

Teaching Strategies of PE Teachers in Aerobics Towards Strategic Instruction Program for Students Performance

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Abstract

College students are selected as research objects. According to the descriptive statistics showed that the composite dancing, improve their breathing ($M = 1.71$). The mean score was 1.79, with a standard deviation of 0.52. This suggests that the students disagree that aerobics reduces hypokinetic disease, particularly heart disease ($M = 1.77$), that regular aerobic fitness builds cardiorespiratory endurance ($M = 1.72$), and that aerobics movements, such as The descriptive statistics showed a composite mean score of 1.76 and a standard deviation of 0.50. This suggests that the students disagree that aerobics significantly improved their ability to exercise at moderate-to-vigorous physical activity ($M = 1.75$), that aerobics connects all parts of their body to their brain ($M = 1.70$), and that aerobics prevents illness and tiredness in them ($M = 1.70$). The correlation matrix summarizes the measurement of the relationship between the assessment of the physical fitness of aerobics and the optimal health outcomes of a sample of college students. All of the domains in the Spearman's rho correlation analysis had p-values less than the 0.05 level of significance. This means that the null hypothesis will be rejected and there is a significant relationship between the variables. The correlation coefficients are positive, indicating that as the assessment of the physical fitness of aerobics increases, the assessment of optimal health outcomes also increases, and vice versa.

Keywords

Teaching Strategies; PE Teachers ; Aerobics ; Towards Strategic Instruction Program.

1. Introduction

College physical education course is a special education course that promotes students' physical and mental health based on students' physical development, and provides students with opportunities for all-round development. In college physical education courses, especially aerobics courses, because of its importance to students' cardiovascular health, endurance and overall physical fitness has attracted much attention.

There are some problems in the public physical aerobics course in colleges and universities, such as low enthusiasm of students, relatively single teaching mode, insufficient resources of aerobics teachers, different levels of students in teaching activities, and lack of innovation in teaching content. In view of the current problems in the teaching of physical aerobics, physical education teachers who teach aerobics are faced with the challenge of developing teaching strategies. Therefore, the research on how to develop teaching strategies to meet the diverse learning styles and skill levels of students and ensure that they maintain a sustained interest in aerobic exercise is proposed. In order to raise the students aerobic performance of the strategic teaching program.

2. Methodology

2.1. Research Design

This study will employ a non-experimental quantitative design which will naturally measure the occurrence of variables. Specifically, the descriptive research design and cross-sectional assessments will be used to describe the significant relationship among variables like fitness, social culturalization, and entertainment in relation to creative aerobics.

2.2. Research Instrument

The researchers developed a self-designed questionnaire in which the respondents assessed their knowledge of aerobics in terms of physical fitness.

2.3. Sampling Method

The researchers are calisthenics teachers who purposefully selected college students learning calisthenics in Huaibei Vocational and Technical College as samples. In the sample, the researchers selected the population to participate in the study by different classes and grades led by different aerobics teachers. The selection criteria are based on the current enrollment of aerobics sports courses and active participation in aerobics class activities. The study participants were college students studying aerobics, who accounted for 52% of students taking aerobics courses, taking physical education classes, specifically aerobics classes, during the current semester, the first semester of the 2023-2024 school year.

3. Conclusion

This chapter contained a tabular representation of the data collected, as well as its analysis and interpretation. The conclusions presented in this section were based on the results of a statistical analysis performed with jamovi 2.3.19.

