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From Interaction to Collaboration: Reforming Audiovisual Communication Education in the Era of AIGC

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Abstract

In the context of the digital intelligence era, talent cultivation in audiovisual communication faces higher requirements. Based on field investigations in universities and teaching experiments, this study constructs a reform path for audiovisual communication courses oriented toward interaction and collaboration. The course incorporates AIGC tools and intelligent media resources to build a human-machine collaborative teaching model consisting of teacher instruction, AI assistance, and student co-creation. Through questionnaire surveys and quantitative analysis, the study finds that the intervention of AIGC significantly enhances the quality of teacher-student interaction, and the degree of human-machine collaboration significantly predicts students learning outcomes and innovative performance. Based on these findings, the study proposes innovative reform paths for audiovisual communication courses, including optimizing teaching structures, strengthening practical tasks, and establishing a diversified evaluation mechanism. These results provide experience and references for cultivating compound journalism and communication talents who possess academic theories, technical skills, and innovative thinking.

Keywords: AIGC; Audiovisual Communication; Human-Machine Collaboration; Teaching Reform

1. Introduction

With the advent of the digital intelligence era, courses related to audiovisual communication are facing unprecedented challenges. The integrated development of all-media and the rapid evolution of the audiovisual industry are profoundly reshaping the traditional radio and television sector, contributing to the gradual decline of legacy media. Against this backdrop, audiovisual communication courses have remained stagnant for an extended period, marked by monotonous teaching formats, outdated content, and a growing

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disconnect from contemporary professional demands. Consequently, students show limited interest, and it has become increasingly difficult to systematically cultivate practical skills and innovative literacy. At present, the traditional teaching model centered on work analysis and core theories has proven ineffective and fails to meet the requirements of training compound journalism and communication talents with all-media competencies. Exploring the driving forces and innovative pathways for curriculum reform has therefore become an urgent necessity.

In particular, the rise of AIGC technology presents new opportunities for journalism and communication education. Intelligent tools such as ChatGPT, Midjourney, DALL·E 3, Runway, and Synthesia enable students to complete tasks such as text generation, image creation, and video editing within a short period of time. This accelerates the shift in teaching models from traditional teacher and student interaction to human and machine collaboration. However, the application of AIGC in universities remains largely auxiliary. Students use AI for brainstorming, scriptwriting, or shot design, yet a genuine collaborative creation model has not fully emerged. In audiovisual communication courses within journalism and communication programs, systematic empirical research is still lacking regarding the alignment between students' professional competencies and AI tools, the role of AI in enhancing creative abilities, and the ways in which AI reshapes teacher and student interaction patterns.

Based on this context, the present study takes the reform practices of audiovisual communication courses in universities as its starting point. Focusing specifically on journalism students in universities in Lianyungang City in Jiangsu Province in China, the research adopts a combination of teaching experiments and questionnaire surveys to investigate the teaching effectiveness and teacher and student interaction mechanisms of audiovisual communication courses under the intervention of AIGC technology. It centers on the following questions: (1) How have students' learning methods changed after the integration of AIGC into audiovisual communication courses? (2) What factors influence students' learning outcomes in an AIGC-supported environment? (3) How can an effective human and machine collaborative teaching model be constructed to optimize course structure and enhance teaching quality? Grounded in curriculum reform practices, this study aims to explore how AIGC intervention and human and machine collaborative teaching strategies can promote deeper integration of theory, technology, and practice in audiovisual communication courses. The findings are expected to provide insight and practical references for cultivating compound journalism and communication talents equipped with academic foundations, technical capabilities, and innovative thinking.

2. Research Status of Human-Machine Collaboration in Higher Education

In recent years, the rise of intelligent education empowered by AIGC technology has made human–machine collaborative learning a central topic in educational research. Seo (2025) argues that artificial intelligence should not be viewed merely as a tool for teachers but as a medium enabling continuous interaction, highlighting the importance of collaboratively completing complex tasks through Intelligence Augmentation. In higher education, the integration of AI tools has been shown to significantly enhance students' metacognitive abilities (Atchley et al., 2024), learning engagement, and problem-solving skills, thereby offering new possibilities for transforming traditional instructional models (Mubashir et al., 2025).

