

The Development Model of Primary School on Aerobics Teaching in Lishui City of Zhejiang Province in China

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Abstract

The present study delves into the intricate dynamics of aerobic instruction systems within primary schools located in Lishui City, Zhejiang Province, China. Centered on the interplay between various educational facets and student contentment, this investigation specifically examines Teaching Goals, Content Exploration, Action Explanation, Technology Integration, and Learning Evaluation. In order to achieve these goals, a survey was conducted on students and teachers in four primary schools in Lishui City. These institutions were selected for their well-developed aerobic curricula, which made them suitable for exploring the research questions at hand. The empirical phase involved distributing questionnaires to students across the four schools, with each contributing two classes (approximately 30 students each), leading to a total of 253 questionnaires analyzed. The research methodology encompassed a literature review, interviews, expert surveys, questionnaires, logical analysis, and statistical assessments to gain a comprehensive perspective on student satisfaction in critical areas such as course content, instructors, classroom management, facilities, and assessment techniques.

The results ifound that:

1) The analysis further disclosed that a majority of students expressed moderate to high levels of satisfaction, signifying the efficacy of current teaching methodologies in stimulating student interest and participation. Factor analysis delineated five principal factors that accounted for a substantial proportion of variance in student feedback, underscoring the pivotal role of satisfaction in educational achievement.

2) Hierarchical relationships within technology integration and learning evaluation illuminated the interdependent nature of educational components, suggesting a complex interplay between pedagogical strategies and technological advancements.

Keywords: The Development Model; Primary School; Aerobics Teaching; Lishui City of Zhejiang Province; China

Introduction

Combining theory and practice, aerobics educators and researchers in China have conducted extensive research on the current situation, content and methods of aerobics teaching. Related research in theoretical teaching: (Chen Lu. 2021) analyzed the current situation of aerobic exercise in primary schools in China and proposed that teachers' teaching methods were too conservative and few innovations were made in the teaching process. It is suggested to improve the teaching methods, stimulate students' interest in learning, and strengthen the teaching team to improve the teaching quality of aerobic exercise in primary schools in China. (Wang Nana. 2020) believes that in the teaching process of public physical aerobics in primary schools, PE teachers should adopt teaching methods such as cooperative learning, situational experience, competition, environmental learning, inquiry and multimedia assistance to stimulate students' innovative thinking. (Zeng Xiaoyun. 2020) analyzed the current situation of public physical aerobics curriculum in ordinary primary schools and pointed out that the content system of public physical aerobics curriculum in primary schools in China is not perfect. The main problems are the lack of flexibility, development and innovation of the curriculum system, the single content of the curriculum, the separation of theory and practice, and the phenomenon of nominal and non-existent electives. Therefore, in the future teaching, it is necessary to establish a scientific and sound aerobics course system, expand the course content, integrate various dance types into the aerobics course teaching, and pay attention to the combination of theory and practice in the process of aerobics teaching.

Research combining theory and practice: (Liang Lidan. 2020) built a new teaching mode (mixed teaching) based on the advantages of flipped classroom teaching, club teaching and flipped classroom teaching, and believed that mixed teaching could not only improve pupils' learning attitude, learning interest, learning motivation, cooperative learning ability and aerobics skills, but also significantly superior to traditional teaching methods. (Wang Zejuan. 2021) concluded that cooperative learning is an effective teaching method suitable for aerobic classes in primary schools through teaching experiment research. This teaching method helps to improve students' motivation to exercise, enhance their self-confidence, and cultivate their unity and ability to help each other. However, students' professional performance and physical fitness did not improve significantly, indicating that not all teaching methods are not panacea. It also puts forward some suggestions that PE teachers should choose more suitable teaching methods according to the teaching content, teaching objectives and students' physical and mental characteristics. (Cheng Gaoqin. 2020) applied the "five-star teaching model" to the teaching of aerobics elective courses in primary schools. The research finds that the five-star teaching mode greatly improves students' aerobic.

In order to solve the problem of "passive acceptance of physical education by students" in the teaching process we also need to start with classroom teaching methods, give play to the main role of students, cultivate students' learning initiative and enthusiasm, improve the physical health level of primary school students in Lishui City, Zhejiang Province, cultivate their awareness and behavior of lifelong physical exercise, and optimize the effect of physical education. At present, although there are some innovations in the teaching methods in primary schools in Lishui City, Zhejiang Province, there are still many problems that need to be solved, and the solution of these problems requires further improvement and innovation in the teaching methods.

Research Objectives

1. To analysis of primary school aerobics teaching in Lishui City, Zhejiang Province.
2. To explore the key factors that affect teaching effectiveness, especially student satisfaction in dimensions such as teaching objectives, content exploration, action explanation, technology transfer, and learning evaluation.
3. To analysis to the relationship between these factors and teaching satisfaction, providing empirical evidence for optimizing teaching design.

