Advances in Vocational and Technical Education (2025)
Clausius Scientific Press, Canada

DOI: 10.23977/avte.2025.070211
ISSN 2523-5834 Vol. 7 Num. 2

Research on the Construction of the Quality Monitoring System for Photography Courses in Vocational Colleges

Wengui Zheng[1,2]

[1]*Jungwon University, Huashan Countynorth Chungcheong Province, South Korea*
[2]*Quanzhou Huaguang Vocational College, Quanzhou, Fujian, China*

Keywords: Vocational Colleges, Photography Course, Quality Monitoring System, Teaching Evaluation, Feedback Mechanism, Educational Reform

Abstract: This paper discusses the construction of the quality monitoring system for photography courses in vocational colleges, and analyzes its necessity and key issues in implementation. By elaborating the theoretical basis, core elements and implementation steps of the quality monitoring system, combined with practical experience, the bottlenecks such as resource allocation, data management and teacher participation are pointed out. The research proposed the construction of a "three-dimensional integrated" monitoring model, combining the perspectives of cross-border integration and technological empowerment, innovating evaluation tools and methods, and achieving a systematic improvement in teaching quality monitoring. Emphasize practical application innovation. Through the tripartite linkage of schools, enterprises and associations, design characteristic indicators of vocational education. Adopt mixed research methods and comparative analysis of cases to promote the continuous improvement of course quality. Meanwhile, a hierarchical and classified monitoring strategy and the formulation of a standardized framework are proposed to provide theoretical guidance and practical references for the effective construction and implementation of the quality monitoring system of photography courses in vocational colleges.

1. Introduction

With the increasing demand for professional and skilled talents in society, the teaching quality of vocational colleges is particularly important. Photography, as a discipline that is both technical and artistic, the continuous innovation of its teaching content and methods directly affects the cultivation of students' professional qualities and social adaptability. However, in the actual teaching process, the quality monitoring system of photography courses in many colleges and universities has not yet formed a systematic and structured effective management framework, resulting in problems such as the disconnection between course content and industry demands and the ambiguity of teaching evaluation standards. Therefore, establishing a scientific and effective quality monitoring system for photography courses is not only an urgent need to improve teaching quality, but also a necessary way to align education with the industry and enhance students' comprehensive abilities. This article aims to propose feasible improvement plans by deeply exploring the theoretical basis, core elements, implementation steps and challenges of the quality

monitoring system of photography courses, with the expectation of providing ideas and solutions for the quality improvement of photography education in vocational colleges.

2. Analysis of the Current Situation of Photography Courses in Vocational Colleges

2.1. Course content and syllabus

Under the current background of deepening the reform of vocational education and promoting quality-oriented education simultaneously, the content composition and teaching syllabus design of photography courses in vocational colleges have become important indicators for measuring their educational quality and professional orientation. Overall, the content setting of most photography courses in vocational colleges still shows an unbalanced situation where "technical skills dominate and artistic expression is absent". The course content is concentrated on basic photography principles, equipment operation and image processing skills training, and rarely involves comprehensive modules such as image narrative, aesthetic awareness cultivation and cross-media integration. Furthermore, in the process of compiling teaching syllabi, some institutions have problems such as slow response to industry dynamics, lagging update of the curriculum system, and ambiguous teaching objectives, resulting in a significant disconnection between the course content and the actual development of the photography industry[1]. In terms of setting teaching objectives, most institutions still aim at "meeting the primary skills of positions", ignoring the multi-dimensional value of photography as a tool for the dissemination of visual culture, making it difficult for the course content to meet the cultivation needs of high-quality technical and skilled talents[2]. Meanwhile, although some institutions have attempted to introduce concepts such as "project-oriented teaching" and "modular design", in the implementation, they are mostly confined to form and lack pertinence and systematicness, resulting in the course content showing a trend of "fragmentation and superficiality". As the programmatic document of the course, the teaching syllabus, with its scientificity and forward-looking nature, plays an important guiding role in the implementation of the course. However, in the current context, it often fails to fully reflect the synergy and logical loop among the course objectives, teaching content and ability standards. Therefore, it is urgent to conduct a systematic review and innovative reshaping of the content system and teaching syllabus of the photography course from three dimensions: concept renewal, content reconstruction and mechanism optimization, in order to achieve an effective connection between educational goals and professional ability standards.

