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# Construction and Application of a Dual-Dimension Quality-Traffic Evaluation System in Short Video Production Courses for Tourism Management Majors

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**Abstract:** Against the backdrop of accelerated digital transformation in the cultural and tourism industry, tourism management programs face an increasingly urgent need to cultivate students' comprehensive competencies in short video production and new media operations. Traditional course evaluation systems prioritize quality over traffic and results over process. The limitations no longer meet modern industry talent development standards. This study utilizes the Douyin platform and adopts the Delphi method to construct a Quality-Traffic dual-dimension course evaluation system. A comparative study was conducted between an experimental class (dual-dimension evaluation) and a control class (single-dimension evaluation) to validate its effectiveness. Findings indicate that the experimental class achieved significantly higher average final assignment scores than the control class. The experimental class also demonstrated higher rates of excellent and good grades across all assessments. Additionally, experimental class students reported significantly higher mean scores than the control class in learning motivation, perceived operational capabilities, and satisfaction with the evaluation system. In conclusion, this evaluation system achieves a dual orientation toward production capabilities and operational capabilities, providing a practical reference for the reform of similar course evaluations in tourism management programs.

**Keywords:** Tourism Management; Dual-dimension evaluation system; Short video production courses; Course teaching reform

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## 1. Introduction

### 1.1. Research background

Short videos have become a core medium for promoting cultural and tourism resources and converting destination traffic<sup>[1-3]</sup>. As a core practical course bridging professional talent development goals and industry job requirements, *New Media Operations and Short Video Production* bears the crucial responsibility of enhancing students' content creation capabilities and new media operational literacy. However, current course evaluations exhibit significant limitations: most universities still adhere to traditional models, focusing evaluation on technical metrics such as camera techniques and editing fluidity while neglecting the core new media concepts of traffic-oriented thinking and market effectiveness. Evaluation criteria remain ambiguous and lack quantitative foundations, failing to objectively reflect students'

comprehensive competencies while fostering a cognitive bias toward “prioritizing production over operations.” This disconnect results in works that diverge from the actual needs of the cultural tourism industry, with weak operational awareness emerging as a prominent issue. There is an urgent need to establish a diversified evaluation system tailored to industry characteristics.

## 1.2. Research questions

Against this backdrop, this study addresses three core questions: (1) How can a dual-dimension quality-traffic evaluation system be developed for the tourism management course *New Media Operations and Short Video Production* tailored to the Douyin platform? (2) What are the application effects of this dual-dimension evaluation system in enhancing students’ short video production quality and operational capabilities? (3) What differences exist between the dual-dimension evaluation system and traditional single-dimension quality-oriented systems in teaching effectiveness, and what are the advantages of the former?

## 1.3. Research significance

This study breaks through the limitations of single-dimension evaluation in traditional applied tourism management courses by establishing a dual-dimension quality-traffic integrated assessment framework, thereby expanding the research perspective on course evaluation. By incorporating operational behavior indicators, it achieves a dual orientation of “outcome + process”. It provides an implementable evaluation scheme by clarifying indicator definitions, grading criteria, and scoring rules, thereby reducing evaluator subjectivity. Furthermore, by guiding students to focus on the traffic dimension, this study fosters an operational mindset and enhances their core competitiveness for new media positions in the cultural and tourism industry.

## 1.4. Literature review

Domestic research primarily focuses on new media course teaching practices and single-dimension evaluation system. Rui and Zhong concentrate on innovative teaching methods for short video production courses, validating the effectiveness of project-based learning and flipped classrooms in enhancing students’ production skills, but do not address the optimization of evaluation systems<sup>[4,5]</sup>. Yan and Shan mention diversified evaluation frameworks but fail to refine indicators for cultural tourism contexts<sup>[6,7]</sup>. Zhou examines dissemination characteristics and strategies for cultural tourism short videos while overlooking the guiding role of course evaluation in content creation and operational capabilities development<sup>[8]</sup>. International research centers on industry-demand orientation, emphasizing the alignment between new media courses and professional roles. For instance, Faulds and Guo developed diversified course evaluation systems, but these are primarily designed for media majors<sup>[9,10]</sup>. They lack consideration for non-media disciplines such as tourism management and fail to focus on the unique attributes of cultural tourism short videos, making them difficult to directly apply to relevant courses in universities. In summary, existing research either remains confined to single evaluation dimensions or ignores the specificity of cultural tourism contexts and students’ disciplinary backgrounds. A course evaluation framework that integrates quality-traffic and is tailored to tourism management programs has not yet been fully established.