Research Methodology

1. Population and sample group

A total of 253 students were selected from the schools offering aerobics courses in Lishui Primary School.

2. Research tools

Design a questionnaire and conduct a survey:

The questionnaire was designed after reading books on social investigation and scientific research methods, combined with the purpose of this study.

The tasks, as well as the interview survey comments, followed the basic requirements for the design of the sports research questionnaire that we made preliminarily.

Set up the "primary school aerobics teaching effect questionnaire", and invited 7 sports experts to investigate the dimensions and content of the questionnaire.

Revisions were made. Through the first round of expert surveys, experts reported that the questionnaire questioning method designed by this institute.

It is not suitable for the cognition of primary school students, and it is suggested to refine the abstract problem. Through three rounds of expert opinions to modify the final questionnaire.

3. Distribution and collection of questionnaires

Based on the needs of this research, the distribution of questionnaires was limited to Xiushan Primary School, Chengbei Primary School, Dayang Road Primary School and Chengxi Primary School in Lishui City, Zhejiang Province, China, because only these four primary schools in the urban area of Lishui City have opened aerobics courses.

Questionnaires were distributed to students in four primary schools in Lishui City, Zhejiang Province, China through on-site filling. Two classes were selected from each school (about 30 students in each class). A total of 253 questionnaires were distributed and 253 questionnaires were collected, with a recovery rate of 100% and an efficiency of 100%.

4. Data analysis

After three rounds of modification, 253 valid data were obtained after the reliability and validity test. SPSS software was used for clustering analysis of influencing factors to obtain the data. Enter the variable data into amos25.0, set "influencing factors" as independent variables and "satisfaction" as dependent variables, in order to observe the relationship between the influencing factors and satisfaction that will affect the development of primary school aerobics teaching in Lishui City. Therefore, based on this, this study constructed a development system model for primary school aerobics teaching in Lishui City, Zhejiang Province, which showed the correlation values between factors.

Research Conceptual Framework

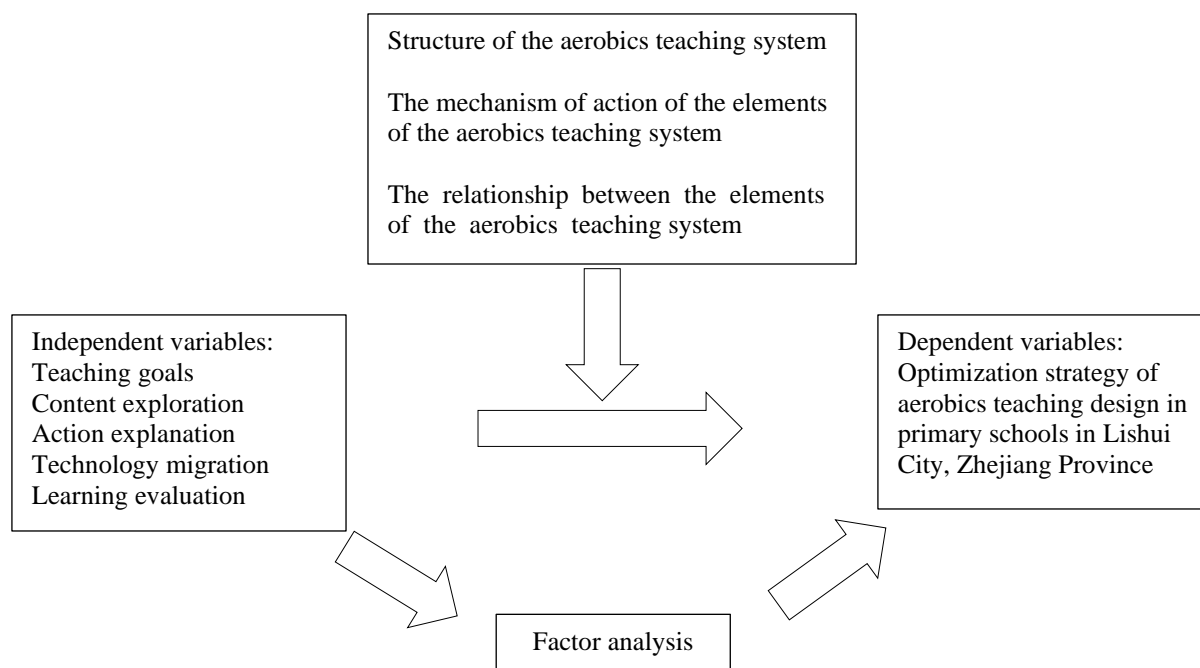


Figure 1 : Research Conceptual Framework

Research Results

The analysis of various indicators is as follows:

Teaching Goals (TG): Focuses on understanding the students' perception of the purpose and outcomes they associate with participating in aerobics classes, including health benefits, skill development, social interaction, and alignment with broader educational goals.