2.2. Teaching methods and teaching models

In the teaching practice of photography courses in vocational colleges, although most colleges and universities have gradually introduced the student-centered teaching concept, traditional teaching methods and teaching models still dominate the course implementation, especially in the teaching of technical professional courses. Teacher-led lecture-based teaching and skills-centered training models still exist widely[3]. Specifically, the teaching methods in photography courses often overly rely on theoretical explanations and repetitive practices, neglecting the cultivation of students' creative thinking and the improvement of their artistic aesthetic abilities. The teaching methods adopted by many colleges and universities focus more on "input-type" knowledge transmission. That is, through teachers' systematic explanations of basic knowledge such as photography principles, equipment usage, and shooting techniques, information is instilled into students. Students are more in a passive receiving state. This mode often leads to students' understanding of photography remaining at the technical level. However, there is a lack of thinking and exploration on the deeper contents such as the artistry of images, emotional expression and

social value. Although some institutions have begun to attempt project-based or practical teaching in combination with industry demands, due to the limitations of teaching resources and the lag of teaching methods, many projects often have more form than content and lack effective connection with the actual working environment, thus failing to effectively help students understand and adapt to the real photography professional environment.

Regarding the choice of teaching models, many institutions still adhere to the traditional model that combines classroom instruction with after-class practice. Although this model can efficiently convey basic knowledge and skills in the short term, it fails to achieve a deep integration with the requirements of modern vocational education[4]. Emerging teaching models, such as flipped classrooms, online learning and blended learning, have been gradually attempted and implemented in some institutions. However, most of them lack systematic planning and evaluation mechanisms, making it difficult to popularize and promote them throughout the school. Especially in a discipline like photography where technicality and artistry are highly interwoven, the singularity of the teaching mode often limits the cultivation of students' creative and critical thinking, and fails to fully mobilize students' initiative and innovative consciousness. At present, the teaching methods and models of photography courses urgently need to break through the traditional constraints, combine the technological progress of the digital age, introduce more interactive, cross-disciplinary integration and project-oriented teaching strategies, promote the in-depth transformation of teaching content and teaching methods, so that students can better apply and innovate while mastering knowledge, and achieve higher-level professional ability cultivation.

2.3. Innovation in research perspective

This research, driven by cross-border integration and technological empowerment, reconstructs the research perspective of the quality monitoring system of photography courses in vocational colleges, breaks through the evaluation shackles of traditional art education, and promotes the systematic improvement of teaching quality.

The perspective of cross-border integration focuses on the symbiotic coexistence of artistry and professionalism. The evaluation of traditional photography courses often overly relies on subjective aesthetic judgment and ignores the standardized requirements of professional abilities, resulting in the disconnection between students' skills and industry demands [5]. This study deeply integrates the concepts of "ability-oriented" and "process evaluation" in vocational education into the quality monitoring system, and constructs an evaluation framework that emphasizes both dimensions. At the practical level, closely integrate the job requirements of the sub-sectors of the photography industry (such as commercial photography, news photography, and short video creation), and embed authoritative certification indicators such as the "National Vocational Qualification Standards for Photographers" into the course monitoring system to achieve "integration of courses and certificates". In the course assessment, an indicator of "industry certification compliance rate" is added. Through certification tasks that simulate real working scenarios (such as commercial shooting plan planning and news picture editing norms), students' technical standardization and professional qualities are quantitatively evaluated to ensure a seamless connection between their skills and industry qualifications. Meanwhile, industry associations and enterprise experts are introduced to participate in the formulation of evaluation standards, forming a three-in-one monitoring logic of "educational goals - industry standards - professional capabilities", promoting the deep integration of course content and professional scenarios.