3.1. Body Composition

Table 1. Assessment of Physical Fitness of Aerobics in terms of Body Composition

Indicators	Mean	SD	Verbal Interpretation	Rank
1. Aerobics as calisthenics brings me intensity of moving my hips and muscles.	1.74	0.44	Low Extent	1
2. I feel all parts of my body connected to my brain in aerobics.	1.67	0.47	Low Extent	4.5
3. My muscles are too tight when music is too fast, loose when music is slow.	1.72	0.45	Low Extent	2
4. My joints and tendons are always connected and into harmonious relationships.	1.69	0.46	Low Extent	3
5. The set of moves in aerobic form a choreography for all participants.	1.67	0.48	Low Extent	4.5
6. Aerobics movement work out my full body.	1.65	0.54	Low Extent	6
COMPOSITE MEAN	1.74	0.45	Low Extent	

Legend: 1.00-1.50: No at All (Very Low Extent); 1.51-2.50: Seldom (Low Extent); 2.51-3.50; Often (High Extent); 3.51-4.00: Always (Very High)

Table 1 summarizes the respondents' assessments of aerobics' physical fitness based on body composition, with a mean score of 1.74 and a standard deviation of 0.45. This implies that they have a low extent on this variable and disagree that aerobics as calisthenics increases the intensity with which they move their hips and muscles ($M = 1.74$), that their muscles are too tight when the music is too fast, too loose when the music is too slow ($M = 1.72$), and that their joints and tendons are always connected and in harmonious relationships ($M = 1.69$).

Zhang Shuang, Long Chunxiao and Qi Jiayu, (2008) In their research on the morphological characteristics of calisthenics players in colleges and universities, showed that the body form and body composition form index of calisthenics players have an important impact on the completion of high-quality movements, and long-term calisthenics training can increase lean body mass, improve body composition and improve muscle strength. The proportion of chest, waist and hip parts tends to be coordinated and reasonable, which is conducive to forming a healthy and fit body.

3.2. Flexibility

Table 2. Assessment of Physical Fitness of Aerobics in terms of Flexibility

Indicators	Mean	SD	Verbal Interpretation	Rank
1. Aerobics as exercise feeds my brain with valuable nutrients and oxygen.	1.63	0.49	Low Extent	6
2. I feel more focused after aerobic exercise.	1.64	0.48	Low Extent	5
3. I make the most efficient task of the day after my aerobic fitness.	1.67	0.47	Low Extent	3
4. I decide intellectually about what and how best I can do my job.	1.67	0.47	Low Extent	3
5. I contrast slow movement to fast, using my subjective interpretation of music during aerobic activity.	1.67	0.47	Low Extent	3
6. I feel more efficient and effective with my day to day task.	1.74	0.56	Low Extent	1
COMPOSITE MEAN	1.74	0.52	Low Extent	

Legend: 1.00-1.50: No at All (Very Low Extent); 1.51-2.50: Seldom (Low Extent); 2.51-3.50: Often (High Extent); 3.51-4.00: Always (Very High)

Table 2 depicts the respondents' aerobic and physical fitness in terms of flexibility. Based on tabulated data, it obtained a composite mean score of 1.74 and a standardized deviation of 0.52. This means that the college students disagree that using aerobics, they are more efficient and effective with their day-to-day tasks ($M = 1.74$), that they compare slow movement to fast movement using their subjective interpretation of music during aerobic activity ($M = 1.67$), and that they decide intellectually about what and how best they can do their job ($M = 1.67$).

Research from American Council on Exercise, 2000 noted that an alarmingly high number of people experience lower back pain at some time in their lives due to lack of exercise. If one has chronic back pain the doctor can provide exercise to alleviate pain and correct muscular weakness and inflexibility. It is also important to know the exercise to avoid.

In the journal of Clinical Psychology in a medical setting, Aerobic Exercise Enhances Cognitive Flexibility, it is noted that physical activity is thought to prevent cognitive decline and may enhance frontal lobe activity. Over the course of 10 weeks, increased frequency of aerobic

exercise was shown to be associated with increased cognitive ability, specifically cognitive flexibility, a measure of executive function.