Particularly in courses involving creative design and content production, AIGC tools help students complete tasks such as news writing, image generation, and video editing with high efficiency, substantially improving their creativity and the quality of their work (Chen Yuhong, 2025). However, existing research also indicates that successful human–machine collaboration depends not only on technological capabilities but, more importantly, on the teacher's role in instructional design, emotional support, and value-based decision-making (Gorsky and Levin, 2025). In the field of audiovisual communication, advancements in digital intelligence have introduced new demands for curriculum reform (Cai Haibo and Cai Yiju, 2025). Traditional radio and television curricula have remained unchanged for many years, with outdated and monotonous instructional content that no longer meets the needs of cultivating compound journalism and communication talents (Wang Chao and Wang Xiangyi, 2024). Some scholars have attempted to integrate AI tools into audiovisual courses, employing intelligent generation and collaborative creation to enhance students' engagement, creativity, and practical experience (Pan Xiaoting, 2018). Although AI tools have been increasingly applied in areas such as literary creation, image design, and video editing, most uses remain at the auxiliary level, and a comprehensive model of human–machine collaborative creation has yet to be established. Therefore, combining the concept of human–machine collaborative learning with the practical needs of audiovisual communication teaching can not only optimize instructional structures and enrich course content but also strengthen students' cross-media creative abilities and innovative performance, providing theoretical and practical support for advancing journalism and communication education.

3. Teaching Reform Path and Empirical Research Design

3.1 Teaching Reform Path: Reconstruction of Audiovisual Communication Courses Empowered by AIGC

This study takes audiovisual communication courses in journalism programs such as *Video Production*, *News Interview and Writing*, *and Audiovisual Language* as its focus and constructs a human–machine collaborative teaching model grounded in AIGC technology. The reform path proposed in this study is developed from three dimensions: teaching philosophy, teaching content, and teaching organization. Through the integration of AIGC tools into the curriculum, the reform promotes a shift in audiovisual communication teaching from traditional patterns of interaction between instructors and learners toward a model characterized by human–machine collaboration.

Teaching philosophy emphasizes strengthening AI literacy and developing application oriented thinking. In this era, instructors are expected to understand the technical logic of AI tools and their potential in audiovisual content production. At the same time, students are required not only to master traditional video production workflows but also to actively apply AI in practical tasks. This shift moves audiovisual communication courses from a focus solely on theory and skills toward integrating AI competence as a core element of student development. Students learn to evaluate, refine, and advance AI-generated content while mastering audiovisual language. Through exercises such as storyboard

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drafting, virtual scene rehearsal, automated editing, and multimodal content creation, students enhance production efficiency and strengthen their understanding of authenticity and ethical standards, transitioning from simple tool users to human-machine collaborative creators.

Regarding teaching content, the curriculum now spans theoretical foundations and practical instruction while drawing upon interdisciplinary knowledge structures. To support this shift, AIGC tools are embedded into critical stages of audiovisual learning, including script development, scene design, post-production, and multi-platform distribution. Text-generation systems help students refine topics, build outlines, and construct narrative frameworks. Image-generation tools allow them to visualize shot compositions and pre-design shooting spaces. Intelligent editing technologies streamline post-production with functions such as automated material detection and speech transcription. AI-based voice and virtual anchor tools support the creation of cross-platform media outputs. Combined together, these tools reconstruct the audiovisual learning chain and enable students to develop a more integrated, cross-disciplinary competence structure supported by intelligent media technologies.

From the perspective of teaching organization, the instructional format is moving away from lessons centered on lectures with supplementary practice toward project-based and scenario-driven learning shaped by AIGC. This approach aligns classroom activities more closely with professional audiovisual production processes. Guided by the principles of Outcome-based Education, the reform requires that learning outcomes be measurable, demonstrable, and applicable in real-world contexts (Guan and Su, 2022). Instructors design a sequence of tasks grounded in social issues and journalistic themes, such as rapid one-minute edits of breaking news, three-shot mini character documentaries, and AI-assisted observational videos, allowing students to experience the full cycle of audiovisual production. During the learning process, instructors provide guidance on professional standards, narrative structures, shooting practices, and ethical considerations, while AIGC tools support both technical and creative aspects of production. This arrangement enables the classroom to evolve from simple interactive participation into authentic human-machine collaborative creation. Students enhance their technical skills and journalistic judgment by combining AI-generated multimodal materials with real-world shooting experiences. Curriculum modules on audiovisual ethics in the AI era and algorithmic bias and image authenticity integrate technological literacy with value-oriented thinking. By balancing technological innovation with ethical responsibility, audiovisual communication teaching positions AIGC as a central component of pedagogy rather than a supplementary tool. In this environment, instructors act as learning designers and collaborators, and students transition from passive learners into active human-machine collaborative creators with critical judgment, creativity, and technical competence.

