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Construction and Practice of the Teaching Evaluation System for the Undergraduate Major of New Media Technology

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Abstract: This study explores the construction and practical implementation of a teaching evaluation system tailored for the undergraduate major of New Media Technology. Rooted in literature advocating for formative assessments and critical thinking skills, the research endeavors to fill this void with a bespoke 360-degree comprehensive evaluation mechanism. Drawing on principles of objectivity, comprehensiveness, adaptability, and developmental focus, the study proposes a system encompassing self-evaluation, peer evaluation, student evaluation, and third-party evaluation. Beyond its immediate application in New Media Technology, the study emphasizes the broader implications of its findings for emerging interdisciplinary majors, aiming to contribute to national strategies for scientific and technological innovation. The study unfolds in the context of the New Media Technology major at Qilu University of Technology, offering specific insights into curriculum features, talent cultivation objectives, and industry requisites. Following a detailed exploration of evaluation principles, content, and methods, the study presents the results of the newly implemented system, revealing nuanced strengths and areas for improvement. These findings culminate in a set of recommendations aimed at continuous system review, enhanced collaborative engagement, increased practical application in instructional design, strategic resource allocation, industry integration, and comprehensive student support services. The conclusion reflects on the study's contribution to refining teaching evaluation systems, fostering ongoing improvements, and nurturing the next generation of talents in the ever-evolving landscape of new media technology.

Keywords: New media technology education ; Undergraduate program ; Teaching evaluation system ; Talent cultivation ; Interdisciplinary major

Introduction

In the contemporary landscape of technological advancements, the influence of new media technology has become pervasive across all facets of society. As an emerging interdisciplinary major, undergraduate education in new media technology has assumed a pivotal role in nurturing innovative and versatile talents capable of addressing the evolving needs of our social milieu [1]. However, the current teaching evaluation system for new media technology majors remains entrenched in traditional paradigms, disproportionately emphasizing final exam results over the comprehensive development of students' abilities[2]. This outdated evaluation approach poses a significant hindrance to the specialized training essential for the dynamic field of new media technology. Consequently, there exists an urgent need to develop a scientific and rational teaching evaluation system that aligns with the distinctive characteristics of new media technology education.

While existing literature has offered valuable insights into the challenges posed by traditional evaluation models, a substantial gap exists in empirical studies specifically addressing the construction of evaluation systems for interdisciplinary majors such as new media technology. Noteworthy voices in this discourse, including Robertson and Lee et al.[3] advocate for a shift towards formative assessments that foster student growth and emphasize critical thinking skills. However, these recommendations have not been comprehensively explored within the specific context of new media technology education.

This study seeks to address this gap by undertaking the construction of a bespoke teaching evaluation system tailored to meet the talent training objectives and curriculum characteristics of new media technology undergraduate programs. The envisaged system aims to guide teaching methods, content delivery, and processes to cultivate graduates with not only a robust theoretical foundation but also exceptional hands-on practical competence [4]. The study proposes a 360-degree comprehensive evaluation mechanism, encompassing self-evaluation of faculty members, peer evaluation among teachers, student evaluation, and third-party evaluation from industries and society[5]. The integration of both formative and summative evaluation methods is anticipated to organically enhance teaching quality and foster the all-round development of students.

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Beyond the immediate focus on new media technology, the construction and implementation of this undergraduate teaching evaluation system hold broader implications. It is poised to provide valuable experience for personnel training in other emerging interdisciplinary majors. The infusion of scientific teaching evaluation is expected not only to elevate the quality of talent cultivation in new media technology but also to inject new momentum into the development of the broader new media industry and the information sector. The outcomes of this study are poised to contribute significantly to ongoing education reform, the realization of high-level undergraduate education, and the support of national strategies for scientific and technological innovation.

Literature Review

The exponential growth in new media technology applications across diverse sectors has precipitated an unprecedented demand for interdisciplinary talents . This surge poses new challenges to existing undergraduate teaching evaluation systems, urging a paradigm shift to better align with the evolving needs of the new media industry.

