



The Indicator Development of Professional Competence Assessment of Dance Teachers in Chongqing's Universities, China

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Abstract

Background and Aims: Dance education in China plays a vital role in nurturing professionals and preserving cultural heritage through artistic expression. Chongqing stands out as a key center for dance education with rich resources and innovation. However, globalization and technological advancements present both significant challenges and opportunities for local dance teachers. The objectives of this research were: (1) to investigate the actual status of dance teachers in universities in Chongqing, China, and (2) to develop indicators for assessing the professional competence of dance teachers in these universities.

Materials and Methods: The research was conducted in two phases. The first phase involved examining the current professional competence of dance teachers in universities in Chongqing. Various methods were employed, including literature reviews, questionnaire surveys, in-depth interviews, and classroom observations. The second phase focused on developing an evaluation index system for the professional capabilities of dance teachers in Chongqing universities. Following the principles of systematicity, scientific rigor, specificity, developmental orientation, and practicality, the study employed grounded theory, the Delphi method, factor analysis, and the analytic hierarchy process to construct the evaluation system. It also determined the weight of each indicator level and established the scoring methods.

Results: The research findings revealed the following: 1. The structure of dance teacher teams in Chongqing universities varied by university type. Comprehensive and vocational colleges accounted for a larger proportion and had a majority of young teachers. Significant differences existed in educational backgrounds among teachers from different university types. In terms of professional capabilities, while teachers possessed strong traditional teaching skills, they faced challenges in innovative teaching, research ability, and professional identity. Furthermore, the performance of teachers varied across different types of institutions. 2. By constructing an evaluation index system comprising six first-level indicators, 14 second-level indicators, and 36 third-level indicators, the study clarified the importance of each dimension in evaluating teachers' professional capabilities, with the highest weight given to teaching and educational skills. It also developed a percentage-based scoring method and detailed scoring guidelines, dividing the evaluation into five levels. This provided an effective tool for universities to scientifically assess the professional capabilities of dance teachers, thereby supporting the advancement of dance education and faculty development in Chongqing universities.

Conclusion: This research focuses on developing indicators to assess the professional competence of dance teachers in universities in Chongqing, China. The study had two main objectives. First, it aimed to explore the current status of dance teachers in these institutions. Second, it sought to create a set of assessment indicators tailored to their professional capabilities. The findings serve to improve evaluation and development in dance education.

Keywords: Assessment Indicators; Professional Competence; Dance Teacher

Introduction

Within China's higher education framework, dance education serves as a vital platform for nurturing elite dance professionals and advancing the inheritance and innovation of dance culture. Chongqing, as a major cultural center in Southwest China, possesses rich resources and dynamic innovation in dance education at its universities, playing a key role nationally. However, globalization and rapid educational technology developments have placed dance teachers in Chongqing at a critical juncture, presenting both significant challenges and opportunities for growth (Li & Zhang, 2021).

In recent years, dance education in Chongqing's higher education institutions has made notable strides in both scale and quality, with an expanding faculty and improved teaching standards. Yet,

challenges remain. The demands arising from educational internationalization and informatization require teachers to demonstrate not only exceptional dance technique and theoretical knowledge but also innovative pedagogical skills, cross-cultural communication, and technological proficiency. Many teachers, however, still lack sufficient integration of these competencies, limiting further progress and student development (Wang et al., 2020).

Dance as an art form is undergoing diversification and interdisciplinary integration, now entwined with cultural, historical, and social contexts. Consequently, dance educators must combine solid technical skills with broad cultural literacy to effectively cultivate student appreciation for dance's multifaceted value. Meanwhile, advances in educational technology demand that teachers adopt innovative teaching models to improve instructional effectiveness (Chen & Liu, 2019).

Regarding professional development, most Chongqing dance teachers have a good foundation but face obstacles such as outdated teaching philosophies focused narrowly on skill transmission, insufficient pedagogical innovation, and limited use of information technology, which restrict student engagement and creativity. Furthermore, opportunities for ongoing professional training and clear career advancement paths remain limited, constraining teacher growth and innovation capacity (Zhao, 2022).

In conclusion, there is an urgent need for systematic research and the creation of scientific assessment indices to evaluate dance teachers' professional competence in Chongqing universities. Establishing such a framework will allow institutions to objectively assess teacher strengths and weaknesses, enabling targeted training, curriculum enhancement, and better resource allocation. This will elevate both teacher professionalism and the overall quality of dance education, supporting the cultivation of outstanding dance talents aligned with contemporary demands (Sun & Gao, 2023).

Research Objectives

1. To investigate the actual states of dance teachers in Chongqing's universities in China.
2. To develop the indicators for assessment of the professional competence of dance teachers in Chongqing's universities in China.

Literature review

The Development Process of Teachers' Professional Competence

In the 1960s, an international movement emerged focused on elevating teachers' professional status and competence, making teacher professional development a global priority. This movement has persisted as a central issue in teacher education, addressing ongoing challenges and maintaining widespread interest (Day & Sachs, 2004). In 1966, UNESCO and the International Labor Organization jointly issued the Recommendation Concerning the Status of Teachers, which formally defined teachers' professional status and outlined key components of teacher professionalism, including continuous learning and mastery of professional knowledge and skills. This document established a global framework to guide countries in developing teacher training and professional development systems (UNESCO & ILO, 1966).

During the 1970s, many countries developed national strategies to reform teacher education by recognizing teaching as a specialized profession. For example, Japan's Basic Measures for the Comprehensive Expansion and Adjustment of School Education in the Future emphasized the specialized nature of teaching and the importance of enhancing teachers' professional quality to improve educational standards. This policy laid the foundation for Japan's future teacher development initiatives (Takahashi, 2012).

Research on the Constituent Elements of Teachers' Professional Competence

Teachers' professional competence is a fundamental component of modern teacher education, directly influencing teaching quality and student learning outcomes. Improving this competence comprehensively remains a critical issue requiring thorough investigation (Villegas-Reimers, 2003). Scholars have long explored its definition and components, contributing diverse and rich perspectives to theory and practice.

Villegas-Reimers (2003) argued for school-based teacher development models tailored to real teaching contexts and teacher needs. McDiarmid (2008) described teacher competence as comprising professional knowledge, skills, and character. Franziska (2009) identified four key teaching abilities: subject knowledge, instructional methods, teaching diagnostics, and classroom management. Kunter et al. (2013) expanded this by including teaching knowledge, beliefs, motivation, and self-regulation.

