METHODS OF SOLVING FINITE ISSUES OF APPLICATION OF NEWTON'S LAWS IN SCHOOL

Toxirova Maxfuzaxon Otaqo'ziyevna
Teacher of the Kokand State Pedagogical Institute

*Annotation: **This article is devoted to the peculiarities of solving different types of applied problems in Physics in the system of general secondary education in the teaching of physics.***
*Keywords: **quality problem, method, graph, scheme, table, experiment, polytechnic.***

There are theoretical and practical classes in the teaching of physics, and the importance of solving problems from physics in practical lessons is significant. In the process of solving the issue, along with providing knowledge to the students, important issues such as the development of students ' abilities, the teaching of students are resolved. In particular, mathematical literacy is required from students in the process of solving finite issues of application to Newton's laws.

Resolution of the President of the Republic of Uzbekistan dated March 19, 2021 "On measures to improve the quality of education and development of scientific research in the field of physics" PQ-5032 a comprehensive program of measures to improve the quality of education and ensure the effectiveness of research in physics has been approved. Its main objectives are: to improve the quality of teaching physics in schools, to improve textbooks and manuals; to develop a system of training, retraining and advanced training of physics personnel, in particular, teachers of rural schools; wide introduction of information and communication technologies in the educational process; increase the coverage of youth with physical education through the training of specialists in new and high-demand specialties in the education market, ensure the integration of research in the field of physics with production .

The main purpose of the integration of the course of physics with other disciplines is as follows:
- ensuring the system of knowledge;
- to form in the minds of students the idea of natural phenomena and their interrelation;
- develop students' ability to make connections between events, concepts and theories;
- strengthening the polytechnic direction of education;
- to give students an idea of the generality of the basic laws of nature and the importance of natural knowledge in various fields;

With all of the above in mind, in the process of solving problems in physics, students' logical thinking expands and their creative abilities develop. They have a broader understanding of the nature of physical phenomena, a deeper understanding of the practical application of the laws of physics. They will learn the functions, structure, and principles of operation of many physical measuring instruments, and will have the skills, competencies, and competencies to work with them. The issues also instill in students diligence, courage, will and character. According to an analysis of many methodological literatures, a problem that can be solved on the basis of logical conclusions, mathematical operations, and the laws and methods of physics, or by experiment, is usually called a physical problem. Solving a physical problem is solving a problem. Problems according to solutions; divided into qualitative, experimental, graphic and creative issues. This division is conditional because experimental problems can be solved using both verbal feedback, graphs, and calculations. However, each of these issues is diverse in terms of content and levels of complexity. The solution to these problems will be goal-oriented.

At the same time in school, the polytechnic importance of solving interdisciplinary applied numerical problems on Newton's laws is great. The interdisciplinary application of Newton's laws is studied in close connection with the science of mathematics. Consider the following number of Newton's laws:

1. What is the acceleration (m / s2) of two skates with masses of 80 kg and 60 kg, respectively, if the first one acts on the other with a force of 24 N?

We use Newton's second and third laws to solve this problem. Hence, when one of the two skates acts on the other with a force of 24 N, Newton's third law is valid. we use the third law to find the acceleration of each of them.

Given:

m_1=80 kg

m_2=60 kg

F=24 N

_____

a_1-?
a_2-?

Problem solving:

$$F_1 = -F_2$$

$$a_1 = \frac{F}{m_1} = \frac{24}{80} = 0{,}3 \ (\text{m/s}^2)$$

$$a_2 = \frac{F}{m_2} = \frac{24}{60} = 0{,}4 \ (\text{m/s}^2)$$

Answers: a_1= 0.3 m/s^2, a_2= 0.4 m/s^2,

2. A force of 6 N acts on a body. What is the mass of the object whose velocity varies in the form $v = 10 + 2t$ (m / s)? To solve this problem, we use the equation of velocity of a straight line.

Given:
F=6 N
v =10+2t (m/s)

_____

m-?

Problem solving:

$v = v_0 + at$, v_0=10 m/s^2, a=2 m/s^2

$a = \frac{F}{m}$ formula $m = \frac{F}{a} = \frac{6}{2} = 3$ (m/s^2)

Answer: 3 m/s^2

In short, the study of Newton's laws develops students' cognitive and logical thinking skills. Nowadays, it is important for everyone to have a good knowledge of physics in order to live a successful life. Physics is the basis of scientific and technological progress and natural science.

Today, physics is one of the most important and basic subjects in general secondary schools. However, there are a number of challenges associated with the development and study of physics education in general secondary schools. In general secondary schools, we rely directly on mathematics to solve problems in physics. In solving numerical problems, students see the integration of physics and mathematics. In general secondary schools, you can see how to solve problems in physics, as well as some complex problems in one way, and physics in different ways. We know that knowing the laws of physics allows us to solve these problems. Problem-solving skills teach students to work independently and creatively, to analyze what is being studied, and to identify their causes. Solving problems independently will help to increase the student's level of thinking. Dividing the methods of solving Newton's laws into different types according to the stage of education increases the level of students' mastery of the topic.