From the perspective of technology empowerment, digital tools are used to innovate monitoring methods, addressing the pain points of traditional evaluation such as low efficiency and strong subjectivity. On the one hand, the Learning Management System (LMS) is utilized to collect

students' behavioral data (such as learning duration and resource utilization rate) in real time. Combined with AI image analysis tools (such as Adobe Sensei), intelligent diagnosis of photographic works is conducted to automatically identify technical issues such as composition imbalance and light and shadow defects, and generate visual and quantitative reports to provide objective feedback for teachers. On the other hand, immersive training scenarios (such as virtual news sites and digital studios) are constructed by leveraging VR/AR technology to break through the time and space limitations of traditional classrooms. Simulate the shooting task of unexpected events in the virtual environment, record the students' equipment operation, teamwork and emergency response performance throughout the process, and form a dynamic ability map. Such technologies not only enhance the accuracy of evaluation but also optimize teaching strategies through data-driven approaches. For instance, in response to the common shortcomings in post-processing among students, the system can automatically push customized training resources, achieving a closed loop of "monitoring - diagnosis - improvement". The collaborative innovation of cross-border integration and technological empowerment not only broadens the theoretical boundaries of photography course quality monitoring, but also injects new impetus into the high-quality development of photography education in vocational colleges through the two-way empowerment of "industry standard traction" and "data intelligence-driven".

3. Theoretical and System Innovation

3.1. Build a "three-dimensional integrated" monitoring model

The theoretical and systematic innovation of the quality monitoring system for photography courses in vocational colleges, with the "three-dimensional integrated" monitoring model as the core framework, breaks through the limitations of the singularity and static nature of the traditional monitoring system, and builds a quality assurance network that is both systematic, collaborative and flexible.

The "three-dimensional integration" monitoring model reconstructs the evaluation logic from three dimensions: the target, the process, and the subject. The objective dimension breaks the single evaluation orientation of "technology first", focusing on a three-dimensional objective system of professional quality (compliance with industry norms, customer communication skills), technical ability (proficiency in equipment operation, accuracy in post-processing), and artistic creation (depth of theme expression, aesthetic innovation). For instance, in commercial photography courses, It not only assesses whether students can complete product lighting in accordance with industry standards (technical ability), but also evaluates whether they possess the creative planning ability for brand visual communication (artistic creation), and at the same time tests their professional qualities through simulated customer negotiation scenarios. In the process dimension, a full-process monitoring chain of "before class - during class - after class" is established. With project-based teaching as the carrier, in the "E-commerce Product Photography" course, the scientific nature of the project plan is ensured through the review of teaching plans and the analysis of students' learning situations before class. During the class, intelligent devices are used to record the shooting process in real time (such as the standardization of equipment debugging and the efficiency of team division of labor). After class, a closed-loop evaluation is formed based on customer feedback (such as satisfaction with work delivery and market conversion rate). The main dimension builds a "on-campus + off-campus" collaborative network. Industry mentors are invited to participate in the work review, simulated clients pose demand change challenges, and employers provide job competency feedback. Evaluation standards are jointly formulated by enterprise experts and on-campus teachers to ensure that the monitoring results are highly consistent with the actual needs of the industry.

The innovation of the dynamic adjustment mechanism endows the system with the ability of continuous evolution. On the one hand, establish an "industry demand-driven" indicator update mechanism to regularly track the technological iterations and business model changes in the photography industry. For instance, for emerging fields such as drone aerial photography and short video creation, dynamically add evaluation indicators like "aerial photography safety norms" and "multi-platform content adaptability". On the other hand, through industry associations (such as the China Photographers Association) and leading enterprises (such as Getty Images), data sharing channels are established to obtain job skill demand reports and talent capability gap analyses, which feed back to the optimization of course content. Based on the "high-frequency and fast-iteration" photography demands of the e-commerce industry, the "ability to produce photos quickly" and "multi-scene adaptation skills" have been incorporated into the course objectives, and corresponding micro-authentication modules have been developed.

