

THE IMPACT OF TEACHER-STUDENT INTERACTION IN CHEERLEADING COURSES ON COURSE SATISFACTION AND STRATEGIES FOR IMPROVEMENT: A CASE STUDY OF SCHOOL G IN GUANGXI, CHINA*

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Abstract

This research article aims to 1) Researching the current state of teacher-student interaction in cheerleading courses. 2) Researching the relationship between teacher-student interaction and course satisfaction in cheerleading courses. 3) Investigate the relationship between various dimensions of teacher-student interaction in cheerleading courses and course satisfaction.

This study employed an explanatory sequential mixed-methods research design, collecting quantitative data from 264 undergraduate students enrolled in a public cheerleading course in Guangxi, China, and qualitative data from three experts. The questionnaire consisted of 36 items measured on a five-point Likert scale (1–5). The instrument demonstrated high reliability (Cronbach's $\alpha > 0.80$) and acceptable construct validity (KMO > 0.80 ; Bartlett's test $p < 0.001$). Data were analyzed using descriptive statistics, Pearson correlation, and multiple linear regression after verifying statistical assumptions (normality, multicollinearity, homoscedasticity, and independence of errors). Qualitative data were analyzed using thematic analysis for triangulation.

The research results found that 1) Teacher–student interaction and course satisfaction were at a moderately high level ($M > 3.50$). 2) Teacher–student interaction was significantly positively correlated with course satisfaction ($r =$

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0.649, $p < 0.01$), indicating a strong positive relationship. 3) Teacher–student interaction significantly predicted course satisfaction ($F = 187.42$, $p < 0.001$), and all interaction dimensions were significant predictors ($p < 0.001$), with instructional content interaction showing the strongest effect (Beta = 0.505; Adjusted $R^2 = 0.249$).

The findings indicate that teacher–student interaction is strongly associated with course satisfaction, particularly through structured skill guidance, responsive feedback, and supportive instructional design in skill-based physical education contexts.

Keywords: teacher–student interaction, course satisfaction, cheerleading course, physical education

Introduction

In the context of ongoing higher education reform, improving teaching quality and enhancing students' learning experience have become key priorities. Within this reform agenda, interactive teaching grounded in constructivist learning theory and social interaction theory emphasises that knowledge is co-constructed through meaningful exchanges between teachers and students. From this perspective, teacher–student interaction is not merely a medium for information delivery but a dynamic process that shapes students' cognitive engagement, emotional experience, and behavioural participation. As a crucial link between teaching and learning, teacher–student interaction directly influences teaching effectiveness and students' perceptions of a course (Ye He Shuang & Dai Yuanyuan, 2024). It serves not only as a channel for knowledge transmission and skill development but also as a foundation for fostering a supportive learning environment and stimulating student motivation. In physical education courses in particular, effective teacher–student interaction significantly

enhances student engagement and learning outcomes (Xin Wenyan & Liu Meilin, 2022).

In this study, teacher–student interaction is conceptualised as a four-dimensional construct comprising instructional content interaction, emotional interaction, interactive teaching process, and behavioural interaction. Instructional content interaction refers to explanation, questioning, and feedback related to skill learning; emotional interaction involves encouragement, empathy, and affective support; interactive teaching process concerns adaptive adjustment of instructional pace and organisation; and behavioural interaction includes demonstration, imitation, and corrective guidance during skill practice.

Course satisfaction, as a comprehensive indicator of students’ overall learning experience, reflects the appropriateness of course design and instructional implementation and provides important evidence for continuous quality improvement (Han Yanyu & Pan Haonan, 2025). In this research, course satisfaction is operationally defined as students’ overall evaluative judgement of course content, teaching implementation, and perceived learning effectiveness, measured through a structured Likert-scale instrument.

Cheerleading courses, an important component of university physical education curricula, are characterised by their collective, technical, and performative features. These courses emphasise skill acquisition and team spirit development through interactive forms such as movement demonstrations, guided practice, and collaborative performance (Huang Yanzhi, 2025). Unlike many theory-oriented courses, cheerleading requires high levels of synchronised movement, immediate corrective feedback, emotional encouragement, and coordinated teamwork, making teacher–student interaction particularly visible and pedagogically critical.