## 2. Research design

### 2.1. Research participants

A total of 60 students majoring in tourism management from two classes were selected as participants, with 30 students in each class. The experimental class adopted a dual-dimension evaluation system, while the control class utilized a traditional single-dimension quality evaluation system. Prior to the intervention, neither class had received formal instruction in short video production or new media operations. The experiment was conducted by the same instructor, adhering to an identical curriculum and class schedule. All participants were required to use newly registered Douyin accounts for course-related activities.

## 2.2. Methods

### 2.2.1. Delphi method

The Delphi method was employed for indicator selection, weight determination, and grading standard optimization in the dual-dimension evaluation system. A six-member expert panel was established, consisting of three core faculty members from the tourism management program and three new media industry practitioners. The consultation process included two rounds. In Round 1, a draft evaluation system was distributed, covering the preliminarily designed quality dimension (3 secondary indicators), traffic dimension (3 secondary indicators), and corresponding grading criteria. Experts were invited to provide feedback on the rationality of indicators, clarity of grading standards, and appropriateness of weighting, so as to refine indicator definitions and framework structure. In Round 2, the revised draft was distributed. Experts rated the importance of each indicator on a 1–5 Likert scale (5 = extremely important) and put forward further suggestions for improving the grading criteria.

### 2.2.2. Comparative analysis method

A comparative analysis method was adopted to verify the effectiveness of the dual-dimension evaluation system by comparing the experimental class and the control class. The experimental class used a Quality-Traffic dual-dimension scoring mechanism (60% quality dimension + 40% traffic dimension), while the control class was evaluated solely on the quality dimension (100%). The practical effectiveness of the system was assessed through comparative analysis of scores from phased assignments and final examinations, as well as evaluations of students' competency performance.

### 2.2.3. Questionnaire survey method

A 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) was adopted to design a questionnaire comprising 12 items across three dimensions, namely learning motivation, perceived skill improvement, and satisfaction with the evaluation system (**Table 1**). A total of 60 questionnaires were distributed upon course completion, and 58 valid responses were retrieved, yielding an effective response rate of 96.7%.

**Table 1.** Questionnaire item design

Dimension	Item Content
Learning Motivation	Dual-dimension assessment (experimental class)/Single-dimension quality assessment (control class) makes me more motivated to engage in coursework. I proactively adjust my learning focus to enhance work quality/traffic performance (experimental class). The evaluation system's focus has made me pay more attention to the core value of cultural tourism short videos (e.g., dissemination, practicality). I am willing to invest extra study time to meet evaluation standards (e.g., learning operational skills, optimizing production).
Perceived Skill Improvement	Through the course, my cultural tourism short video production skills (shooting, editing) have been significantly improved. Through the course, my cultural tourism short video operational capabilities (promotion, engagement) have been significantly improved (Required for Experimental Class; optional for Control Class). Course learning has made me better suited to meet the competency requirements for new media roles in the cultural and tourism industry.
Satisfaction with the Evaluation System	I clearly understand the indicators and scoring rules of the evaluation system. The evaluation system's metrics comprehensively cover the core competency requirements of the course. The scoring rules of the evaluation system are fair and reasonable, with no apparent bias. The collection and verification process for traffic data (experimental class)/quality scores (control class) is standardized and reliable. Overall, I acknowledge the evaluation system's guiding role in course learning.

## 2.3. Implementation process

### 2.3.1. Preparation phase (Weeks 1-4)

The dual-dimension evaluation system was introduced to students, who were guided to register new Douyin accounts (with usernames reflecting cultural tourism attributes). Standardized evaluation forms and the “Douyin Operation Log” template were distributed; content themes (including local scenic spot check-ins, food spot check-ins, and intangible cultural heritage promotion, etc.) and data submission requirements were clearly specified.

### 2.3.2. Phased implementation stage (Weeks 5–14)

Two phased assignments and one final comprehensive assignment were assigned, with each assignment focusing on the same cultural tourism theme and having a 7-day operation period. After each assignment, instructors scored the works in accordance with the established evaluation system: the experimental class adopted the dual-dimension scoring method, while the control class used the single quality-dimension scoring method. Subsequent to the phased evaluations, tailored feedback was provided to address students’ weaknesses and deficiencies.

### 2.3.3. System optimization phase (Weeks 15–16)

Performance data, Douyin traffic metrics, and questionnaire survey responses from both groups were collected to evaluate the effectiveness of the established assessment system. Existing problems and deficiencies in the system were identified, and targeted optimization recommendations were proposed accordingly.