Chinese scholars have adapted these international frameworks to local contexts. Early researchers like Zeng Rongguang (1984). Ye Lan (1998) proposed that teacher competence includes professional knowledge, ideals, and abilities aligned with contemporary needs. Lin Chongde (1999) added dimensions like teaching control and professional ideals. Yu Yi (2001) offered a comprehensive model including educational beliefs, extensive knowledge, instructional and classroom skills, adaptability, interpersonal ability, research skills, personal charisma, lifelong learning, and physical-mental health. Zhu Ningbo (2002) categorized competence into educational beliefs, knowledge, and teaching ability. The Ministry of Education in China similarly emphasized professional attitudes, knowledge, and skills in policy guidelines.

More recent Chinese research emphasizes integrating theory and practice. Zhu Xudong (2007) proposed knowledge, skills, and ethics as core domains. Zhang Suling (2015) included knowledge systems, practical skills, research ability, positive emotions, and moral character. Li Guozhen and Pan Honggai (2020) focused on vocational teachers' competence, including social knowledge and psychological health. Qiao Lei (2011) applied Spencer's Competency Iceberg Model to unify professional beliefs, knowledge, and skills into an interrelated system.

Despite variations, most definitions converge on three core elements: professional beliefs and ethics, professional knowledge, and professional skills. This is consistent with China's 2012 Professional Standards for Primary and Secondary School Teachers, indicating a growing consensus in the academic community (China Ministry of Education, 2012).

Research on the Evaluation of Teachers' Professional Competence

Zhou Shuqi (2014), through a comparative study of evaluation systems in Australia, the UK, the US, and New Zealand, analyzed the differences between novice and expert teachers in terms of evaluation competence. The study found that expert teachers possess more comprehensive knowledge structures, integrate knowledge more efficiently, and apply it more flexibly in real teaching scenarios. Based on these findings, Zhou proposed the formulation of targeted professional development standards, the construction of an integrated teacher education system, and the promotion of action research and classroom-based inquiry to support the transition from novice to expert teacher.

Jiang Tao (2018) focused on class teacher standards, employing the Delphi method and consulting a wide range of educational experts to construct a clear, tiered, and comprehensive framework for professional standards. This framework includes three levels: basic standards (student-centeredness, moral education, ability-orientation, and lifelong learning), core standards (classroom management, student guidance, communication and coordination), and ideal standards (professional ethics, instructional skill, professional mentorship, and educational innovation), covering a total of 11 indicators. This structure offers both a benchmark for the professional development of class teachers and a reliable basis for teacher selection, training, and evaluation in primary and secondary education.

In summary, current research on the evaluation of teachers' professional competence shows a trend toward diversification and refinement. Various studies—drawing from different angles and using different methodologies—have contributed significantly to the construction of a scientific, comprehensive, and effective evaluation framework. However, limitations remain. Some evaluation systems still struggle to balance generalizability with contextual relevance, and the dynamic nature of teacher development is often underemphasized in the evaluation process. These challenges warrant further exploration and improvement in future research.

Research on Enhancing Teachers' Professional Competence

Bandura (1997) showed that teachers' self-efficacy significantly influences their professional development. Teachers with high self-efficacy tend to pursue growth opportunities and manage challenges



more effectively, thus enhancing their competence. From a phenomenological viewpoint, Van Manen (1990) demonstrated how teachers' daily lived experiences contribute deeply to their professional identity and development.

Shan Lei (2008) discussed the United States' leadership in teacher education, highlighting its emphasis on the continuity and coherence of pre-service, induction, and in-service teacher education. The U.S. employs strategies such as school-based training, raising academic requirements, implementing certification systems, and designing school-specific professional development plans to enhance teachers' professional competence. These efforts have proven effective and offer valuable models for reform in other educational systems.

In summary, existing research on enhancing teachers' professional competence has made significant progress, establishing systematic theoretical models and offering a broad array of strategies and best practices. However, challenges remain, such as the need to validate findings in cross-cultural contexts and a lack of studies on the synergistic effects of different development strategies. Future research may focus on these areas to further refine the theoretical and practical frameworks for advancing teachers' professional competence.

Research on the Professional Competence of College Dance Teachers

The professional competence of college dance teachers has become a focal point in both domestic and international educational research, reflecting the growing importance of dance education as a specialized field within the arts. Studies have explored various dimensions of this competence, including knowledge systems, teaching practice abilities, artistic accomplishments, and cultural awareness, offering valuable insights for the development of dance education.

Domestic scholars have focused on practical teaching experiences and innovative methods to enhance the professional competence of college dance teachers:

Core Competencies: Du Juan (2016) asserted that college folk dance teachers should possess comprehensive professional knowledge, refined dance skills, strong artistic accomplishment, and effective teaching abilities. These components are interrelated and together form the core of professional competence.

Curriculum Reform: Dong Xun (2018) examined effective strategies for enhancing teaching ability, arguing that actively promoting educational reform enables dance teachers to better meet modern society's evolving expectations for dance education.

Professional Development Activities: Wang Jing (2018) and Li Hua (2019) emphasized the importance of regularly participating in professional development courses, academic conferences, and workshops. Such activities expose teachers to cutting-edge teaching concepts and innovative practices while also providing opportunities for professional dialogue and collaboration.

Reflective Practice: Zhao Yue (2020) advocated for observing exemplary teachers and engaging in internships as effective ways to accumulate teaching experience. Through reflective practice—recording, analyzing, and evaluating their lessons—teachers can identify problems, consolidate experience, and refine their teaching methods.

Interdisciplinary Collaboration: Qian Feng (2021) suggested encouraging collaboration between dance teachers and experts in fields such as psychology, education, and visual arts to explore innovative educational approaches. Strengthening communication with instructors in other art disciplines may also inspire new creativity and promote interdisciplinary integration, contributing to the broader development of arts education.

In conclusion, current research on the professional competence of college dance teachers, both domestically and abroad, has yielded valuable results. These studies offer comprehensive theoretical frameworks and practical recommendations to support teachers' professional development. However, with rapid societal changes and evolving educational paradigms, future research should remain attuned to the demands of the times, broaden its scope and depth, and explore more diverse and effective pathways to strengthen the professional competence of college dance teachers.