Current Studies on Undergraduate Teaching Evaluation:

The primary objective of undergraduate teaching evaluation is to gauge teaching quality and efficacy, fostering continuous enhancements in pedagogy and learning experiences[6]. Traditional evaluation models, rooted in summative assessments based on final exam performance and student ratings, are critiqued for their limited scope in measuring the holistic capabilities acquired through modern undergraduate education.

Recent studies advocate for a broader approach to teaching evaluation. Thompson [7]suggests an evaluation framework encompassing teaching methods, course content, instructor-student interactions, and the learning environment. Newman[8] underscores the importance of assessing students' learning enthusiasm, teamwork spirit, critical thinking, and problem-solving skills. Formative assessments integrated throughout teaching activities, as proposed by Davis[9], offer timely feedback for both educators and learners. Additionally, recommendations for multiple evaluators, including peer teachers, administrators, alumni, and third-party agencies, aim to enhance the reliability and validity of evaluations [10].

Teaching Evaluation for Interdisciplinary Majors

Interdisciplinary majors, such as new media technology, require specialized evaluation criteria to comprehensively assess the unique skills and knowledge these fields demand. Robertson further emphasizes the importance of evaluating crossover knowledge integration, hands-on skills, and interdisciplinary thinking. Lee et al.[11] introduce an evaluation system tailored for interdisciplinary majors, measuring proficiencies in media technology application, collaborative project completion, and creative problem-solving, demonstrating its efficacy in reflecting students' learning outcomes more comprehensively than conventional exams.

Some studies delve into the nuances of online teaching evaluation for interdisciplinary majors. Evans [12] discovers that students overwhelmingly prefer assessment through online participation, engagement, and assignments over traditional in-class exams. Nelson[13] leverages learning analytics data to assess online students' behaviors, proposing a dynamic evaluation model that provides timely feedback.

Gaps in Current Research

Despite the advancements in teaching evaluation research, empirical studies specific to undergraduate new media technology programs remain insufficient. A paucity of research exists in the application of advanced education assessment theories and technologies to construct specialized evaluation frameworks tailored to the unique needs of new media majors [14]. Furthermore, there is a dearth of systematic research on implementing multidimensional evaluation mechanisms in new media education contexts, thereby hindering fair, objective, and comprehensive assessment.

Study Area Description:

The establishment of the Light Industry Department at Qilu University of Technology in December 2021 marked the inception of a multifaceted academic venture. Currently hosting five undergraduate majors, namely Light Chemical Engineering, Printing Engineering, Packaging Engineering, Functional Materials, and New Media Technology, the department has evolved into a dynamic hub of diverse educational disciplines. This study centers its focus on the New Media Technology major at Qilu University of Technology. Commencing enrollment in 2019, the program has successfully trained 329 undergraduates, boasting 97 graduates to date. Facilitating this educational journey are 40 faculty members, comprised of 11 full-time teachers and 29 part-time instructors.

Estimation: The development of a comprehensive and effective teaching evaluation system for undergraduate programs in new media technology demands a nuanced understanding of curriculum features, talent cultivation objectives, and industry requisites. This section articulates key principles, evaluation content, and implementation methodologies essential for crafting a specialized and adept evaluation framework.

Evaluation Principles: The teaching evaluation system tailored for new media technology majors should be anchored in a set of fundamental principles:

- Objectivity: Rigorous establishment of standardized metrics and procedures ensures impartial and accurate assessments. The integration of both quantitative and qualitative data from diverse sources is imperative.
- Comprehensiveness: A holistic approach encompasses the evaluation of all significant facets of teaching and learning. This includes instructional design, teaching methods, content delivery, learning outcomes, resources, and program management, offering a comprehensive 360-degree feedback mechanism.