Consequently, AIGC is no longer merely a technical supplement in the classroom but has become a central element throughout audiovisual communication courses. In this context, teachers transition from being transmitters of knowledge and skills to designers and facilitators of the learning process, while students shift from passive practitioners to human–machine collaborative creators endowed with critical judgment, creativity, and technical competence.

3.2 Empirical Research Design: Validation of the Effectiveness of AIGC Intervention in Audiovisual Communication Courses

To examine the effectiveness of the above-mentioned teaching reform in actual classroom practice, this study adopts a mixed-method approach combining questionnaire surveys and classroom observations. The research subjects are second- and third-year journalism students at a university in Lianyungang, Jiangsu Province, China, covering the courses *Video Production*, *News Interview and Writing*, *and Audiovisual Language*, with a total of 163 students.

Two rounds of questionnaires were administered before and after the implementation of the courses to measure students' multidimensional learning performance in the context of AIGC-assisted teaching, allowing for a comparison of learning changes before and after the intervention. After organizing the 326 collected questionnaires, systematic data cleaning was first conducted to ensure data quality and the validity of statistical results. By checking for completeness and consistency, a total of 321 valid questionnaires were obtained, including 160 valid responses from the first round and 161 from the second round. Descriptive statistical analysis was then performed using SPSS 26.0 to examine whether significant effects existed in students' learning efficiency, professional judgment, and classroom participation.

For classroom observation, a systematic teaching behavior observation form was designed to record classroom interaction frequency, the modes of teacher-student collaboration, and students' use of AIGC tools, thereby capturing the actual human–machine collaborative process during audiovisual communication teaching. Student engagement in the content creation process assisted by AIGC was documented, with attention to whether students were able to evaluate, supplement, and critique AI-generated content, as well as whether AIGC improved efficiency or led to dependency. Instructors, as guides of the course, face new demands on their teaching roles and intervention methods due to the presence of AIGC technology. Therefore, observations also included instructors' application of AIGC tools and guidance approaches to ensure that the teaching process was not dominated solely by the technology.

All observational data were compiled from classroom recordings and instructor notes, allowing for cross-validation with the questionnaire results. This approach provides a more accurate depiction of the operational mechanism of audiovisual communication teaching reform driven by AIGC, offering practical evidence for universities to advance journalism and communication education reform in the digital intelligence era.

4. Discussion and Results

The valid samples obtained from the two rounds of questionnaires (N = 321) were organized and statistically analyzed to present the overall changes in students' learning performance after the integration of AIGC into audiovisual communication courses. Based on the quantitative data, the study also conducted behavioral categorization and coding of classroom observation materials to examine the influence of AIGC on students within authentic instructional settings. By combining quantitative and qualitative approaches, the study identifies the transition through which audiovisual courses move from interactive learning to collaborative learning under the empowerment of AIGC technology.

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4.1 Analysis of Students' Learning Performance After AIGC Intervention

The results from the two rounds of questionnaires were consolidated to conduct descriptive statistical analyses of three core indicators of learning performance: learning efficiency, classroom participation, and professional judgment.

To begin with, the improvement in learning efficiency was the most evident. In the first-round survey, 83 percent of students reported that *they could complete in-class analytical tasks on time* and *quickly grasp the structural logic of the assigned texts*. After AIGC technology was introduced into the course, this proportion increased to 92 percent. Classroom observations further revealed that, in the absence of AIGC support, students often experienced hesitation when analyzing sample commentaries or needed repeated confirmation of structural elements. In the later stage, however, they were able to construct textual frameworks in a shorter time and presented more coherent and concise logical structures during timed writing tasks. These observations corroborate the trends reflected in the quantitative findings.

A more substantial improvement was observed in classroom participation. Across both surveys, more than half of the students indicated a willingness to speak voluntarily, raise questions during group discussions, and respond to their peers' viewpoints. With the gradual incorporation of AIGC into classroom activities, this willingness increased notably. Open ended responses revealed that some students previously refrained from speaking due to fear of making mistakes, yet the presence of AIGC, which could provide immediate feedback, and correction enhanced their confidence and progressively strengthened their autonomous engagement in class.