## 3. Results

### 3.1. Dual-dimension evaluation system

Based on two rounds of Delphi consultations, the final evaluation indicators and weights were determined. The total score was 100 points, distributed as follows: the Quality Dimension accounts for 60 points, comprising Content Strategy (20 points), Creativity and Narrative (20 points), and Production Technique and Aesthetics (20 points); the Traffic Dimension accounts for 40 points, comprising Views (15 points), Engagement Rate (15 points), and Operational Activities (10 points). The definitions of the indicators and the quantitative standards are detailed in **Table 2**.

**Table 2.** Dual-dimension indicator definitions and quantitative standards

Primary Indicator	Secondary Indicators	Indicator Definition	Quantification Standards
Quality Dimension (60 points)	Content Strategy (20 points)	1.Alignment with Cultural Tourism Themes	Excellent (18-20 points): Closely aligned with cultural tourism core, precise positioning, rich valuable information Good (16-17 points): Relevant to theme, relatively clear positioning, possesses some value
		2.Clarity of Target Audience	Average (14-15 points): Generally aligns with theme, positioning is vague, value is average
		3.Content Practicality and Dissemination Value	Passing (12-13 points): Partially deviates from theme, lacks clear positioning Fail (0-11 points): Severely deviates from the theme
	Creativity and Narrative (20 points)	1.Uniqueness of Creative Concept	Excellent (18-20 points): Novel concept, logical flow, seamless integration
		2.Narrative Logical Coherence	Good (16-17 points): Clear concept, logical flow, relatively natural integration
		3.Natural Integration of Cultural Tourism Elements	Average (14-15 points): Mediocre creativity, generally coherent logic Passing (12-13 points): Lacking creativity, occasional logical confusion Fail (0-11 points): No creativity, illogical

**Table 2 (Continued)**

Primary Indicator	Secondary Indicators	Indicator Definition	Quantification Standards
	Production Technique and Aesthetics (20 points)	1.Camera Stability 2.Editing Fluidity 3.Music and Subtitle Alignment	Excellent (18-20 points): Steady shooting, smooth editing, excellent compatibility Good (16-17 points): Relatively stable, smooth editing, fairly good compatibility Average (14-15 points): Generally stable with no major flaws Passable (12-13 points): Occasional shaking, stuttering, or minor flaws Fail (0-11 points): Severe shaking, chaotic editing
Traffic Dimension (40 points)	View Count (15 points)	Cumulative views over 7 days for Douyin videos, benchmarked against the average score of the experimental class for that assignment	Excellent (15 points): >150% of average Good (13-14 points): 120%-150% Average (11-12 points): 100%-119% Passing (9-10 points): 80%-99% Fail (0-8 points): <80%
	Interaction Rate (15 points)	(Likes + Comments + Shares + Saves) / Views × 100% (7-day data)	Excellent (15 points): ≥3% Good (13-14 points): 2%-2.9% Average (11-12 points): 1%-1.9% Passing (9-10 points): 0.5%-0.9% Failing (0-8 points): <0.5%
	Operational Behavior (10 points)	Evaluated based on the Douyin Operation Log, covering strategic rationality, promotion channel diversity, and response timeliness.	Excellent (9-10 points): Precise strategy, ≥3 channels, ≥80% response rate Good (7-8 points): Clear strategy, 2 channels, response rate 50%-79% Average (5-6 points): Vague strategy, 1 channel, response rate 20%-49% Passing (3-4 points): No strategy, 1 channel, response rate < 20% Fail (0-2 points): No operational promotion

### 3.2. Comparative analysis of student performance across stages

As shown in **Table 3**, both the experimental and control groups exhibited an upward trend in average scores, peaking in the final assignment. The experimental group demonstrated a greater increase than the control group. An independent sample t-test of student scores revealed no significant difference between the experimental and control groups in the first and second phased assignments. However, a significant difference emerged in the final assignment scores, indicating that as the evaluation system progressed, the performance gap widened, with the experimental group's enhanced capabilities becoming increasingly evident. Furthermore, the experimental class achieved higher rates of excellent and good grades than the control class in all phase assignments and the final assignment. Specifically, the experimental class's excellent and good rate in the final assignment (80%) was significantly higher than that of the control class (60%), indicating that the dual-dimension evaluation system positively contributes to academic improvement.

**Table 3.** Student performance by phase

Assignment Type	Grouping	Mean	Standard Deviation	t	p	Excellent Rate (>80 points)
Midterm Assignment 1	Experimental Class	75.77	5.710	-0.167	0.868	36.67%
	Control Class	76	5.097			26.67%
Midterm Assignment 2	Experimental Class	79	5.639	0.751	0.455	56.67%
	Control Class	78	4.620			40%
Final Assignment	Experimental Class	83	4.906	3.258	0.002	80%
	Control Class	79.28	3.883			60%

### 3.3. Correlation analysis of quality dimension and traffic dimension scores in the experimental Class

Pearson correlation analysis of final assignment scores showed a significant positive correlation between the quality dimension and traffic dimension in the experimental class, with a correlation coefficient of  $r = 0.850$ . This result indicates that high-quality short video content is more likely to generate high traffic. It also demonstrates the internal consistency of the indicator design in the dual-dimensional evaluation system.