3.2. Innovation of Dynamic adjustment mechanism

The innovation of the dynamic adjustment mechanism takes "industry demand-driven" as its core logic. By building an agile response system, it ensures that the quality monitoring of photography courses always resonates with the development of the industry. Establish a dynamic update mechanism for indicators, relying on industry insight reports from industry associations and leading enterprises to regularly track technological iterations and trends in business model changes. For emerging fields such as drone aerial photography and e-commerce product photography, evaluation indicators such as "Aerial Photography Safety Standards" and "multi-platform visual adaptability" should be quickly added. The course objectives and assessment standards should be updated simultaneously to ensure that the teaching content is in real-time match with market demands. Through the data sharing channel between schools and enterprises, the job skill demand map is obtained, such as the demand for "high-frequency and fast-iteration" shooting capabilities in the e-commerce industry, which in turn feeds back to the optimization of course content. In specific practice, a "Quick production ability" training module can be developed. Combined with real enterprise cases (such as the "Double Eleven" product image shooting task), practical assessments such as time-limited creation and multi-scene switching can be designed to enhance students' industry adaptability. In addition, a "demand-capability" gap analysis model is introduced. Based on the "White Paper on the Capabilities of Photography Talents" released by industry associations, the current scarce skills in the industry (such as short video script planning and AI photo editing technology) are identified. The weight of course modules is dynamically adjusted, the proportion of "intelligent image processing" class hours is increased, and a micro-certification system recognized by the industry is developed in conjunction. This mechanism, through a closed-loop operation of "monitoring - feedback - iteration", not only resolves the chronic problem of the traditional curriculum system lagging behind market changes, but also achieves precise matching between educational supply and industrial demand driven by data, injecting vitality into the sustainable development of photography education in vocational colleges.

3.3. Innovation in evaluation tools and methods

The innovation of evaluation tools and methods is the key support for the implementation of the quality monitoring system of photography courses. Through the development of diversified tools and the application of action-oriented evaluation methods, the limitations of the singularity and static nature of traditional evaluation can be broken through, achieving a precise connection between ability cultivation and industry demands.

The development of diversified evaluation tools focuses on the full-process tracking of students'

ability development and the scientific support for teaching decisions. Build a "Photography Ability growth Portfolio", integrating students' classroom assignments, competition entries, and enterprise training achievements at different stages, supplemented by creative logs (such as records of shooting concepts and reflections on technical difficulties) and feedback from industry experts, to form a visualized ability development trajectory. For instance, the entire process of students' works, from basic composition training to independently completing brand advertisement shooting, combined with customer satisfaction scores and teacher comments, can directly reflect their technical advancement and creative maturity. Develop a "Course Quality Monitoring Dashboard", relying on data visualization technologies (such as radar charts and heat maps) to present in real time key indicators such as the achievement rate of teaching objectives, students' weak points in skills (such as the pass rate of light and shadow control being less than 60%), and the consistency of industry feedback. Through heat map analysis, it was found that the compliance rate of the "Short Video Editing" module was relatively low. The input of teaching resources can be adjusted immediately, and the practical training of this link can be strengthened first.

The application of action-oriented evaluation methods emphasizes "promoting learning through application", enhancing the effectiveness of evaluation through real-life scenario simulation and modular certification. In the "Contextualized Task Evaluation", real working scenarios such as wedding follow-up shooting and exhibition photography are simulated, and unexpected situations (such as equipment failure and sudden weather changes) are set up to assess students' emergency handling, teamwork and communication skills with clients. In the exhibition shooting task, students are required to complete the site survey, lighting adjustment and final product delivery within two hours. Industry mentors score based on the quality of the works and the standardization of the process. At the same time, a "modular micro-certification mechanism" is implemented, breaking down the courses into skill modules such as "Portrait Retouching" and "Short Video Editing". Students can obtain micro-certificates endorsed by industry associations or cooperative enterprises upon passing the assessment. For instance, those who pass the assessment of the "Drone Aerial Photography Operation" module will be awarded the "Primary Certification of Aerial Photography Skills" and directly included in the enterprise's talent reserve pool. Such innovative methods not only strengthen the practical orientation of evaluation, but also enhance students' employment competitiveness through "competency certification", promoting the seamless connection between vocational education and industrial demands.