Research Methodology

Phase 1: To investigate the actual states of dance teachers in Chongqing's universities in China.

1. Research Tools

CNKI, Wanfang Data, Web of Science (WoS), and Scopus were utilized as the core databases for literature retrieval. These platforms offer a vast array of academic resources, enabling researchers to gain a comprehensive understanding of the current state and cutting-edge developments in this field.

Tool Development

- The Survey on the Current Status of Dance Teachers in Chongqing Universities was designed. The questionnaire included sections on the following aspects:

- Basic Information: Items related to the teachers' affiliated institutions, age, gender, teaching experience, professional titles, educational background, alma mater, and major, and overseas study experiences.

- Educational Background: Questions about when they began systematic dance training and the methods of dance learning before university.

- Continuing Education: Items on the frequency of training attended, content of training, and pathways for acquiring new knowledge.

- Teaching Work: Questions about the courses taught, teaching hours, and difficulties encountered in teaching.

- Professional Development Needs: Items focusing on the professional skills teachers urgently need to improve and the support they expect from their institutions.

2. Data Collection

The databases were searched using precise keywords such as "dance teachers in Chongqing universities," "professional quality of dance teachers," and "teacher professional development" to obtain relevant literature.

During the questionnaire distribution process, both paper-based and electronic versions were used concurrently to increase the response rate and coverage. A total of 80 questionnaires were distributed to dance teachers, and 70 valid responses were collected, resulting in an effective response rate of 87.5%.

3. Data Analysis

The retrieved literature was systematically screened, organized, and deeply analyzed. First, the research content, methods, and conclusions of the literature were summarized to gain a comprehensive understanding of existing research findings, hot topics, and research gaps in the areas of teacher professional quality and dance teacher professional competence. Second, key information related to the professional capabilities of dance teachers in Chongqing universities was extracted to provide a theoretical basis and reference for the subsequent construction of the evaluation system structure.

3.1 Descriptive Statistical Analysis

Descriptive statistics were conducted using SPSS 26.0, including frequency analysis and cross-tabulation. Frequency analysis counted occurrences of various values for each variable, such as the number of teachers by professional title and the frequency of different teaching ability evaluation levels. Cross-tabulation explores relationships between two or more variables, for example, differences in teaching ability dimensions among teachers from different institution types.

3.2 Difference Testing

Independent samples t-tests and ANOVA were applied to determine whether significant differences existed in professional ability dimensions among groups (e.g., teachers from various institutions or with different professional titles). The t-test compared means between two groups, while ANOVA compared means across multiple groups to assess the impact of various factors on teachers' professional abilities.

3.3 Correlation Analysis

Pearson and Spearman correlation coefficients analyzed relationships between variables, investigating associations among dimensions of teachers' professional abilities and other factors like



teaching experience and educational background. This identified interrelations and the direction and strength of these correlations.

3.4 Exploratory and Confirmatory Factor Analysis

Using AMOS 24.0, exploratory factor analysis (EFA) extracted common factors to simplify the data structure and identify the main underlying factors influencing teachers' professional abilities. Confirmatory factor analysis (CFA) tested the fit between the theoretical model and empirical data, evaluating the model's structural validity and ensuring it adequately explained the data. These analyses deepened understanding of the internal structure and dimensions of teachers' professional abilities.

Phase 2: To develop the indicators for assessment of the professional competence of dance teachers in Chongqing's universities in China.

1. Delphi Method

The Delphi method leverages the expertise of professionals through multiple rounds of consultation to ensure the scientific validity and rationality of the evaluation index system.

1.1 Expert Selection

Fifteen experts with profound professional knowledge and extensive practical experience in dance education were invited to form the expert panel. Among them, eight were university scholars with significant achievements in dance education theory and academic research; four were industry experts, including veteran dance choreographers and performing artists, who provided professional insights from the perspective of industry practice; and three were educational administrators familiar with educational management policies and school teaching operations. These experts possessed a deep understanding of the broader educational environment and management mechanisms related to teacher professional development.

1.2 Research Tools

1.2.1 Tool Development

The "Expert Consultation Form for the Evaluation Index System of Professional Capabilities of Dance Teachers in Chongqing Universities" was developed to gather expert feedback on the evaluation index system. The form focused on the initially constructed index system, including questions about the importance of first-, second, and third-level indicators and solicited expert suggestions for revisions. Multiple rounds of communication and discussion with experts ensured the tool effectively captured their professional opinions comprehensively and accurately.

1.2.2 Validity Testing

The validity of the consultation form was assessed through expert evaluation, where experts rated it on the rationality of the index structure and the comprehensiveness of the index content using a five-point scale. Fifteen questionnaires were distributed and all returned. Results showed that 13 experts were very satisfied and 2 were relatively satisfied with the index structure's rationality. Regarding content comprehensiveness, 11 experts were very satisfied, and 4 were relatively satisfied. These findings indicate the consultation form demonstrated strong content and structural validity.

1.2.3 Reliability Testing

Given that the expert sample size in this study was only 15 (less than 30), relevant statistical researchers suggest that reliability test results from such a small sample may lack stability and persuasiveness. However, during the Delphi method process, the reliability and consistency of the questionnaire indicators were somewhat ensured through multiple rounds of expert feedback and revision. Therefore, considering these factors, this study did not perform formal reliability testing on the questionnaire.

1.3 Data Collection

Between December 2024 and January 2025, the Expert Consultation Form for the Evaluation Index System of Professional Capabilities of Dance Teachers in Chongqing Universities was distributed to 15 experts via convenient communication platforms like WeChat and QQ. The survey was conducted in

three rounds. After each round, expert opinions were systematically summarized and shared back with the experts. Using these materials, experts provided deeper analysis, judgments, and new suggestions to ensure the final evaluation index system was highly reliable.

1.4 Data Analysis

After collecting the questionnaires, statistical methods were employed to process the expert scoring data. The selection of indicators was primarily based on the mean value, standard deviation, coefficient of variation, and coordination coefficient of each indicator. The processed results were fed back to the experts for the next round. After three rigorous rounds—including indicator summarization, statistical analysis, screening, scoring, and revision—a robust evaluation index system for the professional capabilities of dance teachers in Chongqing universities was ultimately established, with a high degree of consensus among the experts.