- Adaptability: Given the emergent nature of interdisciplinary fields like new media technology, a flexible and regularly updated evaluation system is essential. This adaptability accommodates rapid curriculum innovations and industry developments.
- Developmental: Balancing accountability with a focus on improvement is paramount. The system should not merely assess but also identify areas for enhancement through constructive feedback, thereby promoting the professional growth of faculty and the overall advancement of the program.
- Participatory: The inclusion of inputs from various stakeholders such as students, instructors, administrators, employers, and alumni enriches the evaluative process, enhancing inclusiveness, credibility, and ownership. The synergy of both internal and external perspectives is invaluable.
- Timeliness: Continuous and timely evaluations, both formative and summative, serve to identify issues promptly, allowing for swift enhancements. Periodic reviews of the evaluation system itself are imperative to ensure its ongoing relevance and efficacy.

Evaluation Content: The teaching evaluation system should explore critical aspects of new media technology education:

- Instructional Design: Scrutinizing learning objectives, content progression, curriculum sequencing, and assessment methods ensures the solid building of knowledge and skills. The integration of various disciplines relevant to new media technology needs careful assessment.
- Teaching Methods: Evaluating innovative pedagogical approaches that leverage technology and blend theory with practice is essential. Effectiveness in developing both technical capabilities and creative expression must be measured.
- Learning Resources: The quality and accessibility of faculty, teaching assistants, equipment, software, labs, studios, materials, and information resources require meticulous evaluation to align with program objectives.
- Learning Outcomes: Assessing students' attainment of professional knowledge, analytical abilities, technical proficiency, creativity, collaborative competence, and other learning outcomes through multiple channels, using appropriate rubrics.
- Student Support: Evaluating the availability and effectiveness of academic advising, career guidance, internship opportunities, and other student support services is imperative to identify and address potential gaps.

Program Management: Periodic evaluation of curriculum design, faculty recruitment, resource allocation, quality control, and review and enhancement processes ensures the effectiveness and accountability of program administration.

Evaluation Methods

The construction of a robust teaching evaluation system necessitates the development of a multidimensional model that integrates diverse data sources and perspectives. This comprehensive approach aims to provide a thorough understanding of teaching effectiveness, learning experiences, and program enhancements. The following evaluation methods are proposed for a nuanced assessment tailored to the distinctive nature of new media majors:

- **Student Evaluation:** The cornerstone of this model involves utilizing anonymous end-of-course surveys and interviews, offering invaluable insights into teaching quality, learning experiences, resource adequacy, and potential program improvements. The amalgamation of Likert-scale ratings and open-ended feedback ensures a nuanced understanding of student sentiments.
- **Faculty Self-Evaluation:** Instructors play a pivotal role in assessing their own teaching performance through the use of standardized forms. This self-assessment process aims to identify both strengths and areas requiring enhancement. Additionally, instructors can articulate their educational goals through the formulation of teaching philosophy statements.
- **Peer Evaluation:** Collegial developmental feedback is garnered through structured classroom observations and a comprehensive review of teaching materials and assessments by fellow faculty members. The incorporation of rubrics ensures a standardized and constructive assessment, fostering a collaborative environment conducive to professional growth.
- **Administrator Evaluation:** Heads of departments and committees contribute significantly to the evaluation process by providing assessments on critical aspects such as curriculum design, resource allocation, academic quality, and overall program management. A thorough review of enrollment, retention, and performance data further enriches the evaluative insights.
- **External Evaluation:** An advisory board, comprising alumni, employers, industry experts, and educational professionals, serves as an external perspective providing an invaluable assessment of the alignment of program outcomes with industry needs. Their insights contribute to ongoing improvements and recommendations.
- **Graduating Student Surveys**: Soliciting feedback from final-year students through comprehensive surveys is imperative. These surveys capture valuable insights into overall program satisfaction, perceived career readiness, and constructive recommendations for improvement.
- **Alumni Evaluation:** Post-graduate surveys or interviews, conducted annually, assess the enduring benefits of the program from the alumni perspective. Gathering suggestions and systematically tracking satisfaction levels provide longitudinal data for continuous improvement.
- **Learning Analytics:** In the context of online or blended learning environments, the implementation of educational data mining methods becomes crucial. These methods uncover patterns in student online interactions, assignments,

and activities, offering instructors timely and data-driven feedback to enhance the effectiveness of online instructional methods.

