

Students' Flow-experience in the College Physical Education Classroom

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Abstract: This study investigated the flow experience of physical education majors, non-physical education students, and students participating in confrontational sports and non-confrontational sports courses in Bozhou University, obtained the flow experience of the investigators, compared them with different investigators, analyzed the differences and related points, and provided suggestions for students to better produce flow experience in physical education courses. The researcher concluded that the Assessment of the PE and non-PE student in their flow experience in physical education is average.

Keywords: Flow Experience; Physical Education; PE Students.

1. Introduction

In daily life, people sometimes experience a state of self-forgetfulness that is highly focused on a certain activity. In 1975, Csikszentmihalyi, a professor of psychology at the University of Chicago in the United States, first named this mental state as flow experience or immersion experience (Flow Experience), which can also be called peak experience, and pioneered the flow theory. It refers to the fact that when an individual is in a state of flow experience, he or she is often highly focused on the current activity, and does not even feel the passage of time, and will have a pleasant feeling full of ability and satisfaction after completing the activity. Flow experiences in physical education refer to a state of optimal engagement and immersion where individuals feel fully absorbed in an activity. Here are some key points about flow experiences in physical education: Flow also known as “being in the zone occurs when a person is deeply focused, loses track of time and experience a sense of effortless control during activity. Its characterized by a balance between the challenge level of the task and the individuals skill level.

Of all the possible human experiences, the flow experience is considered to be the pinnacle experience that generates the motivation to keep the individual engaged in a certain behavior and influences the individual's well-being.

The theory of flow experience originated in psychology, and with the development of the theory, it has been widely used in the fields of sports, human-computer interaction, and education.

2. Research Design

The comparative method the researcher compared the difference between the flow of experience of Non PE and PE major students.

2.1. Sample and Sampling Technique

In this paper, 143 students majored in physical education and 294 students majored in non-physical education were selected using total enumeration according to different majors and projects, and the specific projects and numbers are shown in the following table:

Table 1. Physical education Major students

	Confrontational sports	Non-confrontational sports
Specific items and number of people	Tennis: 12	Ken Mei: 18
	volleyball:22	Yoga: 15
	basketball:18	Aerobics: 18
	ping pong: 10	
	Football: 14	
	badminton:16	
Total	92	51

Table 2. Non Physical Major Students

	Confrontational sports	Non-confrontational sports
Specific items and number of people	Tennis: 32	Ken Mei: 33
	volleyball:33	Yoga: 35
	basketball:34	Aerobics: 30
	ping pong: 30	
	Football: 32	
	badminton:35	
Total	196	98

2.2. Research Instrument

This study will use the Chinese version of the Dispositional Flow Scale-2 (DFS-2) (DFS-2) compiled by Australian scholars Jackson and Marsh in 1996, hereinafter referred to as the “scale”. The scale has a total of 36 items, which are divided into nine subscale dimensions (first-level indicators) according to the nine elements of flow, namely Challenge-skill balance and Action-awareness emergence), clear goal, precise feedback, concentration on the task at hand, and control), Loss of self, Time-transition, and Enjoyment. Each of the nine subscales lists four items (secondary indicators) to test these nine elements. The scale is

of each question, 1 means strongly disagree, 2 means disagree, 3 means do not know how to answer, 4 means agree, 5 means strongly agree, and the reliability index of the English version of the scale is $\alpha = 0.82$ (Jackson, 2004).

The Chinese translation version of the scale is widely used in China, and Yu Peihong (2009) found that the correlation

between each item and the corresponding subscale was between 0.50~0.81. The internal consistency coefficient of the subscale was between 0.79~0.85, the internal consistency coefficient of the total scale was 0.93, the half-folded reliability was 0.88, and the test-retest reliability was $\alpha=0.82$. The correlation between the subscale and the total scale was between 0.60~0.85, and each correlation was significant at the 0.01 level. The cumulative variance of the nine factors extracted by exploratory factor analysis explained 68.58%, and the confirmatory factor analysis showed that the fitting indexes were good. The Chinese version of the Flow Experience Scale has good reliability and

validity, and is worth promoting and trying, and the specific content of the scale is shown in Appendix A.

3. Results and Analysis

The Shapiro-Wilk test, a statistical test designed to measure normality, will be used to establish whether the parametric test is appropriate for the research aims. When the p-value exceeds 0.05, parametric testing is performed. When p-values are less than 0.05, it raises doubts about the data's conformity to a uniform distribution. Therefore, non-parametric testing will be used.

Table 3. Reliability Measurement – Assessment of Flow Experience in Physical Education (Cronbach's Alpha)

Construct	Cronbach's Alpha	No. of Item/s Deleted	No. of Item/s Retained
Challenge Skill Balance	0.94	0	4
Action awareness Emergence	0.87	0	4
Clear goal	0.95	0	4
Precise feedback	0.91	0	4
Concentration in the Task at Hand	0.92	0	4
Control	0.92	0	4
Loss of self	0.88	0	4
Time transition	0.91	0	4
Enjoyment	0.93	0	4

This table presents the evaluation of the reliability of the scale, flow experience in physical education that will be measured based on challenge skill balance, action awareness emergence, clear goal, precise feedback, concentration in the task at hand, control, loss of self, time transition, and enjoyment. Cronbach's alpha (CA) will be utilized to assess internal consistency levels. According to Nunnally (1978) and Fornell and Larcker (1981), a coefficient alpha (CA) score of 0.70 or greater indicates that the items are of excellent quality and internal consistency. The estimated coefficient alpha (CA) values range from 0.88 to 0.95, indicating that all of the items exhibit acceptable quality and show significant internal consistency.