2. Factor Analysis Method

2.1 Research Tools

2.1.1 Tool Development

Principal Component Analysis (PCA) and Structural Equation Modeling (SEM) were used as the core research tools. PCA was employed for exploratory factor analysis to transform multiple correlated variables into a few uncorrelated composite indicators—i.e., common factors. SEM was then applied for confirmatory factor analysis to validate the rationality of the extracted common factors and the model fit.

2.1.2 Validity Testing

The suitability of the sample data for factor analysis was assessed using the Kaiser-Meyer-Olkin (KMO) value and Bartlett's test of sphericity. A KMO value closer to 1 indicates stronger correlations among variables and greater suitability for factor analysis. A significant Bartlett's test ($p < 0.05$) suggests that the data have sufficient correlations for factor analysis.

2.1.3 Reliability Testing

During the confirmatory factor analysis phase, model fit indices were used to indirectly reflect the reliability of the research tools. The Goodness-of-Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA), Residual Mean Square (RMR), Comparative Fit Index (CFI), Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), and the chi-square to degrees of freedom ratio (χ^2/df) were selected as evaluation indicators for model fit. When these indices meet the respective standards, it indicates a good model fit and indirectly supports the reliability of the research tools.

2.2 Data Collection

Data from the NVivo12 analysis of interview materials and expert consultations using the Delphi method were used. These data included views from dance teachers and management personnel at different universities, as well as expert evaluations of each indicator, providing a rich foundation for factor analysis.

2.3 Data Analysis

2.3.1 Exploratory Factor Analysis

PCA was applied to the third-level indicators of each dimension. The number of principal components was determined based on initial eigenvalues, and the cumulative variance contribution rate was used to assess the extent to which these components explained the total variance. Components were named based on the indicators they included, following varimax rotation.

2.3.2 Confirmatory Factor Analysis

SEM was used to validate the factors extracted from exploratory factor analysis based on predefined model fit indices. AMOS software was employed to construct and analyze the model using the relevant indicator data.

Results

Phase 1: To investigate the actual states of dance teachers in Chongqing's universities in China.

Based on the above search strategy and screening criteria, the search was conducted across the databases, and the final results of the literature search and screening are shown in the table below:



Table 1 Results of Literature Search and Screening

Database	Search Keywords	Initial Number of Literature	Number of Literature after Screening	Distribution of Research Themes (Ranked by Proportion)
CNKI	"Professional Competence of Dance Teachers"	528	132	Teaching Skills (48%), Curriculum Design (22%), Research Ability (9%)
Wanfang Data	"Dance Teachers in Chongqing Universities"	156	37	Teaching Cases (65%), Career Development (18%), Regional Characteristics (12%)
Web of Science	"Dance Teacher Competence"	217	89	Technology Integration (32%), Cross-cultural Teaching (25%), Mental Health (15%)
Scopus	"Teacher Professional Development"	1,558	214	Teacher Training (40%), Policy Influence (28%), Professional Identity (12%)

1. International Research Trends and Theoretical Frameworks

1.1 International Research Hotspots

1.1.1 Technological Integration in Teaching

According to data from Web of Science, 32% of related academic literature focuses on the integration of technology into dance education, reflecting a global trend of digital transformation in the field. One major research hotspot is the use of motion capture systems (such as Kinect) and virtual reality (VR) technologies in dance instruction.

For example, the study *"VR in Dance Education: A Meta-Analysis"* (WoS, 2023) analyzed 12 experiments and found that VR significantly improves students' spatial perception, reporting an effect size of $d = 0.78$. This suggests that VR creates immersive learning environments where students can intuitively grasp spatial changes in dance movements, thereby enhancing their understanding and application of spatial concepts in dance.

However, the study also identified a major limitation: many teachers lack sufficient training in using these technologies. This gap in technological proficiency can hinder the effective use of VR in the classroom and may even negatively impact teaching outcomes. Therefore, future research and practice should prioritize improving teachers' digital literacy and enhancing their ability to integrate technology into teaching.

1.1.2 Cross-Cultural Competence

Twenty-five percent of international literature is dedicated to exploring the role of adaptability of dance teachers in multicultural contexts, which is closely related to the increasing frequency of cultural exchanges in the process of globalization. In case studies on dance education in immigrant communities, researchers found that dance teachers are not only expected to teach dance skills but also to act as cultural communicators and integrators in multicultural environments. Teachers need to understand and respect the dance styles, aesthetic values, and learning habits of students from diverse cultural backgrounds, and integrate various cultural elements into their teaching content to promote cultural exchange and integration among students.

For example, in some urban dance courses that integrate multicultural elements, teachers introduce dance elements from different countries and ethnic groups and organize students to engage in cross-cultural dance creation. This allows students to experience and understand the charm of different cultures through practice, fostering their cross-cultural communication skills and cultural inclusiveness. These findings underscore the importance of cross-cultural competence for dance teachers.



1.1.3 Mental Health Support

Fifteen percent of international research literature focuses on occupational burnout and mental health interventions for dance teachers, reflecting growing attention to the professional well-being of dance educators. With the development of dance education, teachers face increasing pressures from teaching, research, and career development, leading to a growing prevalence of occupational burnout. In studies on stress management for dance teachers, factors contributing to burnout were identified through questionnaires and interviews, including high-intensity teaching work, complex interpersonal relationships, and limited career development opportunities. Corresponding mental health intervention strategies were proposed, such as offering psychological training courses, establishing teacher support networks, and optimizing the working environment. These research findings are significant for improving the mental health of dance teachers and promoting their sustainable professional development.