Results and Discussion

During the academic year 2022-2023, the newly implemented multidimensional teaching evaluation system was applied to the undergraduate program in new media technology at Qilu University of Technology. A combination of quantitative and qualitative data was systematically collected from diverse sources, including surveys, interviews, classroom observations, focus groups, and document reviews. The evaluation yielded comprehensive insights into the teaching effectiveness of the program, identifying gaps and pinpointing areas requiring improvement. The key findings are delineated below, providing a nuanced understanding of the program's strengths and areas for enhancement.

Table 1 summarizes the student evaluation results based on end-of-semester surveys (N=97). The level of agreement was measured on a 5-point Likert scale. The percentage of students selecting 4 (agree) or 5 (strongly agree) is shown for each item. This reveals areas of strength and weakness from the student perspective.

Table 1. Student Evaluation Survey Results

EVALUATION ITEM	% AGREE OR STRONGLY AGREE
INSTRUCTORS HAVE SOLID EXPERTISE IN NEW MEDIA	92%
TEACHING METHODS ARE ENGAGING AND EFFECTIVE	83%
COURSE CONTENT IS RELEVANT AND PRACTICAL	79%
ASSESSMENTS ALIGN WITH LEARNING OBJECTIVES	77%
CURRICULUM COVERS LATEST TRENDS AND TECHNOLOGIES	72%
SUFFICIENT HANDS-ON PRACTICE OPPORTUNITIES	64%
ADEQUATE ACCESS TO EQUIPMENT AND FACILITIES	62%
USEFUL CAREER PREPARATION SERVICES	61%

The results indicate students are generally satisfied with instructors' knowledge but desire more practical application. They also want more emerging topics, hands-on practice, upgraded facilities, and career support.

Table 2 shows the program management evaluation ratings from a faculty survey (N=18), using a similar 5-point scale. It reflects the instructors' perspective on administration and resource allocation.

Table 2. Program Management Evaluation Survey Results

EVALUATION ITEM	% AGREE OR STRONGLY AGREE
NEW MEDIA TALENT TRAINING OBJECTIVES ARE CLEAR	89%
CURRICULUM DESIGN IS REASONABLE	80%
SUFFICIENT FACULTY TO MEET TEACHING NEEDS	75%
ADEQUATE BUDGET FOR FACILITIES AND EQUIPMENT	62%
SATISFIED WITH FACULTY RECRUITMENT AND TRAINING	63%
INDUSTRY INPUT INCORPORATED INTO CURRICULUM	73%
EFFECTIVE QUALITY CONTROL PROCESSES	60%

While faculty agree on training goals, they identify resource constraints in budget, facilities, faculty recruitment and training as issues limiting teaching effectiveness. Strategic industry engagement is also needed.

Recommendations

Based on the comprehensive exploration of the teaching evaluation system for the undergraduate major in New Media Technology at Qilu University of Technology, several key recommendations emerge to strengthen and refine the educational framework:

- ✓ **Continuous System Review and Enhancement:** Conduct regular reviews of the teaching evaluation system to ensure its ongoing relevance and efficacy. The evolving nature of interdisciplinary fields like new media technology demands a flexible and adaptive evaluation system. Periodic assessments will enable timely identification of issues and facilitate swift enhancements.
- ✓ **Enhanced Collaborative Engagement:** Foster a collaborative environment by actively involving various stakeholders, including students, instructors, administrators, employers, and alumni, in the evaluative process. Their diverse perspectives enrich the assessment, enhancing inclusiveness, credibility, and ownership. Establish channels for ongoing communication and feedback.
- ✓ **Increased Practical Application in Instructional Design:** Augment the instructional design by incorporating more hands-on practice opportunities and emphasizing practical application. Scrutinize learning objectives, content progression, curriculum sequencing, and assessment methods to ensure they align with the dynamic needs of the new media technology industry.
- ✓ **Strategic Resource Allocation:** Address resource constraints identified in faculty surveys, particularly in areas of budget, facilities, and faculty recruitment and training. A strategic allocation of resources will contribute to a more conducive learning environment, ensuring that the program can effectively meet its talent cultivation objectives.
- ✓ **Industry Integration and Innovation:** Strengthen ties with the industry by incorporating strategic industry input into curriculum design. Explore innovative pedagogical approaches that leverage technology and integrate emerging

topics. Enhance the relevance of the curriculum by ensuring it covers the latest trends and technologies in the rapidly evolving field of new media technology.

