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## RELATIONSHIP OF PHYSICAL EDUCATION LESSONS WITH SCIENCES

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**ABSTRACT:** Physical education classes serve not only physical health, but also the development of general knowledge and skills of students, integrated with other subjects. This article describes the relationship between physical education classes and subjects such as natural sciences, mathematics, language and literature, and history. The results of the study show that physical education lessons can be used to study the curriculum of other subjects more effectively.

**KEYWORDS:** Physical education, interdisciplinary relations, integration, educational process, health promotion, competence.

### INTRODUCTION

Although physical education classes have always been based on physical activity and sports, in recent years new approaches have appeared in integrating these classes with other subjects. These new approaches are aimed not only at strengthening the physical health of students, but also at developing their general knowledge and skills. Through physical education classes, students not only improve their physical abilities, but also strengthen their knowledge in subjects such as mathematics, science, history, and even art.

For example, through the integration of mathematics and physical education, students can learn to apply mathematical concepts during activities and games. Such an approach helps to develop students' mathematical skills and make them learn in an interesting and interactive way. Also, integrated with natural sciences, students will have the opportunity to learn more about their body and health, and apply biology, chemistry and physics in practice.

The integration of physical education lessons with history and art also has great potential. Through historical games and role playing, students can learn more about different periods and cultures. Integration with the arts helps students develop their creative skills, for example, they learn to express themselves through dance and drama.

This article examines the relationship between physical education classes and other subjects, and analyzes the possibilities of forming general knowledge and skills of students through these classes. Integrated approaches serve the comprehensive development of students and help to understand the connection between different subjects. This, in turn, lays the foundation for their future educational and life success.

### Physical education and natural sciences

#### Biology

By applying biology in physical education classes, students learn about the structure of the human body and its functions, muscles, bones and other organs. Doing physical exercises and sports

allows you to put this knowledge into practice. For example, testing the knowledge learned about muscles and bones in physical education classes is a good opportunity to get students interested in scientific research. Also, science skills are strengthened by measuring and observing parameters such as physiological processes, heart rate and breathing rate.

For example, information about how muscles work, heart rate and breathing changes during exercise can be included. In these processes, students will have the opportunity to see how the human body works.

### **Chemistry**

Using chemistry in physical education classes, students can learn about chemical processes in the body. For example, by analyzing processes such as energy exchange, lactic acid formation, and muscle activity during physical activity, students will have the opportunity to apply chemical knowledge in practice. Students can learn how metabolism changes and what chemicals are released during exercise.

For example, during exercise, muscles need ATP (adenosine triphosphate) to produce energy. Studying these processes explains to students how important chemistry is for the human body.

### **Physics**

By applying physics in physical education classes, students can practice concepts such as force, speed, center of gravity, and laws of motion. For example, in sports games, the knowledge of physics is strengthened by analyzing the trajectory of movement, force and speed. At the same time, students can connect the disciplines by observing and researching the laws of physics in different sports.

### **Physical education and mathematics**

Application of mathematics in physical education classes or other students will have the opportunity to apply mathematical concepts in practice. For example, activities such as calculating the results in sports games, determining the time and distances required for physical activities, and analyzing statistics in sports serve to strengthen mathematical knowledge. These processes show students that mathematics is important not only as theoretical knowledge, but also in everyday life. At the same time, you can learn geometry, algebra and other mathematical concepts through sports games.

### **Statistical analysis**

Sports statistics are important in physical education classes. By analyzing and evaluating the results, processing the data collected during the games, students develop statistical analysis skills. This process strengthens mathematical thinking and increases the ability of scientific analysis.

For example, in a football game, it is possible to analyze statistical indicators such as the distance run, the number of goals scored, and the time of possession of the ball for each player. Through this, students learn to evaluate and analyze results in sports using mathematical methods.

### **Physical education and language literature**

By integrating language and literature subjects with physical education classes, students have the opportunity to increase vocabulary and develop writing skills. This integrated approach is important not only in language and literature, but also in the general education and development of students. Students will not only strengthen their language skills, but also develop their

communication and social skills through activities such as writing essays about sports and exercise, preparing speeches and presentations on sports.

By reading and analyzing sports literature, students not only increase their knowledge of sports, but also develop their skills in understanding and analyzing literary works. This process increases the general culture of the students and gives them the opportunity to gain wider knowledge on various topics. For example, by reading sports biographies, sports stories and poems, students learn more about the lives and activities of athletes, which increases their motivation and interest in sports.