2. Quantitative Perspective on Current Status

2.1 Basic Information of the Sample

To comprehensively and accurately examine the current state of professional competence among dance teachers in Chongqing universities, this study adopted a stratified sampling method. Participants were selected from 11 universities in Chongqing, taking into account institutional differences in educational objectives, teaching resources, and faculty strength related to dance education. This approach was designed to ensure that the sample would capture the diversity of Chongqing's dance education landscape, thereby enhancing the validity and generalizability of the study's conclusions. A total of 70 valid questionnaires were collected. The detailed demographic characteristics of the sample are presented below:

Table 2 Distribution table of demographic characteristics of the sample (N=70)

Characteristics	Categories	Number of People	Proportion	Remarks
Type of Institutions	Comprehensive Institutions	32	45.7%	Including Chongqing University, Southwest University, etc.
	Higher Vocational and Technical Institutions	24	34.3%	Such as Chongqing Vocational College of Culture and Arts, Chongqing Vocational College of Tourism
	Normal Institutions	9	12.9%	Chongqing Normal University, Yangtze Normal University
	Art Institutions	5	7.1%	Sichuan Fine Arts Institute
Distribution of Teaching Years	Less than 5 years	32	46%	Novice teacher group
	5 - 10 years	22	31%	Experience - accumulation stage
	More than 10 years	16	23%	Senior teacher group
Distribution of Professional Titles	Senior Professional Titles	13	18%	Professors, Associate Professors
	Intermediate Professional Titles	34	49%	Lecturers
	Junior Professional Titles	23	33%	Assistants



Characteristics	Categories	Number of People	Proportion	Remarks
Educational Background	Doctoral Degree	2	3%	Concentrated in comprehensive institutions
	Master's Degree	45	64%	The proportion of master's degree-holders in normal institutions is the highest (78%)
	Bachelor's Degree	23	33%	The proportion of undergraduate teachers in higher vocational institutions reaches 82%

The analysis of institutional distribution revealed that comprehensive and vocational colleges made up 80% of the sample, whereas only 7.1% came from art colleges. This disparity is largely due to the limited number of art institutions offering dance programs in Chongqing, leading to fewer dance teachers from such colleges being included in the sample. This highlights a structural imbalance in the representation of dance education institutions across the region.

Regarding teacher qualifications, only 18% of respondents held senior professional titles, indicating that a large proportion were younger educators. This demographic points to strong developmental potential within the teaching workforce, but it also reveals systemic issues in career progression—such as unclear promotion pathways or intense competition—which may discourage long-term professional commitment. Furthermore, significant differences in educational background were found between institution types: 82% of vocational college teachers held bachelor’s degrees, while 67% of comprehensive university teachers had a master’s degree or higher. This reflects an uneven distribution of academic resources, where comprehensive universities attract more qualified talent due to stronger institutional advantages, while vocational colleges may struggle with faculty development and academic quality.

Table 3 Scale of scores (out of 5) for the subindicators of teaching competence

Indicators	Overall Mean (SD)	Comprehensive Institutions	Higher Vocational Institutions	T-test Results
Proficiency in Traditional Teaching Methods	4.5 (0.62)	4.7 (0.51)	4.2 (0.68)	t = 3.12, p = 0.002 (Significant Difference)
Application Ability of Information-based Tools	3.1 (0.89)	3.6 (0.73)	2.4 (0.92)	t = 5.84, p < 0.001 (Significant Difference)
Interdisciplinary Curriculum Design Ability	3.4 (0.75)	3.8 (0.61)	2.9 (0.81)	t = 4.37, p < 0.001 (Significant Difference)

The study highlights the continued strength of traditional teaching methods among dance instructors. Approximately 87% of teachers effectively apply demonstration-based techniques such as the “decomposition-integration” model, which breaks down complex dance moves into manageable parts before reassembling them into complete sequences. Teachers at comprehensive universities perform notably better in this area, scoring an average of 4.7 compared to 4.2 at vocational colleges. This difference

likely stems from more abundant resources and training opportunities available at comprehensive universities, including access to seminars and faculty development programs. Conversely, vocational college instructors often face heavier teaching loads and fewer opportunities for professional training, limiting their ability to refine traditional methods.

However, a significant weakness was identified in the area of digital teaching competence. Only 41% of instructors reported proficiency in using information technologies like motion capture or online platforms. The disparity between institution types is clear: vocational college teachers had an IT application rate of just 28%, compared to 52% at undergraduate universities—a statistically significant gap ($\chi^2 = 6.32$, $p < 0.05$). Limited access to digital tools, inadequate technical support, and lower levels of digital literacy among vocational faculty contribute to this divide. In terms of interdisciplinary course design, the overall adoption remains low, with only 12% of teachers attempting cross-disciplinary integration (e.g., combining dance with drama or media arts), most of whom are based in comprehensive universities. The broader disciplinary offerings and collaborative environments at these institutions make interdisciplinary innovation more feasible than in vocational colleges, where such initiatives face structural and motivational barriers.

Table 4 Effect of type of institution on professional competence (ANOVA results)

Dimension of Competence	Art Institutions (M)	Normal Institutions (M)	F - value	Significance
Innovative Practice Ability	4.1	3.4	F = 5.14	$p < 0.01$
Scientific Research Output Ability	3.8	2.9	F = 4.32	$p < 0.05$
Cultural Inheritance Ability	4.3	3.7	F = 6.01	$p < 0.001$

The analysis shows that teachers from art universities excel in the areas of "innovative practice" and "cultural heritage." They actively participate in university-enterprise collaborations, blending dance with market needs while exploring new expressive forms and creative techniques. Their strong artistic backgrounds also enable them to effectively preserve and pass on dance culture.

In contrast, normal universities emphasize pedagogical research, focusing on developing students' teaching skills and educational literacy, showing strengths in innovating teaching methods and educational theory research. Vocational colleges, however, lag in "research output" and "resource utilization" due to their focus on vocational skills training, limited research emphasis, and weaker research capacity, resulting in a significant gap compared to the other institutions.

Phase 2: To develop the indicators for assessment of the professional competence of dance teachers in Chongqing's universities in China.

1. Principles for developing the system for assessment of the professional competence of dance teachers in Chongqing's universities in China.

Developing scientific, reasonable, and effective indicators for assessing the professional competence of dance teachers in Chongqing colleges and universities is the key to accurately assessing teachers' professional levels and promoting the development of dance education. In the process of indicator construction, a series of principles should be followed to ensure the scientific, reliable, and practical nature of the assessment system.

1.1 Systematic Principle

The professional competence assessment system for dance teachers in Chongqing universities is an integrated whole, with each part interconnected and influencing one another. Its construction should start from the overall goal and comprehensively cover multiple dimensions, including education and teaching, artistic performance, innovative research, and professional knowledge. The system values not only classroom teaching skills like lesson design, teaching methods, and student guidance but also stage practice

experience, choreography ability, research achievements, and mastery of dance knowledge. Additionally, the indicators should have logical and quantitative relationships, forming a structured and hierarchical system. For example, teaching design, classroom management, and assessment skills should be arranged according to their sequence and importance in the teaching process. This creates a complete subsystem for evaluating teaching ability. By applying the systematic principle, the system can comprehensively and accurately reflect dance teachers' professional competence, avoiding biased or fragmented assessments.

