

Students' Flow-Experience in the College Physical Education Classroom

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Abstract: In this study, "Flow" described the subjective psychological experience of college students during practice and exercise in physical education classes. So far, the term "flow" had been used to study the psychological state of athletes using Flow theory, making "flow" more suitable than terms like "fascinated" or "immersed," which is why it was employed in this paper. In this study, the "flow experience" related to the teaching of college physical education referred to the state of complete engagement of college students in the classroom, their enjoyment of course learning, and their internal motivation for learning. This study investigated the flow experiences of physical education majors, non-physical education students, and students involved in confrontational and non-confrontational sports courses at Bozhou University. It collected data on students' flow experiences, compared these across different groups, analyzed differences and correlations, and provided recommendations for enhancing flow experiences in physical education courses.

Keywords: Flow Experiences; Engagement; Satisfaction; Psychological Benefits; Physical Activity; Course Performance.

1. Introduction

The flow experience is considered one of the most motivating human experiences, as it sustains engagement in activities and influences well-being. Flow theory, originating in psychology, has since been widely applied in sports, human-computer interaction, and education. More research has examined flow's specific applications, including how it represents processes and supports academic performance, though debate remains about the extent of its impact. Meta-learning is used to explore the evidence linking flow and academic success.

In sports research, one area of focus is identifying factors that influence flow experiences. The theory of flow experience emphasizes that it is a positive emotional state closely linked to athletes' performance, prompting researchers to study factors that enhance flow to improve athletic outcomes (Liao & Shen, 2022). Liao and colleagues expanded the original factors influencing flow by adding four home fitness-related elements: "spatial freedom," "appearance of exercise equipment," "incentive mechanisms during exercise," and "surrounding environment" (Liao & Shen, 2022).

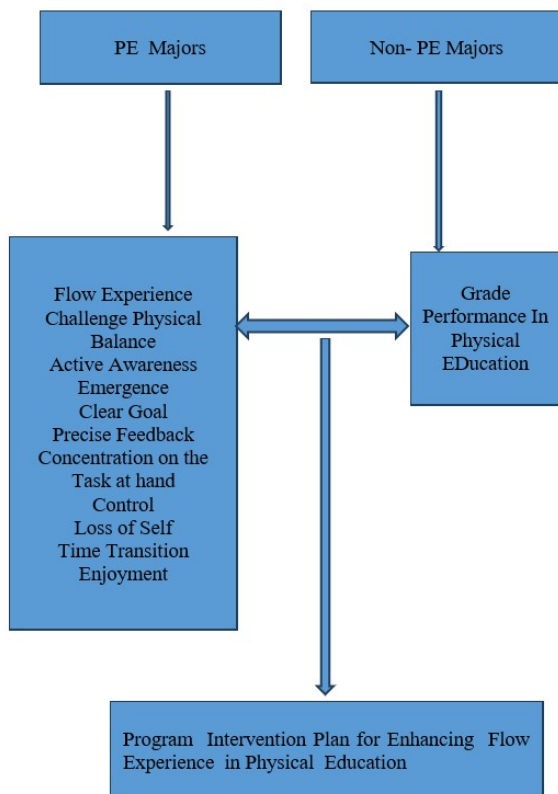
Flow experiences often lead to a sense of time distortion, where participants lose self-awareness and forget the passage of time, ultimately experiencing accomplishment and satisfaction. Upon achieving a state of flow, individuals overlook personal identity and self-consciousness, resulting in self-improvement and skill enhancement. This altered time perception makes the task feel quick and engaging, as participants often want more time to complete it well, reducing boredom. Flow participants find greater enjoyment in the process than the end benefit, valuing the experience itself as the goal. For instance, artists, musicians, and athletes often repeat their actions-creating art, playing music, or training-not for the outcome but for the intrinsic satisfaction, experiencing joy even in physical fatigue.

Flow theory aligns closely with positive psychology, marking it as an essential area of study within the field.

Chinese scholars, Miao and Yuanjiang (2019), highlight that flow theory's main contribution is explaining the conditions that foster flow and immersion. Early studies emphasized that a balance between activity difficulty and individual skill level is crucial for flow; when difficulty exceeds one's skill level, the individual may feel anxious and frustrated, while insufficient challenge may lead to disinterest. Flow emerges when skill and challenge are in equilibrium. Some scholars argue that flow experience does not always require simultaneous fulfillment of these conditions and propose that these elements represent a unified dimension, viewing flow as a one-dimensional construct. Ren Jun, a positive psychology researcher in China, suggests that positive psychology serves as a supplement rather than a replacement for traditional psychology, potentially leading to a paradigm shift as it fills the gap left by traditional psychology's focus on negative states.

The investigation aimed to address this research gap and shed light on how physical education impacted academic achievement and student well-being. For college students, good physical fitness was the foundation of academic study and social life; however, many students shy away from physical education classes that require sweating, muscle soreness, and physical exertion. Some students could feel the charm of sports, sweating profusely in physical education classes, enjoying the muscle soreness that resulted from exercise, and relishing the relaxation and pleasure brought by physical activity. Facilitating a flow experience in physical education was crucial for several reasons: flow enhanced enjoyment during physical education classes, making them more engaging and memorable; flow could motivate students to participate voluntarily in physical activities both during adolescence and later in life; and flow could contribute to psychological well-being by reducing stress and promoting a sense of accomplishment.