4. Innovative Paths for the Quality Monitoring System of Photography Courses in Vocational Colleges

4.1. Practical application innovation

In the innovative path of the quality monitoring system for photography courses in vocational colleges, practical application innovation is of vital importance, and the tripartite linkage mechanism among schools, enterprises and associations is a key measure. By jointly building a "Quality monitoring community" with industry associations (such as the China Photographers Association), information sharing and resource integration can be achieved. Industry associations regularly release the "White Paper on Industry Talent Demand", providing precise directions for the design of course indicators, ensuring that the course content is closely aligned with industry demands, and making the knowledge and skills students acquire more practical and forward-looking. Another highlight is the in-depth participation of enterprises in teaching. Enterprises appoint technical experts as project mentors. These mentors, with their rich practical experience, can impart the latest industry technologies, work processes and professional qualities to students. Meanwhile, enterprises provide real cases, such as brand advertising shooting projects, allowing students to

exercise their skills in practice and enhance their ability to solve practical problems. In addition, enterprises participate in the review of students' works, taking industry standards and market demands as the benchmark, to provide students with more objective and professional evaluations, helping them understand their own shortcomings and clarify the direction for improvement. This tripartite collaborative practical application innovation model has broken down the barriers between schools, enterprises and industries, formed an educational synergy, effectively improved the quality of photography courses, and cultivated photography professionals who better meet the needs of the industry.

4.2. Design of Characteristic Indicators for Vocational Education

In the quality monitoring system of photography courses in vocational colleges, the design of characteristic indicators of vocational education is a key link to highlight the essence of vocational education and enhance students' employment competitiveness. The addition of the indicator of career transfer ability is of great significance. Photography should not be confined to the traditional shooting field. It should actively expand its application in cross-field areas such as new media operation and advertising design. By setting up a dedicated assessment section, it is examined whether students can combine their photography skills with knowledge and demands from different fields, such as whether they can use their photographic works to enhance the quality of new media content or ingeniously incorporate photography elements into advertising designs, thereby improving their adaptability and competitiveness in various professional scenarios.

The indicators of innovation and entrepreneurship capabilities are closely aligned with the "integration of industry and education" policy. Carry out the "Photography Studio Simulation Operation" project to enable students to exercise their abilities in a simulated real business environment. During this process, the cost accounting ability of students should be closely monitored to ensure that they can plan the project budget reasonably and avoid waste of resources. At the same time, pay attention to students' marketing and promotion capabilities to see if they can formulate effective promotion strategies to attract customers. Through this project, not only can students' innovative thinking and entrepreneurial awareness be cultivated, but also they can become familiar with the business operation process in advance, accumulating valuable experience for their future self-employment or entering enterprises for work. The design of these distinctive indicators makes the quality monitoring system of photography courses more targeted and practical, helping vocational colleges cultivate compound photography talents that meet the development needs of The Times.

4.3. Innovation in research methods

In the innovation of research methods for the quality monitoring system of photography courses in vocational colleges, the adoption of a mixed research method and comparative analysis of cases can provide a scientific and comprehensive basis for improving the quality of the courses. The hybrid research method ingeniously integrates quantitative analysis with qualitative research. Quantitative analysis focuses on specific data such as the employment rate of enterprises and the pass rate of micro-certifications. These data directly reflect the recognition of the students cultivated by the course in the job market and the degree to which the students meet the professional skills standards. They are important hard indicators for measuring the quality of the course. Qualitative research, through interviews with industry mentors and case analyses of outstanding graduates, deeply explores the implicit laws of the formation of professional abilities. Industry mentors are at the forefront of the industry, and their insights can reveal the deep-seated demand for photography talents in the industry. Outstanding graduate cases can demonstrate how students transform the

knowledge they have learned into professional abilities in actual work, providing vivid materials for course optimization.