Content Exploration (CE): Aims to gauge the students' experience with the diversity of movements taught, their ability to follow musical rhythms, the novelty of each class, and whether the content is age-appropriate and engaging.

Action Explanation (AE): Seeks insight into the clarity and effectiveness of the instruction methods used by teachers, including demonstration, verbal guidance, addressing individual difficulties, and personalized attention.

Technology Migration (TM): Evaluates the students' ability to apply learned movements flexibly, transfer skills to other sports, improve bodily coordination, and share acquired skills with peers.

Learning Evaluation (LE): Investigates the fairness, process orientation, self-assessment opportunities, and feedback mechanisms present in the aerobics program, ensuring that learning is assessed holistically and constructively.

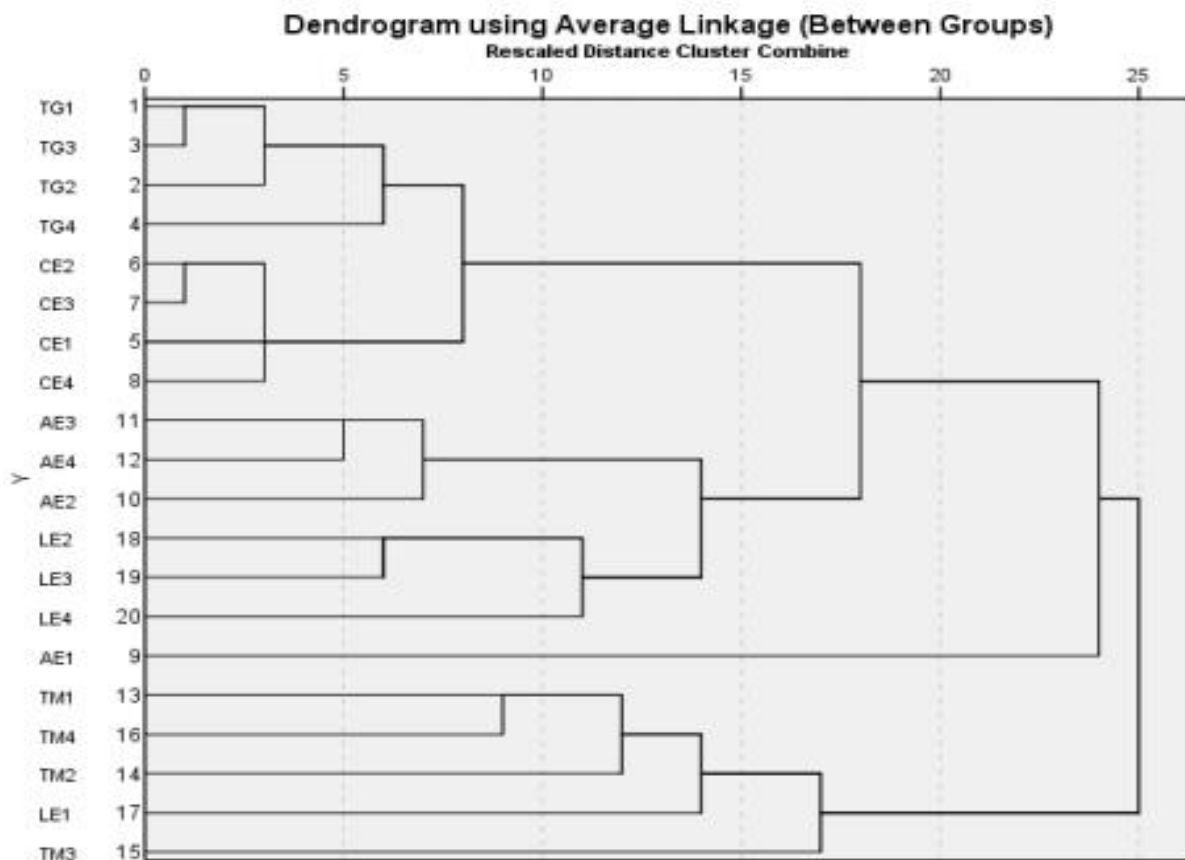


Figure 2 :Dendrogram using Average Linkage (Between Groups)

Analysis on the aerobics teaching system in primary schools in Lishui City, Zhejiang Province. In order to further explore the effect of the factors affecting the development of aerobics in primary schools in Lishui City, Zhejiang Province on the teaching effect.

Table 1: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .790 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1614.386 |
| | df | 190 |
| | Sig. | .000 |

Bartlett's sphericity test $p < 0.01$ indicates that the correlation matrix is significantly different from the unit matrix. At the same time, according to the KMO (Kaiser-Meyer-Olkin) value of 0.790 (> 0.7), the original variables are suitable for factor analysis. According to the correlation matrix of the original variables, the correlation coefficients of most variables are relatively large, that is, the variables have actual relationships and common factors can be extracted. According to the correlation matrix of the original variables, the principal component analysis method is used to extract factors and select eigenvalues greater than 1.