Table 4. Reliability Measurement – Assessment of Flow Experience in Physical Education

Normality Test (Shapiro-Wilk)				
	W	p		
Overall	0.95	0.087		
Note. A low p-value suggests a violation of the assumption of normality				
Homogeneity of Variances Test (Levene's)				
	F	df	df2	p
Overall	0.58	1	601	0.445
Note. A low p-value suggests a violation of the assumption of equal variances				

Both p-values from the Shapiro-Wilk and Levenes tests are greater than 0.05, indicating that the scores follow a normal distribution and achieved homogeneity of variance. Hence, to determine if there is a significant difference and relationship among the variables, parametric tests such as the independent sample t-test and Pearson correlation was performed.

The results of the independent sample t-test revealed p-values that are lower than the 0.05 level of significance for all the domains. This means that the researcher will reject the null hypothesis and conclude that there is a significant difference in the in the assessment of the PE major and non-PE major students in their flow experience in physical education in terms of challenge skill balance ($p < .001$), action awareness emergence ($p = 0.034$), clear goal ($p = 0.005$), precise feedback ($p = 0.005$), concentration in the task at hand ($p = 0.023$), control ($p = 0.001$), loss of self ($p = 0.029$), time transition ($p = 0.009$), enjoyment ($p = 0.002$), and overall ($p = 0.002$). In particular, PE students scored higher than non-PE students for 19 to 38%.

Athletic education is specifically structured to foster athletic abilities, collaboration, and healthy rivalry, all of which enhance the flow experience. Physical Education students frequently participate in activities that are both physically challenging and intellectually engaging, thereby creating an environment that promotes the experience of flow (Siedentop & Van der Mars (2022). The intricacy of motor activities in team sports, such as soccer or basketball, necessitates that kids cultivate skills, make rapid decisions, and interact efficiently with their teammates. This complex involvement cultivates a sense of immersion and pleasure, which are vital elements of the flow experience.

Table 5. Difference in the Assessment of the PE Major and Non- PE Major Students in their Flow Experience in Physical Education

Variables	Group	N	Mean	t	Effect Size	p	Interpretation
Challenge Skill Balance	Non-PE	440	3.72	-4.14	0.38	< .001	Significant
	PE	163	4.07				
Action awareness Emergence	Non-PE	440	3.71	-2.12	0.19	0.034	Significant
	PE	163	3.88				
Clear goal	Non-PE	440	3.92	-2.81	0.26	0.005	Significant
	PE	163	4.13				
Precise feedback	Non-PE	440	3.83	-2.82	0.26	0.005	Significant
	PE	163	4.04				
Concentration in the Task at Hand	Non-PE	440	3.83	-2.28	0.21	0.023	Significant
	PE	163	4.00				
Control	Non-PE	440	3.78	-3.24	0.30	0.001	Significant
	PE	163	4.02				
Loss of self	Non-PE	440	3.63	-2.18	0.20	0.029	Significant
	PE	163	3.81				
Time transition	Non-PE	440	3.77	-2.62	0.24	0.009	Significant
	PE	163	3.96				
Enjoyment	Non-PE	440	3.94	-3.10	0.28	0.002	Significant
	PE	163	4.16				
Overall	Non-PE	440	3.79	-3.15	0.29	0.002	Significant
	PE	163	4.01				

4. Conclusion

1) Both PE and non- PE students experience average flow , indicating a need for instructional methods to better align with students interests and capabilities to enhance engagement and motivation.

2) Higher flow levels in PE students highlight the value of incorporating elements of choice and challenge a cross all subjects to boost overall student engagement and satisfaction.

3) PE students may miss out on psychological benefits like enhanced creativity , mood and resilience , emphasizing the importance of fostering flow in diverse contexts .

5. Recommendation

Based on the results, the researcher recommended the following:

1) The educators may employ differentiated education methods that address various learning styles and proficiency levels. By offering diverse levels of challenge and possibilities for mastery, educators can augment students' likelihood of experiencing flow.

2) Activities may be organized to enhance both skill acquisition and enjoyment, thereby cultivating intrinsic motivation. Educators may integrate student input into lesson design to ensure that activities align with students' preferences and motivations.

3) The school administrators may create a conducive

atmosphere that promotes collaboration among students might augment their flow experience. Collaborative activities prioritize social engagement and community, fostering a secure environment for students to take risks and enhance their talents without apprehension of criticism. This collaborative method may also facilitate greater engagement among non-PE students, thereby altering their opinions of physical education.

4) Educational institutions may promote inclusive physical activity programs that surpass conventional physical education sessions. After-school sports, fitness clubs, and interactive recess activities can offer all children opportunity to achieve flow, so improving their general well-being and academic engagement.

5) Educators may prioritize instructional strategies that encourage active participation and minimize anxiety associated with performance outcomes. This may involve incorporating teamwork and collaborative sports to build social connections, thus creating a supportive atmosphere where students feel comfortable taking risks and experiencing flow.

6) The department head may ensure that teacher training programs emphasize the importance of understanding the psychological aspects of student engagement. By equipping educators with the skills to identify and foster flow experiences, they can significantly enhance students' overall performance in PE.

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