In terms of professional judgment, the questionnaire measured changes through items such as *the ability to identify factual errors in AIGC, detect problems in narrative logic, assess whether audiovisual expressions adhered to professional norms*, and *evaluate AIGC outputs from an ethical perspective*. Across the two rounds, students' professional judgment scores increased from 86.7 percent to 94.6 percent. Classroom performance records show that, at the early stage, students primarily identified superficial issues such as *typographical errors in subtitles, repetitive footage,* or *abrupt transitions*. As instruction with AIGC progressed, however, they gradually demonstrated the ability to identify deeper professional problems, including *a lack of shot motivation resulting in narrative discontinuity* or *the potential for AI-generated images to mislead audiences*.

Overall, the integration of AIGC into the classroom did not diminish students' professional competence. Rather, it enhanced their participation and fostered a more proactive learning stance as they continuously interacted with emerging technologies. Throughout the shift from interaction to collaboration, technology did not replace human agency; instead, it provided students with more open and challenging practice environments, enabling a transition from relying on AI to skillfully mastering it.

4.2 Reconstruction of Human-Machine Collaborative Learning Models

After AIGC entered audiovisual communication courses, both teacher–student interaction and classroom collaboration patterns underwent significant changes. In traditional classroom settings, teachers were primarily responsible for lecturing, while students passively completed learning tasks. However, in the context of rapidly developing mobile audiovisual media, the skill requirements for journalism students now far exceed traditional single-skill training. They must cultivate a composite set of abilities, including planning, communication, teamwork and creative capacity. Technical competence has therefore become increasingly essential: students must not only master video editing, visual effects and animation design, but also learn to use new media tools, data analytics and intelligent-generation platforms to accomplish the full production chain from content creation to shooting, editing and distribution. With the emergence and popularization of new technologies, teachers no longer merely transmit technical knowledge and theories; instead, they increasingly act as facilitators and evaluators.

With AIGC assistance, the curriculum places greater emphasis on cultivating multi-skilled talent capable of efficiently completing every stage from topic selection, scriptwriting and filming to post-production, thereby achieving human–AI collaborative creation in practice. Classroom observations show that AIGC text drafts more readily stimulate collective discussion. These drafts provide contestable material that encourages students to make judgments, revise and contribute additional ideas. Interaction thus shifts from answering teacher questions to jointly critiquing and evaluating AIGC output, transforming the classroom atmosphere from input-driven discussion to problem-oriented collaboration. Gradually, students develop a workflow in which AIGC generates, humans revise and AIGC reoptimizes. Through this collaborative model, students not only acquire technical skills but also enhance professional judgment, creative thinking and teamwork, while strengthening social responsibility and professional ethics. Their attention to audiovisual quality expands from technical execution to stylistic coherence, narrative structure and ethical risk awareness.

Therefore, audiovisual communication curriculum reform in the AIGC era leverages technological empowerment to improve students' operational skills and creativity, while shifting the classroom from one-directional interaction to collaborative creation among teachers, students and AI. This integration of theory, technology and practice offers a feasible pathway for cultivating media professionals equipped with academic grounding, technical proficiency and innovative thinking.

5. Conclusion

In the context of AIGC, the journalism and communication industry is undergoing rapid technological transformation and integrated development, which imposes higher demands on audiovisual communication courses in higher education. Building upon AIGC technologies, this study develops a reform pathway for audiovisual communication curricula tailored to journalism majors. By strengthening AI literacy among both students and instructors, integrating diverse AIGC toolsets, and adopting an outcome-oriented instructional approach, the reform facilitates a transition from the traditional teacher-led, one-directional model toward a collaborative creative process involving students, instructors, and AI.

To assess the effectiveness of this reform pathway, the study implemented a series of classroom practices. During these practices, students not only demonstrated the capacity to use AI tools effectively but also engaged in iterative collaboration with peers and instructors, continually refining content and enhancing their professional judgment and creative competencies. The results show that the incorporation of AIGC increased student

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participation and learning efficiency while making teacher–student interaction more productive and cohesive. This development signifies a shift from one-directional communication to human AI collaborative learning. Overall, the findings provide a feasible model for constructing audiovisual communication curricula that align with the needs of the intelligent media era, advancing practical learning outcomes, fostering multi-skilled journalism professionals, and offering valuable insights for higher education institutions seeking to modernize education and innovate talent development in the age of AI driven media.

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