3.3. Muscular Strength

Table 3. Assessment of Physical Fitness of Aerobics in terms of Muscular Strength

Indicators	Mean	SD	Verbal Interpretation	Rank
1. I tune in to my body's flow as I dance aerobic movements.	1.67	0.47	Low Extent	4
2. I always discover self-fulfillment while doing aerobic movements.	1.68	0.47	Low Extent	3
3. In unison with other participants, I feel stronger and fitter.	1.64	0.48	Low Extent	6
4. Whenever I participate in aerobics, I feel my body is balance and flexible to move.	1.66	0.47	Low Extent	5
5. Aerobics stimulates my mind to create expressive and cardio -filled movements.	1.69	0.46	Low Extent	2
6. Through aerobic movement I reinforce my capacity for uniqueness and improvisation.	1.75	0.61	Low Extent	1
COMPOSITE MEAN	1.78	0.55	Low Extent	

Legend: 1.00-1.50: No at All (Very Low Extent); 1.51-2.50: Seldom (Low Extent); 2.51-3.50; Often (High Extent); 3.51-4.00: Always (Very High)

Table 3 shows the assessment of the physical fitness of aerobics in terms of muscular strength, with a composite mean score of 1.78 and a standard deviation of 0.55. The findings show that college students have a low level of rating for this variable, and they tend to disagree that aerobic movement reinforces their capacity for uniqueness and improvisation ($M = 1.75$), that aerobics stimulates their mind to create expressive and cardio-filled movements ($M = 1.69$), and that aerobic movements help them discover self-fulfillment ($M = 1.68$).

Tian P. (2023) The results of the discussion and teaching practice analysis on the training of students' emotional expression ability in calisthenics teaching in colleges and universities show that students can cultivate their emotional expression ability by learning basic knowledge of calisthenics, aesthetics, self-confidence, innovation and integrating emotion into body language. Training students' emotional expression in calisthenics teaching in colleges and universities can significantly improve the effectiveness of students' calisthenics performance and the overall quality of calisthenics teaching.

3.4. Muscular Endurance

Table 4 Depicts how college students rated the assessment of the physical fitness of aerobics in terms of muscular endurance. According to the descriptive statistics, the composite mean score was 1.77, with a standard deviation of 0.50. This implies that respondents disagree that aerobics allows them to complete their daily tasks with less fatigue ($M = 1.76$), that it takes longer to contract their muscles to fitness ($M = 1.71$), and that using their muscles for minutes does not tire them out ($M = 1.69$).

Table 4. Assessment of Physical Fitness of Aerobics in terms of Muscular Endurance

Indicators	Mean	SD	Verbal Interpretation	Rank
1. I can contract my muscle against resistance.	1.66	0.47	Low Extent	4
2. Arms and hip movements are one of the activities employ to us in aerobics.	1.65	0.48	Low Extent	5.5
3. I am not easily tired in using my muscles for minutes.	1.69	0.46	Low Extent	3
4. Arms cramping up reduces in aerobic exercise.	1.65	0.48	Low Extent	5.5
5. It takes longer time to contract my muscles to fitness.	1.71	0.45	Low Extent	2
6. I can complete my daily task with less fatigue.	1.76	0.55	Low Extent	1
COMPOSITE MEAN	1.77	0.50	Low Extent	

Legend: 1.00-1.50: No at All (Very Low Extent); 1.51-2.50: Seldom (Low Extent); 2.51-3.50; Often (High Extent); 3.51-4.00: Always (Very High)

The study of Wilmore and Costill, 2008, strengthened this findings that once an individual is trained to exercise longer and with less fatigue, the cardiovascular system is improved. The respiratory system and the cardiovascular system work together to deliver oxygen to the cells. When breathing in, you draw oxygen through the trachea and down the bronchial tubes into the lungs. Aerobically fit individuals maintain health and wellness.