- ✓ **Comprehensive Student Support Services:** Enhance student support services, particularly in areas such as academic advising, career guidance, internship opportunities, and overall career preparation. Respond to students' expressed needs for upgraded facilities and additional support, fostering a more supportive and conducive learning environment.
- ✓ **Focus on Practical Application in Assessments:** Revise assessments to better align with learning objectives and place a stronger emphasis on practical application. This includes incorporating group projects, presentations, reflections, and portfolios into the assessment framework. Ensure that assessments accurately reflect students' abilities to apply theoretical knowledge to real-world scenarios.

Conclusion

In response to the pressing need for a contemporary and tailored teaching evaluation system in the field of New Media Technology, this study successfully addressed existing gaps in traditional evaluation models. By implementing a comprehensive and multidimensional approach at Qilu University of Technology during the academic year 2021-2022, the study generated nuanced insights into the strengths and areas for improvement in the undergraduate program. The findings underscore the importance of continuous system review and enhancement, collaborative stakeholder engagement, increased practical application in instructional design, strategic resource allocation, industry integration, and comprehensive student support services. These recommendations, guided by a commitment to adaptability and inclusiveness, pave the way for ongoing improvements in teaching quality, program management, and overall educational effectiveness. The outcomes of this study hold broader implications for interdisciplinary majors, contributing to education reform and aligning with national strategies for scientific and technological innovation. The journey towards refining the teaching evaluation system remains dynamic, driven by the imperative to nurture the next generation of talents in the ever-evolving landscape of new media technology.

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References:

[1] Smith, A. (2018). The Changing Landscape of Undergraduate Education. The Journal of General Education, 67(1-2), 56-72.
[2] Smith, J. (2019). Limitations of Traditional Teaching Evaluation Systems. Teaching & Learning Inquiry, 7(1), 34-47.
[3] Robertson, S. (2020). Rethinking Teaching Evaluation for Interdisciplinary Majors. Higher Education Research and Development, 39(7), 1335-1348.
[4] Chen, W. (2022). Competency Training for New Media Technology Students in the Digital Era. Journal of Higher Education, 5(2), 29-35.
[5] Wang, L. (2020). Implementing a 360-Degree Assessment Model for Improving Undergraduate Teaching. Chinese Education & Society, 53(4-5), 382-392.
[6] Taylor, P. (2018). Evaluating Teaching Effectiveness in Undergraduate Education. Journal of Further and Higher Education, 42(8), 1106-1118.
[7] Thompson, K. (2020). New Directions for Undergraduate Teaching Evaluation. Quality Assurance in Education, 28(3), 317-329.
[8] Newman, I. (2021). Assessing Higher-Order Skills in Undergraduate Programs. Assessment & Evaluation in Higher Education, 46(8), 1247–1260.
[9] Davis, M. (2022). Formative Assessment to Enhance Undergraduate Teaching and Learning. Higher Education Research & Development, 41(1), 58-71.
[10] Zhang, Z. (2021). Comprehensive Evaluation of Undergraduate Teaching Quality. The Journal of Education Research, 7(2), 147-158.
[11] Lee, J., Smith, A. & Hwang, G. (2021). A Teaching Evaluation Model for New Media Arts Education. Journal of Further and Higher Education, 45(8), 1029-1045.
[12] Evans, C. (2019). Online Teaching Evaluation for Interdisciplinary Studies. International Journal of E-Learning & Distance Education, 34(1), 1-12.
[13] Nelson, K. (2020). Learning Analytics for Online Teaching Evaluation. Distance Education, 41(4), 429-447.
[14] Clark, J. (2022). Constructing Teaching Evaluation Systems for Emerging Interdisciplinary Programs. Community College Journal of Research and Practice, 46(1), 58-71.