According to the total variance explanation (Table 7), the eigenvalue of the first factor is 4.004, accounting for 14.445% of the total variance, and the largest contribution to the explanation of the original variables. The second factor is 3.030, which explains 12.631% of the total variance. The eigenvalue of the third factor is 2.578, which explains 12.076% of the total variance. The eigenvalue of the fourth factor is 1.338, which explains 11.025% of the total variance. The eigenvalue of the fifth factor is 1.119, explaining 10.168% of the total variance. The eigenvalue of the sixth factor is less than 1, therefore, the first five categories of factors can explain 60.334% of the information in the 20 variables, indicating that extracting the 20 variables to the fifth category is the most appropriate.

Table 2: Total Variance Explained

| Component | Initial Eigenvalues | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 4.004 | 20.022 | 20.022 | 2.889 | 14.445 | 14.445 |
| 2 | 3.030 | 15.150 | 35.172 | 2.526 | 12.631 | 27.075 |
| 3 | 2.578 | 12.889 | 48.061 | 2.415 | 12.076 | 39.151 |
| 4 | 1.338 | 6.690 | 54.751 | 2.205 | 11.025 | 50.177 |
| 5 | 1.119 | 5.593 | 60.344 | 2.034 | 10.168 | 60.344 |
| 6 | .890 | 4.450 | 64.794 | | | |
| 7 | .769 | 3.845 | 68.639 | | | |
| 8 | .720 | 3.599 | 72.238 | | | |
| 9 | .662 | 3.312 | 75.550 | | | |
| 10 | .616 | 3.079 | 78.629 | | | |
| 11 | .602 | 3.012 | 81.641 | | | |
| 12 | .577 | 2.883 | 84.524 | | | |
| 13 | .513 | 2.564 | 87.088 | | | |
| 14 | .501 | 2.507 | 89.594 | | | |
| 15 | .432 | 2.160 | 91.754 | | | |
| 16 | .388 | 1.938 | 93.692 | | | |
| 17 | .372 | 1.858 | 95.550 | | | |
| 18 | .317 | 1.587 | 97.137 | | | |
| 19 | .299 | 1.496 | 98.634 | | | |
| 20 | .273 | 1.366 | 100.000 | | | |

It can also be found from the screeplot that when the number of factors reaches 5, the factor contribution efficiency decreases significantly.