REFERENCES

1. Sh.R.Qoʻqonboyeva, Pedagogik amaliyot jarayonida boʻlajak fizika oʻqituvchisi kompetentligini shakllantirish masalasi. Academic research in educational sciences, Volume 2(CSPI conference 3), 108-112. (2021).

2. Feruza, T., Madina, M., & Dilbar, Y. (2020). The essence of inclusive education in developed countries. European Journal of Research and Reflection in Educational Sciences Vol, 8(1).

3. Sobirkhonovna, M. M. (2020). An Innovative Mechanisms to Increase the Effectiveness of Independent Education of Future Defectologists. International Journal on Integrated Education, 3(11), 210-211.

4. Sobirkhonovna, M. M. (2020, December). PROFESSIONAL TRAINING OF FUTURE SPEAKERS IN THE PERIOD OF INDEPENDENT STUDY. In Archive of Conferences (Vol. 10, No. 1, pp. 75-76).

5. Mahmudova, M. S. (2020). THE ROLE OF INDEPENDENT EDUCATION IN THE FORMATION OF PROFESSIONAL COMPETENCIES OF PROSPECTIVE SPEECH THERAPISTS. Scientific Bulletin of Namangan State University, 2(10), 358-363.

6. Каримова, Ш. (2022). ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ ДЛЯ ОЗНАКОМЛЕНИЯ ДОШКОЛЬНИКОВ С ПАМЯТНИКАМИ НАЦИОНАЛЬНОЙ АРХИТЕКТУРЫ В ВОСПИТАНИИ ПАТРИОТИЗМА. Yosh Tadqiqotchi Jurnali, 1(5), 451-458.

7. Shoira, K. (2022). PEDAGOGICAL FEATURES OF THE FORMATION OF A SENSE OF PATRIOTISM IN PRESCHOOL CHILDREN. Yosh Tadqiqotchi Jurnali, 1(5), 416-421.

8. Ziroat, A., & Zebiniso, A. (2022). LEGAL AND PEDAGOGICAL BASES OF PREPARATION OF CHILDREN FOR THE IMPLEMENTATION OF SOCIAL PROTECTION. Yosh Tadqiqotchi Jurnali, 1(5), 395-403.

9. Ziroat, A. (2022). CONCEPTUAL FUNDAMENTALS OF PREPARING CHILDREN FOR SOCIAL PROTECTION. Yosh Tadqiqotchi Jurnali, 1(5), 404-410.

10. Азизова, З. Б. (2021). СИСТЕМА ГАРАНТИЙ ПРАВ РЕБЕНКА В УЗБЕКИСТАНЕ. Oriental renaissance: Innovative, educational, natural and social sciences, 1(11), 575-578.

11. Азизова, З. Б. (2021). IMPROVING STUDENTS INDEPENDENT WORK IN THE CREDIT-MODULE SYSTEM. Актуальные научные исследования в современном мире, (2-5), 209-212.

12. РАДЖАБОВА, Г. У., & СОЛИЕВА, Х. О. (2017). ПРАВОВЫЕ ОСНОВЫ ПРЕДПРИНИМАТЕЛЬСКОЙ ДЕЯТЕЛЬНОСТИ В УЗБЕКИСТАНЕ. In МОЛОДЕЖЬ И СИСТЕМНАЯ МОДЕРНИЗАЦИЯ СТРАНЫ (pp. 396-398).

13. Абдиназарова, Х. О. (2021). ФАРҒОНА ИҚТИСОДИЙ РАЙОНИ КИМЁ САНОАТИ ҲУДУДИЙ ТАРКИБИНИ РИВОЖЛАНТИРИШ ВА ТАКОМИЛЛАШТИРИШНИНГ УСТУВОР ЙЎНАЛИШЛАРИ. ГЕОГРАФИЯ: ПРИРОДА И ОБЩЕСТВО, 2(1).

14. Komilova, N. K., & Abdinazarova, H. O. (2021). The role and geographical features of the chemical industry in the development of the economy of Uzbekistan. Экономика и социум, (5-1), 248-255.

15. Oripovna, A. K. (2022). The Importance of Establishing a Cluster System in Improving the Territorial Structure of the Chemical Industry of Fergana Economic District. International Journal of Discoveries and Innovations in Applied Sciences, 2(6), 135-140.

16. Араббоев, К. Т. (2011). ОСОБЕННОСТИ АДАПТАЦИИ СТУДЕНТОВ ВЫСШЕЙ ФИЗКУЛЬТУРНО-ПЕДАГОГИЧЕСКОЙ ШКОЛЫ К УЧЕБНОЙ И СПОРТИВНОЙ ДЕЯТЕЛЬНОСТИ. Педагогические науки, (5), 128-131.