The case comparison and analysis select art-oriented higher vocational colleges and comprehensive secondary vocational colleges. These two types of colleges have differences in terms of educational positioning, student foundation, etc., and their quality monitoring models also have their own characteristics. By comparing the differences between the two in terms of monitoring targets, contents, methods, etc., the advantages and disadvantages of different types of colleges and universities in the quality monitoring of photography courses can be comprehensively understood. Then, an optimization path with universality and replicability can be extracted to promote the continuous improvement of the quality monitoring system of photography courses in vocational colleges.

4.4. Policy and Management Innovation

In the innovation process of the quality monitoring system for photography courses in vocational colleges, policy and management innovations play a crucial leading and guaranteeing role. The proposal of the hierarchical and classified monitoring strategy precisely aligns with the different training objectives of secondary vocational schools and higher vocational colleges. Secondary vocational education places greater emphasis on students' solid mastery of basic skills. Therefore, in the design of quality monitoring indicators, it focuses more on technical proficiency. Through quantitative indicators such as the completion rate of specific shooting tasks and the compliance rate of technical indicators of works, it ensures that students have a solid foundation in photography. Higher vocational education aims to cultivate applied talents with comprehensive qualities and innovative abilities. The monitoring indicators focus on creativity and management capabilities, such as the creativity of students' works, project planning and organization abilities, etc. This gradient indicator design enables education at different levels to be targeted and enhances the accuracy of talent cultivation.

The formulation of a standardized framework is also an important part. In view of the characteristics of "strong practicality and high subjectivity in evaluation" of art courses in vocational colleges, it is of great significance to formulate the "Quality Monitoring Guidelines for Photography Courses". This guideline provides a unified and standardized standard for the quality monitoring of photography courses, covering all aspects such as the setting of teaching objectives, the arrangement of teaching content, the selection of teaching methods, and the application of evaluation methods, filling the gap in the quality monitoring system of such courses. It helps to standardize the teaching and management of photography courses in vocational colleges, ensuring that different schools and teachers follow unified standards during the course implementation process, improving the overall teaching quality, and promoting the healthy development of the photography education cause.

5. Conclusions

This paper focuses on the construction and implementation of the quality monitoring system for photography courses in vocational colleges, and systematically analyzes its theoretical basis, core elements and implementation steps. By deeply exploring the challenges and difficulties faced in the practical process, the path to improve the evaluation and feedback mechanism was proposed, and the necessity of continuous improvement in the teaching process was emphasized. The research innovatively constructed a "three-dimensional integrated" monitoring model, combining cross-border integration and technological empowerment, and promoted the modern transformation of teaching quality monitoring. The discussions on practical application innovation, the design of

characteristic indicators for vocational education, the innovation of research methods, and the innovation of policies and management have provided specific paths and strategies for the optimization of the quality monitoring system of photography courses in vocational colleges. This article not only provides theoretical support for the quality improvement of photography courses, but also offers referenceable experience for the construction of quality monitoring systems in other professional courses.

References

[1] Deng Guobin, Wang Xianxuan, Shen Ping The Construction and Operation of the Teaching Quality Monitoring System in Higher Vocational Colleges: A Case Study of Guangxi Vocational and Technical College [J] Higher Education Forum,2022(7):81-83.

[2] Wu Ke, Fan Xinyu, Li Wei. Research on the Teaching Quality Monitoring System of Vocational Colleges under the Background of the New Era [J]. Journal of Henan Medical College,2023,35(4):466-468.

[3] Zhang Guoli, Yao Bo. Research on the Construction of the Quality Monitoring System for Practical Teaching in Higher Vocational Colleges Supported by Big Data [J]. Forum of Educational Science,2024(30):32-36.

[4] Wang Rongrong. Reform Approaches of Higher Vocational Photography Course in the New Media Era [J]. Journal of Shanxi University of Finance and Economics, 2022, 44(S02):185-187.

[5] Xia Yumin, Hu Guangyong. Research on the Construction of Teaching Quality Monitoring System in Vocational Undergraduate Colleges Driven by Informatization [J]. Journal of Chuzhou Polytechnic,2023,22(3):1-6.