With the growing popularity of cheerleading in universities, empirical studies have identified challenges in instructional organisation, feedback timeliness, and emotional support within physical education contexts (Xie Jin, Wen Tao, & Han Xu, 2023). However, most existing research has either examined teacher–student interaction in general classroom settings or explored cheerleading curriculum development without systematically analysing how different dimensions of teacher–student interaction influence course satisfaction

within this specific skill-based context. Although recent studies have examined teacher–student interaction in various educational contexts, systematic empirical research on how different dimensions of teacher–student interaction influence course satisfaction in cheerleading courses remains limited. Therefore, a clear research gap exists regarding the multidimensional mechanisms linking teacher–student interaction and course satisfaction in university cheerleading courses.

Therefore, exploring the mechanisms through which teacher–student interaction affects course satisfaction in cheerleading courses is essential. Such investigation not only enriches current theoretical understanding but also provides practical guidance for optimising instructional strategies and improving students’ overall course experience.

Objectives

1. Researching the current state of teacher-student interaction in cheerleading courses.
2. Researching the relationship between teacher-student interaction and course satisfaction in cheerleading courses.
3. Investigate the relationship between various dimensions of teacher-student interaction in cheerleading courses and course satisfaction.

Research framework

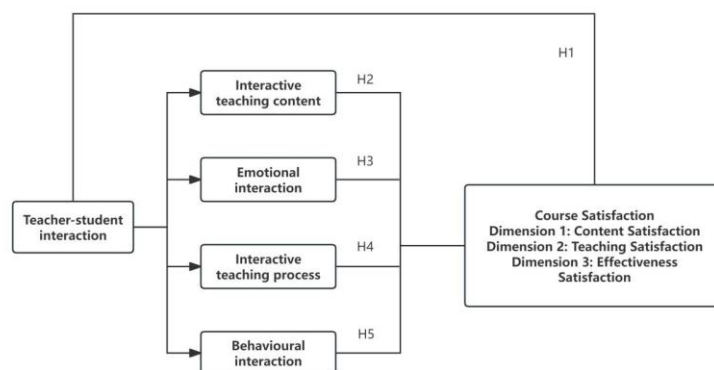


Figure 1: Research Framework Diagram

Literature Review

1. Current Status of Cheerleading Courses

Cheerleading courses have been gradually incorporated into higher education physical education curricula in China and have formed a relatively stable instructional foundation (Deng Shuyu, 2025). However, challenges remain in teaching quality, curriculum innovation, and professional staffing.

Research in higher vocational institutions reports issues such as homogenised content, limited methodological innovation, and insufficient teacher development (Yao Panpan, 2025; Ren Xiar, 2025). Traditional teaching models still predominate, and innovative approaches aligned with student characteristics and occupational needs are not fully implemented.

Although efforts have been made to integrate ideological and political elements, problems such as unclear objectives and unsystematic implementation persist (Huang Yanzhi, 2025). In addition, weak coordination between competition activities and course instruction limits the practical extension of learning outcomes (Yang Feiyan & Ma Lixia, 2025).

Overall, cheerleading courses have developed steadily but require further improvement in instructional innovation, curriculum integration, and teaching quality.

2. Teacher–Student Interaction

Teacher–student interaction is widely recognised as a multidimensional construct, typically including instructional content, emotional, teaching process, and behavioural interaction (Dai Yuanyuan & Ye Heshuang, 2022; Xin Wenyan & Liu Meilin, 2022).

Instructional content interaction involves explanation, questioning, and feedback, which enhance skill mastery in physical education contexts. Emotional interaction—such as encouragement and empathy—strengthens students' autonomy, belonging, and engagement (Li Shuang et al., 2022; Yang Qianqian & Mu Dan, 2023).

Teaching process interaction refers to collaborative adjustment of pace, methods, and organisation, improving adaptability and fairness (Wang Shilin et al., 2023). Behavioural interaction, including demonstration, imitation, and immediate feedback, is especially important in skill-based courses, directly improving movement accuracy and learning efficiency (Li Bo & Zheng Jun, 2024).