3.5. Cardiorespiratory Endurance

Table 5. Assessment of Physical Fitness of Aerobics in terms of Cardiorespiratory Endurance

Indicators	Mean	SD	Verbal Interpretation	Rank
1. Aerobics movement like dancing improve my breathing.	1.71	0.45	Low Extent	3.5
2. Regular aerobic fitness build my cardiorespiratory endurance.	1.72	0.45	Low Extent	2
3. Aerobic capacity is improved and this is used to enhance my cardiovascular function.	1.71	0.46	Low Extent	3.5
4. Breathing in and breathing out is part of the daily routing in aerobic fitness.	1.70	0.46	Low Extent	5
5. I develop good posture in aerobic fitness.	1.69	0.46	Low Extent	6
6. I reduce the hypokinetic disease, especially heart disease in aerobic fitness.	1.77	0.57	Low Extent	1
COMPOSITE MEAN	1.79	0.52	Low Extent	

Legend: 1.00-1.50: No at All (Very Low Extent); 1.51-2.50: Seldom (Low Extent); 2.51-3.50; Often (High Extent); 3.51-4.00: Always (Very High)

The evaluation of the physical fitness of aerobics in terms of cardiorespiratory endurance of selected college students is presented in Table 9. The descriptive statistics show that the composite mean score was 1.79, with a standard deviation of 0.52. This suggests that the students disagree that aerobics reduces hypokinetic disease, particularly heart disease (M = 1.77), that regular aerobic fitness builds cardiorespiratory endurance (M = 1.72), and that aerobics movements, such as dancing, improve their breathing (M = 1.71).

From the different subvariables measurement cited above, it can be deduced from the parallel study of American College of Sports Medicine (ACSM,1998) an optimal training occurs when one exercise 3 to 5 times a week at the intensities prescribed. The exceptions to this are deconditioned or unfit individuals who may be able to improve their cardiorespiratory fitness by exercising just twice a week. Exercise benefits start to plateau at a frequency of 5 times a week, exercising more than this seems to result in minimal benefits (US Department of Health and Human Services, 2008).

4. Strategic Instructional Program for Students Performance

4.1. Area of program

1. Aerobics as calisthenics Should increase the intensity.

Aerobic Program and Schedules Should be tailored according to the needs of the participants.

4.2. Specific objectives

Help students and teachers to develop high self-determination by not just relying on external rewards, so they can set goals better and work toward them.

Task progressions lead students from beginning levels to more advanced levels ; to have succession plan of tasks: (body composition;flexibility;muscular strength;muscular endurance; cardiorespiratory endurance)

4.3. Activities

Choose an appropriate physical and psychological needs: autonomy, competence, and relatedness. Like for example: Preferred time for Exercising because of the value of health benefits. Offer assignment or tasks after PE classes.

Propose some activities that students will like, not just what is in the PE Curriculum

4.4. Strategies

More options and collaborative planning among PE Teachers. Students are consulted during or prior to planning. Video Aerobics Dance Steps. Make students and teachers to get used to utilize free time for Physical/Aerobic Exercise.Make teachers to know more about students interests in PE.

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References

- [1] Zhang Shuang, Long Chunxiao, QI Jiayu. Study on the morphological characteristics of calisthenics players in universities [J]. Sichuan Sports Science,2008,(04):139-142.
- [2] American College of Sports Medicine"The Recommended Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory and Science in Sports and Exercise 30 (No.6,1998); 975-91.

- [3] American College of Sports Medicine Guidelines for Exercise, 8th Edition. Media, PA: Williams and Wilkins, 2010.
- [4] American Council on Exercise Aerobics Instructor Manual:ACE's Guide for Fitness Professionals.San Diego, CA:American Council on Exercise,2000.
- [5] Tian P. Discussion on Strategies for Improving Students' Emotional Expression in College Aerobics Teaching[J]. Applied & Educational Psychology, 2023, 4(10): 126-129.
- [6] Wilmore and Costill. Physiology of Sports and Exercise 3rd edition: Human Kinetics, 2004.
- [7] US Department of Health and Human Services. 2008. Physical Activity Guidelines for Americans.