ISSN: 2349-7793 Impact Factor: 6.876., Volume: 16 Issue: 12 in December 2022

IMPROVING THE QUALITY OF EDUCATION ON THE BASIS OF DEMONSTRATIONS IN LECTURES

Soliyev Elyor Ravshan O'g'li
Kimyo international university in Tashkent. Namangan branch, master's degree

Annotation: The article discusses ways to improve the quality of education through the use of Venn diagrams in the organization of lectures. It is based on the fact that in all branches of theoretical mechanics, which belong to the group of technical sciences, using this method can achieve the desired result based on the demonstration of students' mastery of basic words and phrases related to science.

Keywords: Venn diagram, theoretical mechanics, statics, force moment, moment vector, truss, calculation method, rod, voltage, node, force polygon, equilibrium.

In recent years, great work has been done in the field of education in our country. The status of professors and teachers has been improved, their salaries have been significantly increased, and they have been provided with material and moral benefits. At the same time, the material and technical base of higher education institutions has been strengthened, modern laboratory equipment has been provided, the number of higher education institutions has been increased, and this work continues today. Most importantly, the enrollment rate of college, academic lyceum and school graduates in higher education institutions has been dramatically increased and this work is planned to cover 50% of the graduates in the coming years.

The increase in the number of students raises the issue of their teaching methods and the quality of education. One of the main tasks should be to provide them with modern textbooks, manuals, methodological manuals and instructions, as well as to organize the lessons using information and communication technologies and advanced pedagogical technologies. The ease of application of the Venn diagram interactive method, which gives good results in the teaching of technical sciences in the performance of this task, is well known. In our previous studies, we have shown the advantages of using this method [3,5]. The results of pedagogical experiments to increase the activity of students in lectures [1,2,4] are described in detail in the works. Improving the quality of students' knowledge using the cluster method is presented in the study [6]. One way to apply the laws of theoretical mechanics in practice [7] is described in the work. [8] in the study presented in the diagrams of the analysis of the dynamics of growth of public spending on education, health, industry and construction in the country over the past three years.

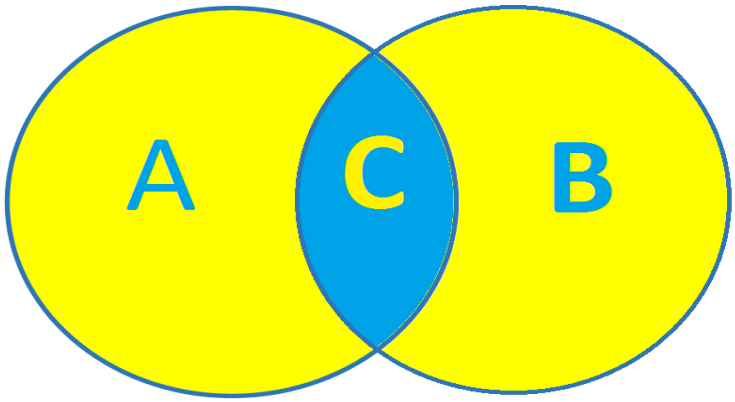
The methodological support of the subjects should be sufficient for the current student to receive quality knowledge. Especially in the context of a coronavirus pandemic, it may not be possible to conduct training normally. In this case, the lessons are transferred to the modular system via the Internet. Students face certain difficulties in mastering the subject of theoretical mechanics. The reason is that it is more difficult for students to master the basics of this science, the problem is physics, the method of solving is the use of mathematical rules and equations. In addition, the fact that this subject is their first encounter (they also studied subjects such as mathematics, physics, English, history in school and college) also has a psychological impact. Therefore, in order to study science more easily, it is necessary to pay attention to demonstration. In this case, interactive methods such as brainstorming, cluster spreading, Venn diagram are useful. The following shows that it is possible to increase the level of knowledge of students by applying the Venn diagram to

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS

the statics department of theoretical mechanics.