Despite recognition of these dimensions, research examining their coordinated effects specifically in cheerleading courses remains limited.

3. Course Satisfaction

Course satisfaction reflects students' overall evaluation of their learning experience and is commonly conceptualised as multidimensional, including course content, teaching implementation, learning outcomes, resources, and interaction (Han Yanyu & Pan Haonan, 2025; Ye He Shuang & Dai Yuanyuan, 2024).

In physical education, satisfaction is influenced by content relevance, methodological diversity, and perceived learning outcomes (Song Tongren, 2025). In vocational contexts, alignment with industry needs and practical applicability are key determinants (Shi Daoyuan et al., 2025). Teaching quality—particularly feedback timeliness and classroom organisation—also positively affects satisfaction (Du Lei & Yang Yanchao, 2025).

In cheerleading courses, satisfaction is shaped not only by skill acquisition but also by teamwork experience, performance confidence, and facility support (Huang Yanzhi, 2025; Xie Jin et al., 2023).

4. Relationship Between Teacher–Student Interaction and Course Satisfaction

Empirical research consistently confirms a positive relationship between teacher–student interaction and course satisfaction (Ye He Shuang & Dai Yuanyuan, 2024).

Instructional content interaction enhances perceived practicality and value, emotional interaction strengthens belonging and autonomy, teaching process interaction improves fairness and adaptability, and behavioural

interaction directly enhances skill mastery and confidence (Xin Wenyan & Liu Meilin, 2022; Wang Shilin et al., 2023; Li Bo & Zheng Jun, 2024).

In cheerleading courses, behavioural and emotional interactions may be particularly influential due to the collective and performative nature of the subject (Xie Jin et al., 2023). However, systematic empirical studies focusing specifically on cheerleading remain insufficient.

5. Summary

Existing literature indicates that cheerleading courses have developed steadily but still face challenges in instructional innovation and integration. Teacher–student interaction is multidimensional and significantly influences teaching effectiveness, while course satisfaction reflects students’ comprehensive evaluation of learning experiences.

Although prior studies confirm a positive association between teacher–student interaction and course satisfaction, research examining their dimensional relationships within cheerleading courses remains limited. Therefore, further empirical investigation is necessary to clarify these mechanisms.

Methodology

1. Research Design

This study employed an explanatory sequential mixed-methods design. Quantitative data were first collected through a questionnaire to examine the relationships between teacher–student interaction and course satisfaction. Qualitative semi-structured interviews were subsequently conducted to explain and contextualise the quantitative findings. Integration occurred at the interpretation stage through sequential explanation and triangulation, aligning statistical results with qualitative themes.

2. Population and Sample

The population consisted of 264 undergraduate students enrolled in the public cheerleading course at School G, Guangxi, China, in the 2025 academic year.

All 264 students were invited to participate. A total of 264 questionnaires were returned and retained as valid after screening, yielding a 100% valid response rate.

The sample size was adequate for multiple regression analysis. Following the 10–15 cases per predictor rule and given four predictors, the minimum required sample was 40–60 cases; the final sample of 264 exceeded this threshold, ensuring sufficient statistical power.

3. Sampling Method

Stratified random sampling was applied based on year level (first year = 125; second year = 139) and gender (male = 30; female = 234). The sampling frame was obtained from the official enrolment list, and proportional allocation was conducted according to actual enrolment proportions. Random selection within each stratum was performed using a random number generator.

As the study was conducted in a single institution, external generalisability may be limited.

4. Research Instruments and Quality Testing

4.1 Questionnaire

The “Cheerleading Course Teacher–Student Interaction and Course Satisfaction Questionnaire” was developed based on the four-dimensional interaction framework (Ye & Dai, 2024; Xin & Liu, 2022) and university course satisfaction scales (Han & Pan, 2025).

The instrument comprised 36 items measured on a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The dimensions included instructional content interaction, emotional interaction, interactive teaching process, behavioural interaction, and course satisfaction.

4.2 Interview Instrument

Semi-structured interviews were conducted with three experts (a senior cheerleading instructor, a physical education professor, and a vice-dean).