2. Research Paradigm



The paradigm illustrated that the non-PE and PE majors assessed the Flow Experience in terms of active awareness, emergence, clear goals, precise feedback, concentration on the task at hand, control, loss of self, time transition, and enjoyment. They then compared these variables to the academic performance of the PE students with the aim of establishing a comprehensive intervention plan for enhancing the flow experience for PE students. Establishing an intervention plan to enhance the flow experience of PE students was crucial for several reasons: it led to increased engagement and enjoyment, improved skill development, enhanced motivation, positive psychological outcomes, and better academic performance.

3. Significance of the Study

Students studying the flow experience were considered to be in a positive state of mind that made individuals more willing to actively participate in activities and devote more energy. In a physical education classroom, this experience helped students engage more deeply in physical activity and enhanced their motivation to learn. If students were able to achieve a flow experience, they were likely to be more focused, engaged, and satisfied, which was beneficial for researchers to improve their understanding of the learning experience of college students in physical education classrooms and provide meaningful insights for promoting students' learning effectiveness and overall development.

For teachers, understanding the flow experience in college PE classrooms helped educators create a more positive learning environment.

Researchers aimed to discover effective strategies to stimulate students' interest in learning and improve their learning motivation, which provided guidance for educational practice, improved the teaching methods and content of physical education classrooms, and offered practical teaching

strategies for educational practice.

4. Data Gathering Procedure

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 DFS scale was distributed once at the end of the two-month observation period, and the scale was expected to be administered at the beginning of the class, where it would be completed in about 15 minutes. The researcher collected it on-site at the end of the session. After the questionnaires for each class were collected, the recovery rate was determined. The questionnaires were sorted for each class by gender, checked to ensure that the students had answered the questions as required, and incomplete questionnaires were excluded.

5. Results and discussion

5.1. Assessment of the PE and Non-PE Majors in their Flow Experience in Physical Education

Table 1. Assessment of the PE and Non-PE Majors in their Flow Experience in Physical Education

	N	Mean	SD	Verbal Interpretation
Challenge Skill Balance	603	3.81	0.94	Agree
Action Awareness Emergence	603	3.76	0.87	Agree
Clear Goal	603	3.98	0.82	Agree
Precise Feedback	603	3.88	0.82	Agree
Concentration on the Task at Hand	603	3.87	0.82	Agree
Control	603	3.85	0.83	Agree
Loss of Self	603	3.68	0.89	Agree
Time Transition	603	3.82	0.80	Agree
Enjoyment	603	4.00	0.79	Agree
Overall	603	3.85	0.75	Agree

5.2. Grade Performance of The Students in Physical Education

Table 2 displayed the evaluation of students' performance in physical education. According to the tabulated data, non-PE students had a mean score of 70.50, with a standard deviation of 18.39, whereas PE students attained a mean score of 87.68, with a standard deviation of 15.36. The analysis indicated that physical education students had superior academic achievement compared to non-physical education students.

Table 2. Assessment of the Grade Performance of the Students in Physical Education

	Type of Students	N	Mean	SD
Course Grade	Non PE	440	70.50	18.39
	PE Students	163	87.68	15.36

Consistent engagement in physical education improved physical fitness, significantly impacting cognitive performance. Studies demonstrated that physical activity enhanced cerebral blood flow, thereby augmenting concentration, memory, and overall cognitive function. The physiological advantages improved the learning environment for pupils, as heightened concentration and superior knowledge retention were essential for academic achievement. Consequently, students participating in physical education frequently associated their enhanced physical health with a significant increase in intellectual achievement (Singh et al., 2019).

Furthermore, according to Barlizo and Osorno (2022), the psychological advantages gained from regular physical exercise should not have been disregarded. Participation in physical education offered students avenues to alleviate stress, mitigate anxiety, and enhance mood—all elements that favorably influenced the whole academic experience. A strong mental health status was crucial for optimal learning, as students engaged in physical education were likely to experience increased motivation and reduced burnout levels. These psychological benefits could have cultivated a favorable learning environment in which pupils were more motivated to achieve academic success.

Lastly, physical education cultivated discipline and enhanced time management abilities in students. The commitment necessary to harmonize physical exercise with academic obligations fostered a robust work ethic, promoting habits advantageous in many facets of life. Students who mastered the prioritization of their commitments and the management of their calendars frequently saw enhancements in their academic pursuits (Griban et al., 2020).

6. Conclusion and Recommendation

1) There was a relationship between students' course performance and their flow experience in physical education. The relationship between academic performance and flow experience in PE suggested that schools should have prioritized activities

2) Physical education educators should pay attention to students' learning status, adopt various teaching methods and flexible teaching approaches, and attract students to actively participate in classroom activities.

3) Programs emphasized the importance of understanding the psychological aspects of student engagement. By equipping educators with the skills to identify and foster flow

experiences, they significantly enhanced students' overall performance in PE.

4) School administrators provide more opportunities for teachers to learn and discuss methods that stimulate students' interest in learning, and pay attention to the physical and mental development of each student according to their aptitude.

5) Understanding the flow experience in Physical Education and its moderate relationship with academic performance emphasizes the need for targeted physical activity programs. Addressing areas such as challenging skill balance, action awareness, clear goals, precise feedback, concentration, control, loss of self-consciousness, time transition, and enjoyment can enhance students' overall experience and, consequently, their academic outcomes.

6) Developing an intervention program tailored to these areas ensures that students not only improve their physical capabilities but also benefit cognitively and emotionally, fostering a holistic educational environment.

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