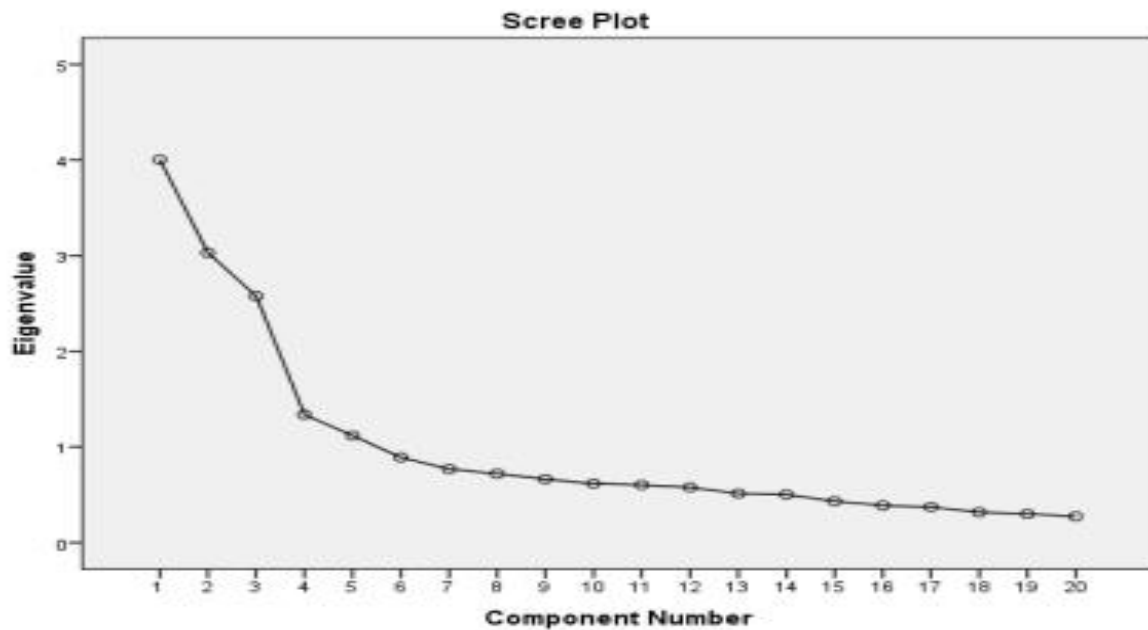


Figure 3 :Factor analysis screeplot

Table 3: Rotated Component Matrixa

| | Component | | | | |
|----------------------------|-----------|------|------|------|---|
| | 1 | 2 | 3 | 4 | 5 |
| learning evaluation (LE)1 | .856 | | | | |
| Technology Migration (TM)4 | .762 | | | | |
| Technology Migration (TM)3 | .726 | | | | |
| Technology Migration (TM)1 | .725 | | | | |
| Technology Migration (TM)2 | .662 | | | | |
| Content exploration (CE)3 | | .823 | | | |
| Content exploration (CE)2 | | .788 | | | |
| Content exploration (CE)1 | | .708 | | | |
| Content exploration (CE)4 | | .678 | | | |
| Teaching goals (TG)1 | | | .816 | | |
| Teaching goals (TG)3 | | | .768 | | |
| Teaching goals (TG)4 | | | .715 | | |
| Teaching goals (TG)2 | | | .660 | | |
| Action explanation (AE)3 | | | | .787 | |
| Action explanation (AE)4 | | | | .762 | |
| Action explanation (AE)2 | | | | .658 | |
| Action explanation (AE)1 | | | | .634 | |

| | |
|---------------------------|------|
| learning evaluation (LE)2 | .842 |
| learning evaluation (LE)4 | .771 |
| learning evaluation (LE)3 | .731 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

However, because this study has set the five dimensions of Teaching Goals, Content Exploration, Action Explanation, Technology Migration, and Learning Evaluation as independent variables, the purpose is to observe the relationship between the factors affecting the development of aerobics teaching in primary schools in Lishui City and satisfaction. Therefore, this study has constructed a system model of aerobics.

teaching development in primary schools in Lishui City, Zhejiang Province on this basis, as shown in Figure 4.

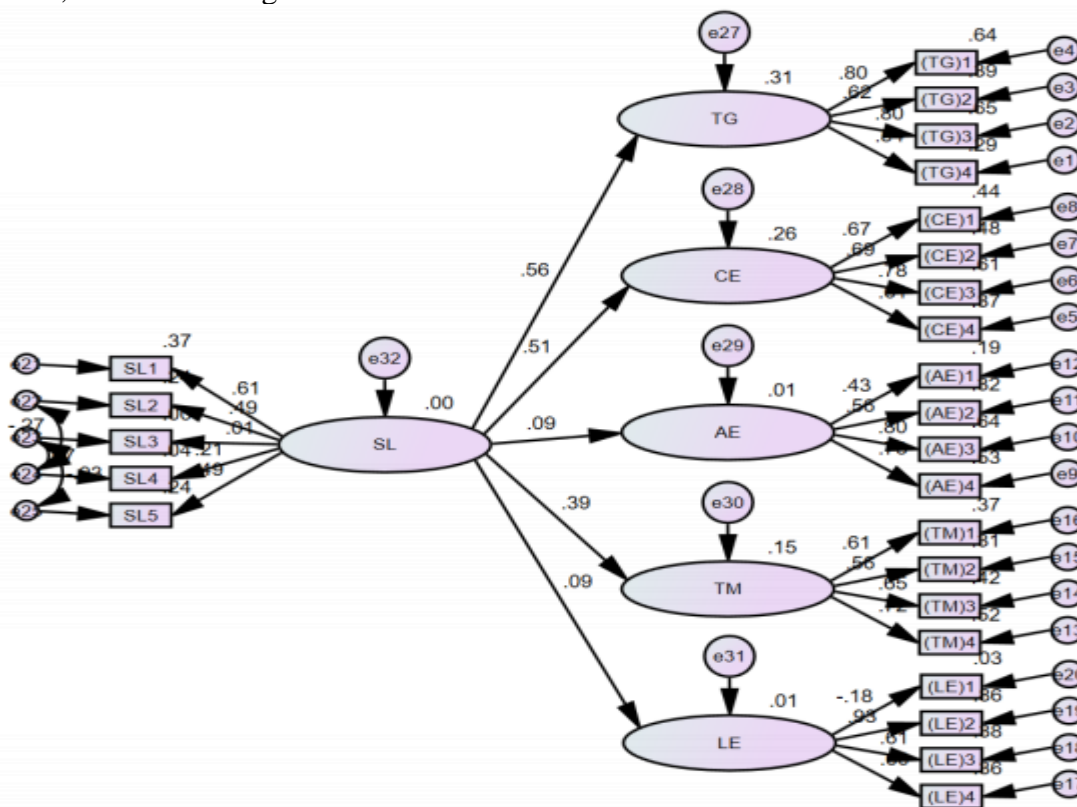


Figure 4: teaching development in primary schools in Lishui City, Zhejiang Province

Through the analysis and model modification of AMOS 25.0 software. From the key indicators of the model, the NFI of the modified model = 0.928, TLI = 0.862, CFI = 0.888, RMSEA = 0.058, all key data meet the standards, proving that the model constructed in this study is applicable. Table 4 shows the correlation values between the factors. The relationship between the variables is shown in Table 4.