Qualitative data were analysed using thematic analysis, including open and axial coding. Coding results were cross-checked to enhance reliability. Trustworthiness was ensured through member checking and peer review.

5. Reliability and Validity Testing

Cronbach's alpha coefficients ranged from 0.887 to 0.920 for the teacher–student interaction dimensions and from 0.886 to 0.912 for course satisfaction, with overall scale reliabilities above 0.80, indicating high internal consistency.

Construct validity was examined using exploratory factor analysis ($KMO > 0.80$; Bartlett's test $p < 0.001$), and all retained factor loadings exceeded 0.50. Content validity was confirmed using IOC values ranging from 0.67 to 1.00.

6 Data Collection

Data were collected during the mid-term period of the first semester of the 2025–2026 academic year. Questionnaires were distributed and collected on-site by the researcher to ensure a high response rate and data completeness. All participants provided informed consent prior to participation. Interviews were conducted within the same academic term to maintain contextual consistency.

Following preliminary quantitative analysis, interview questions were refined to further explain significant statistical findings, consistent with the explanatory sequential design.

7. Data Analysis

Quantitative data were analysed using descriptive statistics, Pearson correlation, and multiple linear regression. Means and standard deviations were calculated to describe variable distributions. Correlation analysis examined relationships between teacher–student interaction dimensions and course satisfaction, while regression analysis assessed the predictive effects of the four interaction dimensions on course satisfaction.

Prior to regression analysis, statistical assumptions were verified, including normality, multicollinearity (VIF), homoscedasticity, and independence of residuals.

Qualitative interview data were analysed using thematic analysis. Audio recordings were transcribed verbatim and coded through open and axial coding procedures. Cross-case comparisons were conducted to identify recurring themes, which were then compared with quantitative findings to support interpretation and triangulation.

Results

This chapter presents the research findings based on 264 valid questionnaires. The results are organised according to the three research objectives: (1) examining the current state of teacher-student interaction in cheerleading courses, (2) analysing the relationship between teacher-student interaction and course satisfaction, and (3) investigating the predictive effects of different interaction dimensions on course satisfaction. Descriptive statistics, correlation analysis, and multiple regression analysis were conducted to address these objectives.

Objective 1 Current State of Teacher–Student Interaction and Course Satisfaction

Table 1 Basic Information of Respondents

Variable	Category	Frequency	Percentage (%)
Year Group	First Year	125	47.3
	Second Year	139	52.7
Gender	Male	30	11.4
	Female	234	88.6

Table 2 Descriptive Statistics of Research Variables

Variable	Min	Max	M	SD
Interactive Teaching Content	1	5	3.614	0.912
Emotional Interaction	1	5	3.594	0.948
Interactive Teaching Process	1	5	3.778	0.920
Behavioural Interaction	1	5	3.515	1.023
Teacher–Student Interaction (Overall)	1	5	3.621	0.684
Content Satisfaction	1	5	3.600	1.158
Teaching Satisfaction	1	5	3.616	1.097
Effect Satisfaction	1	5	3.682	1.156
Course Satisfaction (Overall)	1	5	3.653	0.835

All dimensions of teacher–student interaction and course satisfaction were at a moderately high level ($M > 3.50$). The interactive teaching process showed the highest mean ($M = 3.778$), while behavioural interaction showed the lowest mean ($M = 3.515$).

Objective 2 Relationship Between Teacher–Student Interaction and Course Satisfaction

Table 3 Pearson Correlation Analysis

Variable	1	2	3	4	5	6
1. Interactive Teaching Content	1					
2. Emotional Interaction	0.376	1				
3. Interactive Teaching Process	0.273	0.411	1			
4. Behavioural Interaction	0.410	0.331	0.293	1		
5. Teacher–Student Interaction	0.705	0.725	0.670	0.755	1	
6. Course Satisfaction	0.506	0.462	0.446	0.450	0.649	1

Note: $p < 0.01$

Overall teacher–student interaction was significantly positively correlated with course satisfaction ($r = 0.649$, $p < 0.01$). Among dimensions, interactive teaching content showed the strongest correlation with course satisfaction ($r = 0.506$).