**Table 4.** Correlation analysis between quality and traffic dimension scores in final assignment

		Quality Dimension Score	Traffic Dimension Score
Quality Dimension Score	Pearson Correlation	1	0.850**
	Significance (two-tailed)		0
	N	30	30
	Bootstrap		
	Deviation	0	-0.013
	Standard Error	0	0.069
	BCa 95% Confidence Interval		
	Lower Bound	.	0.692
	Upper Bound	.	0.934

### 3.4. Post-course questionnaire results

Independent samples t-tests were conducted to compare the two groups across three dimensions upon course completion. The results indicated that the experimental group scored significantly higher than the control group on all three dimensions ( $p < 0.001$ ). Specifically, students in the experimental group exhibited the highest level of agreement with items such as “Dual-dimension assessment makes me more motivated to engage in coursework.” “Through the course, my cultural tourism short video operational capabilities (promotion, engagement) have been significantly improved.” and “The scoring rules of the evaluation system are fair and reasonable, with no apparent bias.” These findings collectively suggest that the dual-dimension evaluation system effectively stimulated students’ learning initiative, enhanced their practical operational competencies, and garnered widespread recognition in terms of perceived fairness and effectiveness.

**Table 5.** Post-course questionnaire results

Dimension	Grouping	Mean	Standard Deviation	<i>t</i>	<i>p</i>
Learning Motivation	Experimental Class	4.267	0.469	7.072	0.000
	Control Class	3.150	0.727		
Perceived Skill Enhancement	Experimental Class	4.178	0.538	7.396	0.000
	Control Class	3.133	0.557		
Evaluation System Satisfaction	Experimental Class	4.227	0.413	8.746	0.000
	Control Class	3.220	0.477		

Meanwhile, experimental class students reported: “The dual-dimension evaluation made me realize that short videos require not only quality production but also effective promotion. I began proactively researching Douyin hashtags and local recommendation algorithms.” “The operational log requirement cultivated my habit of planning strategies, eliminating blind content posting.” Control class students, however, stated: “We focused solely on production quality

without understanding how our work performed on real platforms, lacking practical feedback.”

## **4. Conclusion**

### **4.1. The dual-dimension evaluation system’s impact on enhancing students’ comprehensive competencies**

Research findings indicate that end-of-term assignment outperformed interim assignments, demonstrating students’ gradual mastery of the Douyin platform operation logic and techniques. The dual-dimension evaluation system significantly enhanced students’ comprehensive abilities. In final assignment, significant performance differences emerged between the experimental ( $83 \pm 4.906$ ) and control groups ( $79.28 \pm 3.883$ ), with experimental students showing markedly greater skill improvement. Questionnaire surveys revealed the experimental group’s average motivation score ( $4.267 \pm 0.469$ ) significantly exceeded the control group’s ( $3.150 \pm 0.727$ ). The sense of achievement derived from traffic feedback effectively stimulated students’ learning initiative.

### **4.2. Distinctive advantages over traditional evaluation systems**

The advantages of the dual-dimension evaluation system are primarily reflected in its more comprehensive evaluation dimensions, which overcome the limitation of traditional evaluation systems that “prioritize quality over traffic” and better align with industry demands for versatile talents. It also features a more scientific orientation by realizing the dual guidance of “outcome + process” through operational behavior indicators, which can fully reflect students’ comprehensive abilities. In addition, the customized evaluation rules formulated according to the characteristics of the Douyin platform make the evaluation results more practically valuable.

### **4.3. Limitations**

This study is subject to three main limitations. First, it faces sample constraints. The research subjects were limited to 60 students from a single institution, which restricts the generalizability of the findings and requires further validation with larger, more diverse samples. Second, it has temporal limitations. The study only captured short-term effects within the semester and did not explore long-term impacts, such as the operational performance of student accounts 3 to 6 months after the course concluded. Third, it exhibits indicator limitations. Deeper metrics, such as “cultural tourism conversion effectiveness” (e.g., the volume of travel-related inquiries in comments or indicators of product purchase intent), were not incorporated, thereby leaving room for improvement in the depth of the evaluation system.

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## **Disclosure statement**

The author declares no conflict of interest.

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