1.2 Developmental Principle

The professional competence of teachers is a dynamic, ongoing process of growth, and the assessment system for dance teachers in Chongqing universities should fully reflect this. The system must evaluate not only current competence levels but also teachers' future development potential. It should include indicators that measure learning ability, innovation, and willingness for self-improvement, such as enthusiasm for training, mastery of new knowledge and technologies, and innovative achievements in teaching and research. This assessment encourages continuous learning, participation in teaching reforms, and academic research to foster ongoing professional growth. Feedback from the assessments should guide teachers with clear development goals and improvement suggestions, helping them progress from novices to experts. Moreover, the system should be regularly updated to adapt to changes in dance education concepts, technologies, and social needs, ensuring it remains relevant to teachers' professional development.

2. Formation of Assessment Indicators for the Professional Competence of Dance Teachers in Chongqing Universities.

2.1 Preliminary Formulation of Assessment Indicators

In the process of constructing the assessment indicator system for the professional competence of dance teachers in Chongqing universities, the preliminary formulation of assessment indicators is a crucial starting link. Based on the previous theoretical research, literature review, and in-depth understanding of the actual situation of dance education in Chongqing universities, this research uses grounded theory and combines with the qualitative analysis results of the NVivo12 software to preliminarily formulate 6 first-level indicators, 15 second-level indicators, and 40 third-level indicators.

2.2 Process and Methods of Indicator Screening

2.2.1 Specific Process of Indicator Screening

Based on the preliminary assessment indicator system constructed through the analysis of NVivo12 software and the grounded theory in the early stage, and in combination with the opinions of experts, this study uses the Delphi method to screen and optimize the indicators. As a classic qualitative prediction research method, the Delphi method makes the opinions of experts gradually converge through three rounds of anonymous consultations, thereby improving the reliability of the research results.

2.2.2 Specific Methods of Indicator Screening

This study uses the Likert scale method to quantitatively evaluate the indicators, so as to analyze the opinions of experts more precisely. The Likert scale divides the assessment levels into five grades: "Very important (5 points)", "Important (4 points)", "Average (3 points)", "Not very important (2 points)", and "Unimportant (1 point)". In the expert consultation questionnaire, experts score each indicator according to its importance for the assessment of the professional competence of dance teachers in Chongqing universities. After the questionnaires are collected, statistical methods are used to process the data of the experts' scores. Mainly based on the average value, standard deviation, coefficient of variation, and coefficient of concordance of each indicator, the indicators are screened, and the processed results are fed back to the next round.

2.3 Selection and Authority of Experts

2.3.1 Selection of Experts

To further improve the assessment indicator system for the professional literacy and competence of dance teachers in Chongqing universities, this research selects 15 experts and scholars

engaged in multiple key fields, such as college dance education, front-line teaching practice, educational management, and the dance industry, as the expert group for the Delphi method research.

2.3.2 Enthusiasm of Experts

The effective recovery rate of the expert questionnaire can reflect the experts' enthusiasm for this questionnaire, as well as their concern and degree of cooperation in this research. The calculation method is the ratio of the number of experts participating in the assessment to the total number of experts, $RR = M_j / M$ (RR: expert enthusiasm coefficient; M_j : the number of experts participating in the evaluation; M : the total number of experts). A response rate of over 70% indicates a good expert enthusiasm coefficient. This research conducted three rounds of expert questionnaires, with 10 questionnaires distributed in each round, and achieved a 100% effective recovery rate in each round. This shows that the surveyed experts are very enthusiastic and concerned about this research, and their participation in the questionnaires is also high.

3. Factor Analysis of the Professional Competency Assessment Indicators for Dance Instructors in Chongqing Universities.

3.1 Factor Analysis of the Dimension of Educational and Teaching Competency of Dance Instructors in Chongqing Universities

3.1.1 Exploratory Factor Analysis of the Dimension of Educational and Teaching Competency

Principal component analysis was used to process data from the nine tertiary indicators under the dimension of educational and teaching competency.

Based on the initial eigenvalues (Table 5), the analysis results revealed three main components with a cumulative variance contribution rate of 85.362%, which explains 85.362% of the total variance. This suggests that the three components effectively reflect the information contained within the indicators of the educational and teaching competency dimension. Further analysis of the components was conducted based on the rotated sums of squared loadings.

Table 5 Exploratory Factor Analysis of Dimensions of Educational and Teaching Competence Explained Total Variance Table.

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.856	42.844	42.844	3.856	42.844	42.844	3.253	36.144	36.144
2	2.583	28.700	71.544	2.583	28.700	71.544	2.684	29.822	65.966
3	1.249	13.812	85.356	1.249	13.812	85.356	1.741	19.390	85.362

4. Weight Assignment of the Professional Competence Assessment Indicators for Dance Teachers in Chongqing Universities.

Determining Indicator Weights Using the Analytic Hierarchy Process

4.1 Constructing the Hierarchical Structure Model

The professional competence assessment indicator system for dance teachers in Chongqing universities is divided into layers according to the interrelationships of the indicators, constructing a hierarchical structure model. For example, the first-level indicator "Educational and Teaching Ability," the second-level indicators "Teaching Innovation and Expansion," "Teaching Implementation and Management," "Teaching Assessment and Feedback," and the third-level indicators "Dance Curriculum Innovation Ability" and "Teaching Method Innovation Ability," are used to demonstrate the hierarchical relationships.

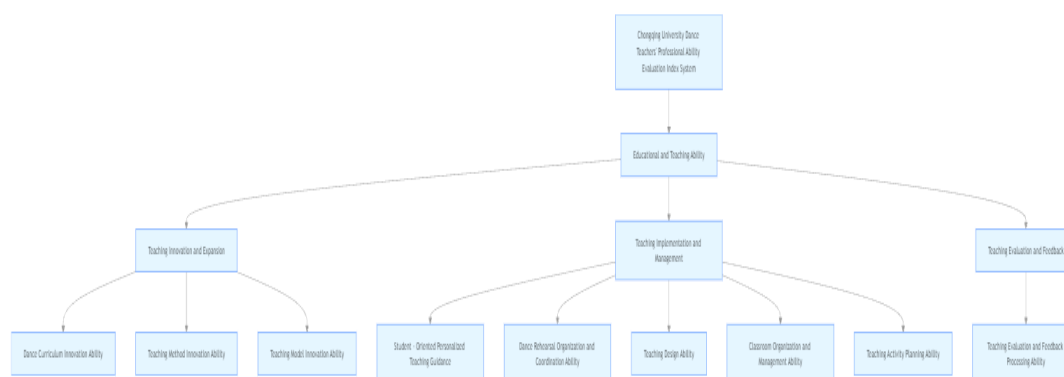


Figure 1 Constructive Hierarchy Model.