17. МУРАТОВА, Г. Р., ХАБИБУЛЛИН, Р. М., & БАКИРОВА, А. У. (2019). КООРДИНАЦИОННЫЕ СПОСОБНОСТИ ПАУЭРЛИФТЕРОВ. In Будущее науки-2019 (pp. 94-97).

18. МУРАТОВА, Г., & ХАТАМОВ, М. (2018). О ПРОБЛЕМАХ РАЗВИТИЯ ТВОРЧЕСКОЙ АКТИВНОСТИ ДЕТЕЙ ШКОЛЬНОГО ВОЗРАСТА НА УРОКАХ ФИЗИЧЕСКОЙ КУЛЬТУРЫ. In Образование. Наука. Карьера (pp. 51-53).

19. Муратова, Г. Р. (2015). ПИТАНИЕ ШКОЛЬНИКОВ ГО САМАРА. ПРОБЛЕМЫ И ПУТИ РЕШЕНИЯ. In Современные аспекты профилактики заболеваний (pp. 135-136).

20. Муратова, Г. Р., & Шарипова, А. Ф. (2014). Органолептическая оценка рубленых полуфабрикатов из мяса курицы с добавлением гороховой муки и облепихового масла. In Студент и аграрная наука (pp. 176-177).

21. Муратов, Р. Ф., Семочкин, В. Н., Пименов, В. В., & Муратова, Г. Р. (2002). Организация угодий и севооборотов, устройство территории севооборотов на осушенных землях: Методическое пособие.

22. Abdukakhkharovna, R. S. (2020, November). DEVELOPMENT OF DOMESTIC TRADE RELATIONS AND TAXES IN THE KOKAND KHANATE. In Archive of Conferences (Vol. 9, No. 1, pp. 292-294).

23. Рузматова, Ш. А. (2020). ОБРАЗ ЖИЗНИ НАСЕЛЕНИЯ КОКАНДСКОГО ХАНСТВА. Экономика и социум, (11), 1242-1245.

24. Рузматова, Ш. А. (2020). ҚЎҚОН ХОНЛИГИГА ҚЎШИБ ОЛИНГАН ҲУДУДЛАР ВА УЛАРНИНГ АҲОЛИ ЭТНИК ТАРКИБИГА ТАЪСИРИ. Academic research in educational sciences, (3), 268-274.

25. Содиқович, К. Қ. (2020). МУҲАММАД АЗИЗ МАРҒИЛОНИЙНИНГ "ТАРИХИ АЗИЗИЙ" АСАРИДА ҚОЗИЛАР ФАОЛИЯТИНИНГ ТАЛҚИНИ. Современное образование (Узбекистан), (11 (96)), 52-59.

26. Содиқович, К. Қ., & Иброхимов, С. М. Ў. (2020). ТУРКИСТОН ЎЛКАСИДА ТАЪЛИМ ТИЗИМИ: МАДРАСАЛАР ФАОЛИЯТИ (XIX XX АСР). Современное образование (Узбекистан), (10 (95)), 54-59.

27. Содиқович, К. Қ., & Мелибоев, А. Н. (2019). Ешларда ахлоқии сифатлар шаклланишида тарихий маълумотлардан фойдаланиш. Современное образование (Узбекистан), (6 (79)), 78-84.

28. Содиқович, К. Қ. (2018). Тарих дарсларида Абу Али ибн Сино ёзган фалсафий қиссалардан фойдаланишнинг тарбиявий аҳамияти. Современное образование (Узбекистан), (1), 29-34.

29. Kaxramon, K. (2022). XIX ASR OXIRI VA XX ASR BOSHLARIDA TURKISTONDA XALQ SUDYA (QOZILAR) FAOLIYATIGA KIRITILGAN O'ZGARISHLAR. Yosh Tadqiqotchi Jurnali, 1(5), 240-245.

30. Erkaboeva, N. S., & Kurbanov, M. U. (2022). Scientific Organization and Management of Pedagogical Team Activities. Spanish Journal of Innovation and Integrity, 7, 103-107.

31. Erkaboeva, N. S., & Rahimberdiyeva, M. M. (2022). Features of Pedagogical Thoughts at a New Stage of Development of Uzbekistan. Spanish Journal of Innovation and Integrity, 7, 53-58.

32. Эркабоева, Н. Ш. (2016). FEATURES OF MODERN UZBEK FAMILIES. Учёный XXI века, (4-1 (17)), 36-39.

33. Erkaboyeva, N. S. (2016). FEATURES OF MODERN UZBEK FAMILIES. Ученый XXI века, (4-1), 36-39.

34. Sobirovich, M. I. (2022). Results of Consistent Classification of Lexemes. Middle European Scientific Bulletin, 24, 325-328.

35. Мадрахимов, И. (2002). К вопросу о составе лексем узбекского языка. Узбекский язык и литература, (4), 29-32.