By reading and analyzing literature on sports in physical education classes, students also learn more about history and culture. For example, learning about the history of the Olympic Games, famous athletes and their achievements will increase the general culture of students and help them understand historical events in the context of sports. This approach not only strengthens students' historical and cultural knowledge, but also increases their general level of knowledge.

Such an integrated approach helps students understand the connections between different disciplines and gives them the opportunity to develop a wide range of knowledge and skills. Such an integration of physical education and language and literary sciences contributes not only to the academic success of students, but also to their personal and social development. This, in turn, lays the groundwork for their future success in life.

#### **Literature on sports**

Through books and stories about sports, students understand the social and cultural importance of sports. Reading such literature increases students' interest in literature and makes them interested in language and literature through sports. Literature written about many great athletes of Uzbekistan, for example, books about the life and sports achievements of Olympic champion Erkin Karimov, can inspire readers.

#### **Physical education and history**

By applying the science of history in physical education classes, students will have the opportunity to gain a broader knowledge of historical events and individuals. For example, topics such as the development of sports in ancient Greece and Rome, the history of the Olympic Games, national sports and the history of their development allow students to make history more interesting and meaningful. Through physical education lessons, practical application of historical topics and learning through experiments strengthens students' historical knowledge.

#### **National Sports**

Through national sports and the history of their development, students will have the opportunity to learn about the sports culture and traditions of their people. This increases students' national pride and love for the motherland. Students expand their historical and cultural knowledge by learning about the history and development of national sports of Uzbekistan, such as wrestling, national horse sports and other sports.

Wrestling is a sport in Uzbekistan it has a long history and is closely connected with national traditions and values. Wrestling is not only a sport, but also plays an important role in the physical and mental education of the Uzbek people. By studying wrestling, students learn not only the techniques and rules of the sport, but also the history of this sport and its role in society. Learning

about the development of wrestling and today's achievements of Uzbek athletes in international arenas inspires students and gives them national pride.

National equestrian sport is also an integral part of Uzbek sports culture. This sport has a long history in Uzbekistan and has been an important part of national holidays and celebrations in different periods. By learning about equestrian sports, students understand not only the techniques and rules of this sport, but also the connection of equestrian sports with national traditions and values. Learning about athletes who participated in national equestrian competitions and their achievements increases students' interest in national culture and strengthens their love for the motherland.

Also, other national sports, such as belt wrestling, wrestling competitions and other sports, have an important place in the sports culture and traditions of the Uzbek people. Learning about the history and development of these sports gives students more insight into their nation's rich sporting heritage. Through the history of the development of national sports, students develop a deeper understanding not only of the sport itself, but also of the role and importance of these sports in society.

Expanding students' historical and cultural knowledge through national sports is important for their general development. This process increases students' national pride, strengthens their love for the motherland, and gives them the opportunity to understand the rich heritage of their people. Deeper knowledge of national sports and the history of their development will help students understand and appreciate national values. This, in turn, creates a foundation for future educational and life success of students.

Integrating physical education lessons with other subjects greatly contributes to the development of general knowledge and skills of students. The connection with subjects such as natural sciences, mathematics, language and literature, and history makes physical education lessons more meaningful and effective. The examples presented in this article show that through physical education classes, students can be interested in other subjects and strengthen their knowledge.

Integrative approaches allow students to understand interdisciplinary connections, which in turn help them acquire a broader range of skills and knowledge. For example, integration with the natural sciences gives students the opportunity to apply biology, chemistry and physics in practice, while the connection with mathematics enhances their mathematical skills by applying mathematical concepts in real life. Integration with language and literature subjects increases students' vocabulary, develops writing and communication skills. Integration with history expands students' historical and cultural knowledge and introduces them to national values and traditions.

Therefore, interdisciplinary integration of physical education classes should be done on a wider scale. Such an approach not only helps to develop the general knowledge and skills of students, but also makes them interested in various subjects and makes the learning process more interesting and interactive. By connecting physical education classes with other subjects, students receive a versatile and comprehensive education that lays the groundwork for their future success.

Ultimately, integrating physical education classes with other subjects not only contributes to students' academic success, but also has a significant impact on their physical, mental, and social development. This approach gives students the opportunity to acquire a wider range of knowledge and skills, preparing them for future success in life. Therefore, the integration of physical education classes is an important and necessary step in the educational system.

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