Table 4: Regression Weights: (Group number 1 - Default model)

| | | | Estimate | S.E. | C.R. | P |
|-----|------|-----|----------|------|--------|------|
| TG | <--- | SL | .793 | .183 | 4.341 | *** |
| CE | <--- | SL | .721 | .169 | 4.275 | *** |
| F3 | <--- | SL | .180 | .178 | 1.012 | .311 |
| TM | <--- | SL | .769 | .218 | 3.537 | *** |
| LEV | <--- | SL | .176 | .163 | 1.079 | .281 |
| TG4 | <--- | TG | 1.000 | | | |
| TG3 | <--- | TG | 1.427 | .180 | 7.928 | *** |
| TG2 | <--- | TG | 1.003 | .143 | 7.025 | *** |
| TG1 | <--- | TG | 1.341 | .169 | 7.918 | *** |
| CE4 | <--- | CE | 1.000 | | | |
| CE3 | <--- | CE | 1.207 | .142 | 8.472 | *** |
| CE2 | <--- | CE | 1.102 | .137 | 8.047 | *** |
| CE1 | <--- | CE | 1.115 | .142 | 7.844 | *** |
| AE4 | <--- | F3 | 1.000 | | | |
| AE3 | <--- | F3 | 1.112 | .132 | 8.442 | *** |
| AE2 | <--- | F3 | .723 | .097 | 7.458 | *** |
| AE1 | <--- | F3 | .723 | .123 | 5.875 | *** |
| TM4 | <--- | TM | 1.000 | | | |
| TM3 | <--- | TM | 1.047 | .151 | 6.916 | *** |
| TM2 | <--- | TM | .358 | .096 | 3.717 | *** |
| TM1 | <--- | TM | .923 | .136 | 6.801 | *** |
| LE4 | <--- | LEV | 1.000 | | | |
| LE3 | <--- | LEV | .946 | .119 | 7.921 | *** |
| LE2 | <--- | LEV | 1.312 | .183 | 7.179 | *** |
| LE1 | <--- | LEV | -.365 | .129 | -2.834 | .005 |
| SL2 | <--- | SL | 1.000 | | | |
| SL3 | <--- | SL | .021 | .164 | .129 | .897 |
| SL4 | <--- | SL | .533 | .230 | 2.321 | .020 |
| SL5 | <--- | SL | 1.170 | .241 | 4.860 | *** |
| SL1 | <--- | SL | 1.674 | .317 | 5.280 | *** |

According to the regression weight table, the relationship between the concepts of technology transfer (TM), learning evaluation (LE), action explanation (AE), content exploration (CE), teaching goals (TG), and teaching satisfaction (SL) can be analyzed in detail. Each concept of the factors affecting aerobics in primary schools in Lishui City, Zhejiang Province is regarded as a potential variable, and the relationship between them and their respective indicators is measured by standardized regression coefficients (Estimate). The following is a specific analysis of these relationships:

The correlation coefficient between teaching goals (TG) and teaching satisfaction (SL) is 0.793. This means that teaching satisfaction (SL) has a significant positive impact on teaching goals (TG). Higher teaching satisfaction is associated with achieving higher teaching goals. The correlation coefficient between content exploration (CE) and teaching satisfaction (SL) is 0.721. Teaching satisfaction (SL) also has a significant positive impact on content exploration (CE), indicating that a satisfactory teaching experience is related to students' in-depth exploration of the content. The correlation coefficient between technology transfer (TM) and teaching satisfaction (SL) is 0.769. Teaching satisfaction (SL) also has a significant positive impact on technology transfer (TM), which means that satisfactory teaching helps students apply the learned skills to new situations. The correlation coefficient between learning evaluation (LEV) and teaching satisfaction (SL) is 0.176. Although the relationship between learning evaluation (LEV) and teaching satisfaction (SL) is smaller, it still shows a positive impact, although not as strong. The correlation coefficient between explanation of action (F3) and teaching satisfaction (SL) is 0.180. This relationship is weak and not significant, indicating that there is little direct connection between explanation of action (F3) and teaching satisfaction (SL).