5. Analysis of the Results and Characteristics of the Professional Competence Assessment System for Dance Teachers in Chongqing Universities.

5.1 Analysis of First-Level Dimensions

Based on the established professional competence assessment indicator system and weights for dance teachers in Chongqing universities (see Table 6), an analysis of the weights of the first-level indicators was conducted. The results show the following weight values: Educational and Teaching Ability weights 0.33, Professional Knowledge and Competence weights 0.22, Artistic Practice and Creation Ability has a weight of 0.18, Cultural Inheritance and Communication Ability weights 0.12, Teamwork and Professional Growth Ability has a weight of 0.10, and the Ability to Utilize Teaching Resources has a weight of 0.05. The varying weights of each dimension reflect their differing levels of importance in the assessment of teacher professional competence. These dimensions are interrelated and collectively form the overall framework for evaluating the professional competence of teachers.

Table 6 Weights Indicators of Professional Competence of Dance Teachers in Chongqing Colleges and Universities.

Dimension	Weights
An Educational and Teaching Ability	0.33
B Professional Knowledge and Literacy	0.22
C Artistic Practice and Creative Ability	0.18
D Cultural Inheritance and Communication Ability	0.12
E Teamwork and Professional Growth Ability	0.10
F Teaching Resource Utilization Ability	0.05

Discussion

This research focuses on the development of assessment indicators for the professional capabilities of dance instructors in universities in Chongqing. By conducting a current status survey and establishing an evaluation system through a series of rigorous research activities, we have made progress in analyzing the current state of instructors' professional capabilities and developing assessment indicators, as shown below:

1. To investigate the actual states of dance teachers in Chongqing's universities in China.

This research conducted a multi-dimensional and comprehensive survey on the current status of dance teachers in Chongqing universities, covering key aspects such as the structure of the teaching staff,

professional capabilities, and teaching behaviors. In terms of team structure, comprehensive and vocational colleges accounted for a large proportion of the sample, reflecting the main distribution of dance education in Chongqing universities. The high proportion of young teachers indicates a trend of youthfulness in the teaching staff, which, although full of potential, also suggests a need to optimize career advancement pathways. Regarding academic backgrounds, significant differences exist among different types of institutions, with a high proportion of teachers with bachelor's degrees in vocational colleges and a majority of teachers with master's degrees or above in comprehensive universities, highlighting the imbalance in the distribution of educational resources.

In terms of professional capabilities, teachers show strong traditional teaching skills but lack innovation. The level of information technology (IT) teaching capabilities varies, with a clear gap between vocational and undergraduate colleges, which is closely related to the institutions' emphasis on IT teaching, resource allocation, and teachers' IT literacy and training opportunities. The ability to design interdisciplinary courses is also insufficient and unevenly distributed among institutions, with comprehensive universities standing out due to their disciplinary advantages. In terms of research capabilities, teachers from comprehensive universities far exceed those from vocational colleges in core paper publications and project leadership rates, mainly due to the concentration of research resources. Vocational colleges face difficulties such as a lack of team support and insufficient resources. Professional identity is significantly influenced by the type of institution, with teachers from comprehensive universities scoring higher in job satisfaction, confidence in development, and perception of resource support compared to those from vocational colleges, which is closely linked to factors such as research support, resource acquisition, development positioning, and promotion criteria.

Through classroom observations, we delved into teaching behaviors and found that teaching methods tend to be monolithic, with the traditional demonstration-imitation model dominating. Art universities are relatively more proactive in applying innovative teaching methods, while vocational colleges lag. The quality of teacher-student interaction varies greatly among different institutions, with art universities focusing on creative feedback that helps cultivate students' innovative thinking, while vocational colleges focus more on technical corrections. In terms of clarity of teaching objectives and depth of content, comprehensive and art universities perform relatively better, while vocational colleges have room for improvement. Teaching is also affected by factors such as resource constraints and singular evaluation systems. Through qualitative analysis, a prototype of the evaluation index system was constructed from a large amount of interview data, providing an important foundation for subsequent in-depth research.

2. To develop the indicators for assessment of the professional competence of dance teachers in Chongqing's universities in China.

This research aims to develop a scientific and systematic evaluation system for assessing the professional capabilities of dance teachers in Chongqing universities. The system is built on five core principles: systematicity, scientificity, specificity, developmental orientation, and operability. It consists of 6 first-level indicators, 14 second-level indicators, and 36 third-level indicators, covering areas such as teaching ability, professional knowledge, artistic practice, cultural communication, teamwork, and resource utilization.

Using the Analytic Hierarchy Process (AHP), the study assigns weights to each indicator, with educational and teaching ability ranked as the most important dimension. This highlights its central role in enhancing teaching quality and student development. Other key areas, like professional knowledge and creative practice, also contribute significantly to teacher development.

To ensure accurate assessment, a detailed scoring system was developed based on indicator weights and expert input, along with five evaluation grades: excellent, good, average, fair, and poor. This system enables universities to objectively evaluate teachers, guide professional development, and improve overall faculty quality.

Discussion

1. Universality and Dynamism of the Assessment System

1.1 The Scientificity and Rationality of the Assessment Indicator System

The development of the professional competency assessment system for dance teachers in Chongqing universities utilized diverse research methods to ensure scientific validity and practical relevance. Theoretically, it was based on multidisciplinary frameworks such as dance education theory, teacher professional development theory, developmental evaluation theory, and educational ecology theory, providing a solid foundation for indicator selection and weighting (Shulman, 1987; Bronfenbrenner, 1979). Field research across 11 universities collected extensive primary data, with NVivo12 software facilitating in-depth qualitative analysis. The preliminary system was refined through multiple Delphi method rounds to align closely with real professional competencies (Hsu & Sandford, 2007). Despite the rigorous approach, the system requires further refinement to incorporate emerging teaching philosophies and technologies, particularly the use of intelligent teaching tools linked to artificial intelligence (Luckin et al., 2016). Although the Analytic Hierarchy Process (AHP) was employed for weighting, expert subjectivity may influence results, highlighting the need for more objective and accurate methods in future studies (Saaty, 2008).

