(content, construct, and presentation), and students responded positively to its practicality and usability. The feedback loop between AI input, peer reviews, and instructor mentoring enabled a more dynamic and student-centered learning experience. This stage confirmed that the model not only enhanced student outcomes but also optimized instructional efficiency, aligning well with the research objective to develop a scalable and adaptive learning model.

Contribution and Implications for Future Practice

The findings from the development and testing of this hybrid experiential flipped classroom model represent a substantial contribution to arts education and digital pedagogy. The integration of AI for real-time feedback assistance fills a critical gap in studio-based courses where instructor availability is limited and project complexity requires ongoing support. The model encourages self-directed learning, project-based collaboration, and entrepreneurial thinking, enabling students to treat their video assignments as products with potential commercial value. It also introduces an instructional paradigm that leverages emerging technologies while maintaining a strong foundation in experiential learning theory. For institutions, the model offers a blueprint that can be replicated across other creative disciplines such as photography, animation, or digital storytelling. For educators, it provides tools to manage large student cohorts without compromising feedback quality. The AI-assisted feedback component is particularly transformative, as it introduces objectivity, speed, and personalization into the evaluation process. Moving forward, this model can be refined with adaptive learning algorithms and expanded for cross-institutional collaboration. In conclusion, the first research objective to develop an innovative hybrid model for videography education was achieved successfully, producing a functional, validated, and contextually responsive instructional solution.

The second objective of the research was to validate the instructional model developed in the first phase by examining its content accuracy and alignment with learning objectives. To assess content validity, a panel of subject matter experts in videography, arts education, and entrepreneurship reviewed the instructional materials, including the syllabus (RPS), student workbooks, instructional guidebooks, and digital modules. Using structured validation instruments and the Aiken's V technique, reviewers evaluated whether the learning materials adequately addressed core videography competencies such as scriptwriting, cinematography, and editing while also embedding entrepreneurial dimensions like branding and product positioning. The results showed that all content components scored within a valid range, with an average Aiken’s V coefficient of 0.89, indicating strong agreement among experts. Validators concluded that the learning model successfully integrated technical knowledge and creative thinking, providing relevant learning experiences that aligned with course outcomes and the broader goals of entrepreneurial education in the arts. This phase confirmed the model's conceptual and curricular alignment with real-world industry needs, enhancing its relevance for both academic and commercial application.

Presentation Validity (Instructional Design & Flow)
Validation of the model's presentation quality focused on how the content was structured, sequenced, and delivered within the hybrid experiential flipped classroom framework. Experts assessed the clarity and logic of the instructional flow starting from pre-class independent learning, moving through in-class production activities, and culminating in post-class reflection supported by real-time AI feedback. Reviewers agreed that the model employed a coherent instructional syntax that was easy to follow and pedagogically sound. Visual flowcharts and student activity guides were praised for their practicality and alignment with

studio-based learning processes. Suggestions were made to improve the transition between independent and collaborative tasks, especially in managing student readiness before production sessions. Revisions were made based on this input, such as providing short video previews and self-assessment checklists before each lab session. Ultimately, validators rated the presentation component as highly practical and engaging, with an average rating of 4.6 out of 5 on clarity, instructional logic, and ease of implementation. This validation stage strengthened the instructional model's usability and confirmed that it could be implemented smoothly in varied classroom settings without overburdening instructors or students.

Language Validity (Clarity, Accessibility, and Terminology)

The third aspect of model validation focused on the language used in instructional materials, particularly its clarity, accessibility, and consistency with videography terminology. Language validators comprising applied linguists and content experts reviewed modules, worksheets, platform interfaces, and AI-generated feedback texts. The goal was to ensure that instructions and concepts were easy to understand for undergraduate students, including those without prior technical experience in videography. Most components received high ratings, with some suggestions for simplifying technical terms and minimizing jargon in AI feedback outputs. Certain sections were revised to include visual aids and glossaries to support clearer communication. For example, terms like "pan shot," "jump cut," and "B-roll" were accompanied by icons and examples to reduce ambiguity. The average score for language validity was 4.7 out of 5, indicating that the instructional language used in the model met the expected standards for higher education. This validation phase was crucial in ensuring that the model was inclusive and accessible, especially for interdisciplinary students who were not majoring in visual arts but enrolled in the videography course.

Graphic and Visual Validity (Design, Media, and Layout)

In terms of graphic and visual presentation, the model was validated based on the effectiveness of its design elements such as layout consistency, use of instructional icons, screen readability, color choices, and visual aids. Educational media experts assessed printed and digital components, including the interactive platform interface and AI feedback dashboards. The platform’s real-time feedback system was highlighted as a key innovation, allowing visual indicators (e.g., progress bars, red-yellow-green signals, rubrics) to guide student revisions. Validators emphasized that the use of icons, screenshots, and storyboard templates significantly improved the user experience and instructional clarity. Some improvements were suggested to increase font readability and reduce visual clutter in certain modules. These revisions were implemented before final deployment. The overall visual design was rated as highly functional and learner-friendly, with an average expert rating of 4.8 out of 5. This stage validated that the model was not only pedagogically strong but also visually appealing and ergonomically suited for both classroom and mobile device use an essential requirement for hybrid and digital learning environments.

Overall Contribution of the Validation to Model Refinement

The validation process played a critical role in refining the model before its full-scale implementation. It ensured that the model was accurate in content, clear in delivery, accessible in language, and engaging in visual design. Each component lesson plan, learning materials, assessment system, and AI platform was iteratively reviewed, improved, and finalized based on feedback from stakeholders and expert validators. The rigorous validation process not only confirmed the model’s technical quality but also increased its credibility among academic

reviewers and institutional leaders. Moreover, the results reinforced the model's potential for scalability and adaptability across different creative disciplines beyond videography. The validation also provided insights into students' learning preferences and the usability of AI-generated feedback in real educational settings. In conclusion, the second research objective validating the hybrid experiential flipped classroom model with AI real-time feedback was successfully achieved. The model was deemed valid, practical, and ready for implementation, supporting its role as a forward-thinking educational solution aligned with the demands of the Society 5.0 learning environment.

CONCLUSION

This research successfully addressed all stated objectives by developing, validating, and implementing an innovative hybrid experiential flipped classroom learning model integrated with real-time AI feedback assistance for videography education within the Visual Arts Education program. The model was designed to enhance students' technical competencies in video production while simultaneously cultivating entrepreneurial skills aligned with the demands of the creative industry and the Society 5.0 framework.

In response to the first objective, the study produced a well-structured instructional model that effectively combines experiential learning and flipped classroom strategies. The model was enriched with AI-based feedback tools capable of guiding students in critical stages of video production—particularly scriptwriting, editing, and post-production—allowing for greater autonomy, creativity, and iteration in learning.For the second objective, comprehensive expert validation confirmed the model's validity, clarity, and practicality across four core dimensions: content, instructional presentation, language, and visual design. Each component was rated highly by evaluators, and all suggested revisions were incorporated to improve the model's usability and instructional flow.

Regarding the third objective, the model was implemented successfully in classroom settings and demonstrated a positive impact on student engagement, learning outcomes, and entrepreneurial mindset. Quantitative and qualitative data confirmed the model's effectiveness in facilitating independent learning, collaborative creativity, and commercial-oriented project development. Overall, this research contributes a forward-looking, scalable instructional solution for creative education, positioning AI not as a replacement for instructors, but as an intelligent partner in enhancing personalized, reflective, and industry-relevant learning experiences.

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