Within teaching goals (TG), TG3, TG2, and TG1 are all built on the basic teaching goal (TG4), and the weight increases as the level increases. Within content exploration (CE), CE3, CE2, and CE1 are all enhanced on the basis of CE4. There is also a hierarchical relationship within technology transfer (TM), but the relationship between TM2 and TM1 is different from that of other levels, which may mean that some aspects of technology transfer are independent or require additional consideration. The relationship within learning evaluation (LE) shows that LE2 increases significantly, while LE1 decreases, which may mean that different aspects of learning evaluation contribute differently to the overall evaluation. The hierarchical relationship within teaching satisfaction (SL) shows that in addition to SL2 as a benchmark, SL5 and SL1 have higher weights, which may mean that they are key factors in teaching satisfaction. These relationships reveal the complex interactions between different concepts in educational practice and how teaching satisfaction can promote the improvement of key areas such as teaching goals, content exploration, technology transfer, and learning assessment.

Discussion

Zhejiang Province, combined with the large unit design of primary school aerobics courses, this study intends to propose targeted improvement strategies (Li Shiyang, 2023). Through the analysis of the large unit design of aerobics in primary schools in Lishui City, Zhejiang Province, it is found that the teaching plan of the aerobics and physical development unit shows a comprehensive consideration of students' aerobics skills and physical fitness improvement. The teaching activity design of this unit covers the introduction of basic

knowledge to the display of advanced skills, as well as the final assessment process (Chen Yiwei. 2023).

From the perspective of teaching objectives and content, teaching satisfaction directly affects the realization of teaching objectives. In aerobics teaching, if students are satisfied with the course, they are more likely to achieve teaching objectives, such as mastering specific steps or movements (Ma Xinyue. 2021). Teaching satisfaction also affects students' exploration of content. In aerobics courses, if students are satisfied with the learning process, they may be more proactive in exploring the details of aerobics, such as changes in steps or understanding of musical rhythms. For example, in the 16th lesson, students will be introduced to the basic hand positions of cheerleading, with the goal of understanding and saying the names of 8 of the hand positions and completing the movements independently with musical accompaniment. Teaching activities included warm-up, teacher demonstration, mirror mode practice, and group practice of hand position sequence combination. In the 17th lesson, based on the previous lesson, students were not only required to be able to identify and perform the hand position movements they had learned, but also to master the new 8 hand position movements, emphasizing cooperative learning and mutual correction of errors. In the 18th lesson, the focus was on assessment to ensure that students understood the assessment criteria, were able to complete the combination movements, and showed collectivism and cooperation during the assessment process. These teaching plans successfully combined the teaching of aerobics skills with physical development, stimulated students' learning interest through diversified teaching methods, and also paid attention to the problems in teaching and proposed corresponding improvement measures. The setting of the evaluation system ensured the consideration of students' all-round development, and it was a well-structured and goal-oriented teaching design. However, continuous monitoring and adjustment are needed to address gender differences and student participation issues to ensure that every student can get the most out of the course (Du Qiuxiang. 2023).

In addition, in the teaching design of aerobics, diversified teaching methods and student-led learning models improved teaching efficiency and students' learning interest (Zhang Shuangshuang. 2022). The results of the regression weight table support the effectiveness of this practice, as higher teaching satisfaction is closely related to better teaching results. Physical exercises in teaching design focus on students' sensitive periods of physical development, which may also indirectly affect the weight of technology transfer (TM) and learning evaluation (LEV), because a good physical foundation is conducive to the mastery and application of skills (Song Jie. 2021). Due to the challenges that boys face in learning progress and showing confidence, improvement measures in teaching design, such as designing movements with boys' advantages, aim to balance gender differences, which maybe reflected in future learning evaluation and teaching satisfaction data.

Based on the exploration of the influencing factors, according to the five dimensions of Teaching Goals, Content Exploration, Action Explanation, Technology Migration, and Learning Evaluation, five observation indicators, namely "Satisfaction with course content", "Satisfaction with teachers", "Satisfaction with classroom organization", "Satisfaction with the teaching venue", and "Satisfaction with teaching evaluation", were selected as dependent variables in an attempt to understand the element relationship of the aerobics teaching system in primary schools in Lishui City, Zhejiang Province.

Conclusion

1. Structure of the aerobics teaching system in primary schools in Lishui, Zhejiang Province. These analyses reveal the complexity and multidimensionality of teaching practice. Teaching objectives, content exploration, technology transfer, learning assessment, and teaching satisfaction not only present a hierarchical structure within them, but also have interdependent and mutually influential relationships between these structures. The realization of teaching objectives may depend on the in-depth exploration of content, and the improvement of technology transfer capabilities can in turn promote the achievement of teaching objectives. At the same time, the method and effectiveness of learning assessment have a significant impact on teaching satisfaction, and high teaching satisfaction can positively feedback to the setting and achievement of teaching objectives. For educational researchers and practitioners, understanding these relationships can help design more effective teaching strategies and assessment systems to promote students' learning outcomes and technology transfer capabilities, while improving overall satisfaction with the teaching process.