1.2 The Universality and Limitations of the Assessment Indicator System

The assessment indicator system developed in this study is well-adapted to the local conditions of Chongqing universities, considering institutional types, cultural traits, and teaching staff status. However, regional disparities in resource allocation, training goals, and student backgrounds mean that adapting the system for other areas requires modifications, especially regarding hardware resource evaluation and educational focus (Fullan, 2007). The study's sample, drawn from 11 universities, may not fully represent all dance teachers in Chongqing, limiting generalizability. Additionally, methodological constraints such as subjective survey responses, expert selection bias in the Delphi method, and reliance on researchers' judgments during coding may introduce biases. These limitations suggest the need for further refinement and validation in future research (Creswell & Creswell, 2018).

2. Development of Strategies to Enhance the Professional Competence of Dance Teachers in Chongqing Universities.

2.1 Existing Issues in the Professional Competence of Dance Teachers in Chongqing Universities.

2.1.1 Insufficient Teaching Innovation and Expansion

Some dance teachers in Chongqing universities hold outdated teaching philosophies and overly rely on traditional demonstration-imitation methods, lacking integration of modern educational technologies. Their course innovations often fail to incorporate contemporary elements such as improvisation and physical theater, resulting in less engaging and creative learning experiences for students. The progress in adopting new teaching models and blending online and offline methods remains superficial, limiting the effective use of teaching resources. This situation highlights a general lack of enthusiasm and initiative among teachers to explore and apply innovative teaching philosophies and practices (Sawyer, 2017; Zhao, 2020).

2.1.2 Incomplete Teaching Evaluation and Feedback System

Teaching evaluation methods often focus narrowly on students' dance skill demonstrations, overlooking broader aspects like learning processes, emotional engagement, and creativity (Brown & Smith, 2020). This limited approach fails to accurately measure teaching effectiveness or fully reflect students' learning outcomes. Furthermore, feedback tends to be vague and unconstructive, lacking specific guidance for student improvement. Evaluations commonly highlight technical flaws or offer superficial praise without deeper analysis of creativity and emotional expression, hindering meaningful student growth (Johnson, 2019). These issues suggest the need for more comprehensive and detailed evaluation and feedback systems.

2.2 Analysis of the Causes of the Issues

2.2.1 Inequitable Distribution and Scarcity of Teaching Resources

The allocation of dance teaching resources varies greatly across universities in Chongqing, with art universities like Chongqing University benefiting from advanced facilities and ample resources that support high-quality artistic practice and creativity (Li, 2020). Comprehensive universities, while strong overall, often allocate limited resources to dance programs, resulting in outdated equipment and restricted opportunities for innovative teaching (Wang & Zhang, 2019). Normal universities focus more on educational training, leading to fewer resources for artistic practice and less structured practical activities (Chen, 2021). Vocational colleges face significant resource shortages, including outdated equipment and limited access to expert training, which impedes teachers' professional development and ability to stay updated with current trends (Zhao, 2018). These disparities highlight the need for targeted resource allocation to enhance teaching quality across institution types.

2.2.2 Inadequate Evaluation and Incentive Mechanisms

The current evaluation system for dance teachers in universities primarily emphasizes teaching outcomes and scientific publications, often overlooking important qualities like teaching innovation, practical skills, and cultural inheritance. This narrow focus encourages teachers to prioritize quantifiable results over creative teaching methods and regional cultural integration. For instance, teachers may concentrate on publishing papers to fulfill research requirements, neglecting pedagogical improvements. Additionally, incentive mechanisms lack diversity and specificity; material rewards for teaching reform and artistic creativity are limited, which undermines motivation. Career advancement criteria overly rely on research outputs, failing to recognize broader professional development, thus weakening teachers' intrinsic drive to enhance their abilities (Chen & Wang, 2021; Li, 2020).

Suggestions

1. Improve Research Methods and Sample Coverage.

1.1 Future research should expand the sample size to include a diverse range of universities in Chongqing, especially smaller and remote institutions. Employing a combination of stratified and random sampling based on factors like university type, level, and location will ensure a more representative and balanced sample. This approach accounts for institutional differences and reduces sample bias, providing a solid foundation for a widely applicable assessment system.

1.2 Data collection methods should be diversified beyond questionnaires and interviews to include teaching case analyses, student work evaluations, and teacher journals. These methods offer a multi-faceted view of teachers' problem-solving skills, instructional effectiveness, and professional reflections. Integrating these sources enriches the data and compensates for the limitations of relying on a single method.

1.3 Longitudinal studies are essential for understanding how teachers' professional competencies evolve. Regular assessments of the same group of teachers should cover knowledge, teaching skills, artistic practice, and research abilities to track development stages and identify key growth factors. This long-term data supports refining the evaluation system and tailoring targeted professional development strategies.

2. Deepen Research Content and Theoretical Exploration.

2.1 Strengthen Analysis of Macro Factors

Understanding how the social and cultural environment influences the professional capabilities of dance teachers in Chongqing universities is crucial. Local cultures like Bayu provide rich artistic resources that can be integrated into teaching to enhance cultural heritage awareness and innovation. Changes in aesthetic concepts require teachers to continuously update their methods to meet diverse student needs. Additionally, educational policies significantly impact the development of dance programs and teacher evaluation. Analyzing these policies can offer valuable support for refining assessment systems and aligning teacher development with contemporary demands.

2.2 Promote Interdisciplinary Integration Research

Building a systematic interdisciplinary teaching model is essential for integrating dance education with fields like psychology, pedagogy, and musicology to cultivate well-rounded and innovative dance



talents. Applying psychological principles can enhance teaching engagement, while pedagogical theories help design effective curricula, and coordination with musicology improves artistic expression. Collaborative interdisciplinary projects, such as dance combined with fine arts, allow practical testing of integration methods and help identify challenges like coordination issues. Adjusting teaching strategies based on these findings can optimize the model. Establishing comprehensive evaluation methods that consider learning outcomes and creativity is crucial for objectively measuring the effectiveness of interdisciplinary teaching.

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