Objective 3 Predictive Effects of Teacher–Student Interaction on Course Satisfaction

Table 4 Regression Analysis: Overall Teacher–Student Interaction → Course Satisfaction

Variable	B	SE	Beta	p
Constant	0.692	0.336	—	0.040
Teacher–Student Interaction	0.791	0.058	0.648	0.000
Year Group	-0.025	0.079	-0.015	0.748
Gender	0.059	0.124	0.022	0.634

Table 5 Regression Analysis of Interaction Dimensions → Course Satisfaction

Predictor	B	Beta	p	Adjusted R ²
Interactive Teaching Content	0.462	0.505	0.000	0.249
Emotional Interaction	0.406	0.461	0.000	0.205
Interactive Teaching Process	0.404	0.445	0.000	0.190
Behavioural Interaction	0.371	0.455	0.000	0.200

All four dimensions significantly positively predicted course satisfaction ($p < 0.001$). Interactive teaching content demonstrated the strongest predictive effect (Beta = 0.505), followed by emotional interaction, behavioural interaction, and interactive teaching process.

Overall Findings

1. Teacher–student interaction and course satisfaction in cheerleading courses are at a moderately high level.
2. Teacher–student interaction is significantly positively related to course satisfaction.
3. All interaction dimensions significantly predict course satisfaction, with teaching content interaction showing the strongest effect.
4. Year group and gender do not significantly influence course satisfaction.

Discussion

1. The Current State of Teacher–Student Interaction in Cheerleading Courses

The findings show that teacher–student interaction in cheerleading operates as a multidimensional system comprising instructional content, affective, process, and behavioural interaction. This aligns with constructivist and social interaction perspectives, highlighting the joint influence of cognitive, emotional, and behavioural engagement. As a performance-based course, cheerleading requires interaction that integrates skill guidance with emotional support (Yang et al., 2025).

Given the performance pressure inherent in cheerleading (Li & Zhou, 2025), affective interaction reduces anxiety, behavioural interaction enhances skill accuracy, and process interaction maintains instructional coherence.

Strategically, instructors should prioritise coordinated instructional explanation, timely feedback, and emotional encouragement to strengthen learning effectiveness and course satisfaction.

2. The Relationship Between Teacher–Student Interaction and Course Satisfaction

The results confirm a positive relationship between overall teacher–student interaction and course satisfaction, consistent with prior findings in physical education contexts (Zheng et al., 2023). Interaction enhances students’ perceptions of competence, belonging, and instructional clarity (Sun et al., 2024). The relationship remains stable across demographic groups (Zhang & Xia, 2023), suggesting that interaction quality broadly influences students’ evaluative and affective responses.

From a strategic perspective, strengthening responsive communication and supportive feedback should be prioritised, as high-quality interaction serves as a central mechanism for improving overall course satisfaction.

3. The Relationship Between Various Dimensions of Teacher–Student Interaction and Course Satisfaction

Differentiated effects were observed across interaction dimensions. Instructional content interaction showed the strongest association with course satisfaction, consistent with Wang et al. (2023). In cheerleading, clear skill guidance and structured practice directly enhance mastery and engagement.

Affective interaction promotes participation, while process interaction supports instructional adaptability, reflecting a multidimensional interaction pattern (Zheng et al., 2023).

Strategically, instructional content interaction should be prioritised as the core component, with affective and process dimensions reinforcing sustained engagement and overall course satisfaction in skill-based contexts.

Recommendation

1. Pedagogical Recommendations

Instructors should prioritise instructional content interaction by providing structured skill guidance and timely feedback. Emotional encouragement and flexible process adjustment should be integrated to reduce performance pressure and enhance engagement. Accurate demonstration and real-time correction remain essential for effective skill acquisition.

2. Institutional Recommendations

Universities should incorporate interaction quality into teaching evaluation systems and provide professional development and adequate resources to support interactive instruction.

3. Research Recommendations

Future research should expand samples across institutions and employ longitudinal designs to further examine the dynamic mechanisms linking teacher–student interaction and course satisfaction.

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