2. The mechanism of action of the elements of the aerobics teaching system in primary schools in Lishui, Zhejiang Province. The aerobics teaching system in primary schools in Lishui, Zhejiang Province shows a complex and interrelated structure, in which key factors such as teaching objectives, content exploration, action interpretation, technology transfer, learning evaluation and teaching satisfaction interact with each other and jointly affect teaching effectiveness and student experience. Through factor analysis, four main factors were identified, which explained 60.623% of the information of the original variables, revealing the core position of teaching satisfaction in the teaching process. Teaching satisfaction has a significant positive impact on teaching objectives, content exploration, and technology transfer, indicating that students' positive attitude towards the teaching process can promote goal achievement, deepen learning and skill application. At the same time, the hierarchical relationship within dimensions such as technology transfer and learning evaluation reflects the complexity of educational practice and the interdependence between concepts.

3. The relationship between the elements of the aerobics teaching system in primary schools in Lishui, Zhejiang Province. The clarity and achievement of teaching objectives directly affect teaching satisfaction. When students perceive that the course objectives match their own needs and can achieve these goals, their satisfaction will be significantly improved. In-depth content exploration can promote students' interest and participation in aerobics, thereby improving teaching satisfaction. The more students are able to explore and understand the deeper meaning of aerobics, the more likely they are to be satisfied with the course. The clarity and effectiveness of action explanations affect students' mastery and confidence in the movements, thereby indirectly improving teaching satisfaction. When students can understand and accurately perform the movements, they will enjoy the learning process more. Improved technology transfer ability is positively correlated with teaching satisfaction. When students are able to apply the skills they have learned to real life or other activities, they will enhance their awareness of the value of the course and thus improve satisfaction. A fair and process-oriented learning assessment mechanism can improve students' sense of participation and satisfaction. When students feel that the assessment process is fair and have the opportunity to conduct self-assessment, they are more likely to give positive comments on the course.

There is a hierarchical relationship within the dimensions of teaching objectives, content exploration, and technology transfer, indicating that as the depth of learning increases, the contribution to the overall teaching effect also increases accordingly. There may be a complementary effect between technology transfer and content exploration and action explanation, suggesting that the mastery of skills requires not only theoretical knowledge, but also practical operation ability and understanding of the meaning of movements. Some aspects of learning assessment may have a negative impact on overall satisfaction, suggesting that the assessment mechanism needs to be carefully designed to avoid causing unnecessary pressure or frustration to students.

The aerobics teaching system in primary schools in Lishui City, Zhejiang Province is an organic whole composed of teaching objectives, content exploration, action interpretation, technology transfer, and learning assessment. These factors jointly shape teaching satisfaction through positive and negative interaction mechanisms, affecting teaching effectiveness and students' learning experience. Understanding and optimizing these mechanisms is crucial to improving teaching design and promoting students' learning effectiveness and satisfaction. By implementing student-led learning models, diversified teaching methods, personalized teaching strategies, and teacher professional development, the quality of aerobics teaching can be effectively improved to ensure that every student can get the most benefit from the course.

Recommendations

1. Strengthen teaching design and innovation to integrate teaching objectives with student needs. Ensure that teaching objectives meet the requirements of the curriculum outline and meet students' interests and ability development, and enhance student participation through personalized teaching design. While teaching basic aerobics skills, encourage students to explore the cultural and scientific principles behind the movements to enhance the depth and breadth of learning. Design situational simulations and project tasks to give students the opportunity to apply the skills they have learned to real life and promote the cultivation of technology transfer capabilities.

2. Optimize learning assessment and feedback mechanisms. In addition to traditional skill tests, introduce peer evaluation, self-evaluation, and process evaluation to ensure the comprehensiveness and fairness of the evaluation. Teachers should provide specific and targeted feedback to help students recognize their strengths and areas for improvement and promote continuous learning.

3. Strengthen teacher training and professional development. Organize regular professional development workshops, focus on aerobics teaching methods, student psychology, and physical science, and improve teachers' teaching skills and professional knowledge. Encourage experience sharing among teachers, and promote innovation in teaching methods and the dissemination of best practices through seminars and observation classes.

4. Pay attention to individual differences and participation of students. Design stratified teaching plans based on students' age, gender, and physical fitness to ensure that each student can learn and progress at a level that suits them. Promote cooperation and communication among students through group projects and team competitions, and enhance team cohesion and collective honor.

5. Build a tripartite linkage mechanism among home, school, and community. Invite parents to participate in school aerobics activities, establish cooperative relationships with community sports institutions, and provide students with more practice and demonstration opportunities. Through school communications, social media, and community activities, increase publicity for aerobics projects and enhance public awareness of the value of aerobics education.

6. Continuously monitor and adjust teaching strategies. Implement regular teaching quality inspections, collect feedback from students, parents, and teachers, and use it to adjust teaching strategies and course content. Use data analysis tools to track students' learning progress and satisfaction changes, and provide data support for teaching decisions.

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