As the first diagram, we began by comparing the expressions of the moments of force relative to the point and axis belonging to the statics section. In this case, the two circles intersect. Students will easily master the phrase moment, which is one of the basic concepts of statics, as it is demonstrated. Understand the general and specific features of force moment expressions with respect to a point and an axis from the pieces in the circles shown, and are able to apply them in subsequent practical lessons.

A	Moment of force relative to a point
C	General features of A and B.
B	Moment of force relative to the axis



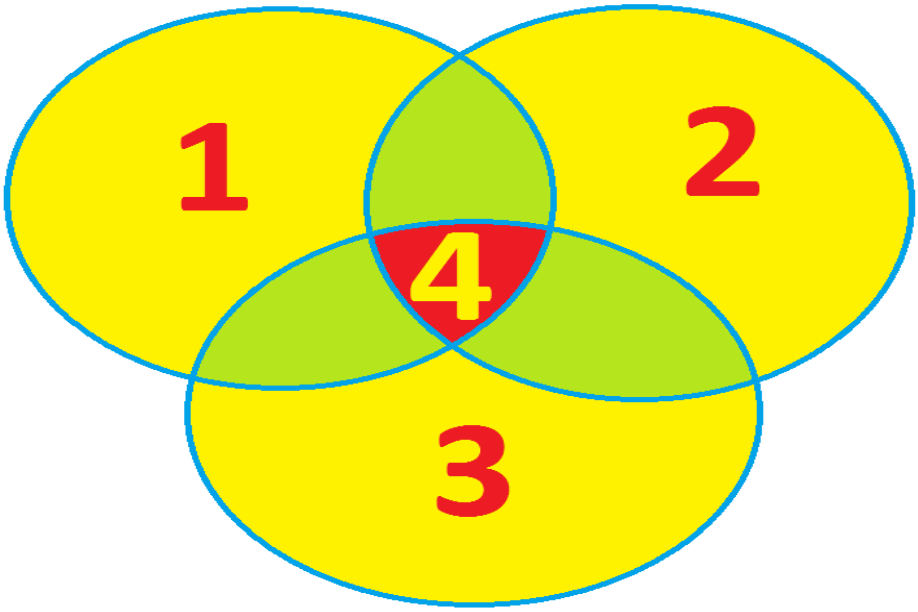
A	**Moment of force relative to a point** - the multiplication of the force on the force shoulder is taken with the appropriate sign. - characterizes the force that rotates an object relative to a point. - If there is no power shoulder, the torque is zero. - the amount of moment is equal to the doubling of the face of the triangle formed by connecting the center of the moment, the beginning and the end of the force. - the moment vector is the vector of force and the radius vector is perpendicular to the lying plane; - the force moment vector is equal to the force vector is the vector product of the point radius vector.
C	**In both cases** - characterizes the force that rotates an object relative to a point and an axis. - Under the influence of torque, the body rotates.

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS

	- there are moment vectors. - torque is zero when the force shoulder is zero. - unit of measurement n * m. - does not have an equal effect.
B	**Moment of force relative to the axis** - the product of the shortest distance from the power module to the axis is obtained with the appropriate sign. - moment is equal to zero, if - if the force is parallel to the axis, - if the force crosses the axis, - force and bullet lie in the same plane; - characterizes the force that rotates the body relative to the axis. - the moment vector is oriented along the axis, which, when viewed from the end of the vector, tries to rotate the body counterclockwise. - the force moment vector is equal to the force vector and the radius vector vector product of the point relative to the counting head.

Now let's complicate the matter a bit and compare the three phrases. To do this, we aim to visually convey the topic of the statics department's farm account to students through a Venn diagram. In the theoretical study of the topic, the comparison of the general and specific features of the three methods of farm accounting in the diagram is presented to the students in an understandable and visual way. The general and specific aspects of each method are presented visually through the circles in the drawing, making it easy and quick for the student to master the subject.

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS



1.	Knot cutting method	- first the base reaction forces are found. - the main method of finding the stresses in all the rods of the farm; - the calculation starts from the node where one or two rods are connected. - each node is cut from the farm and its balance is checked; - Equilibrium equations of the system of forces in the plane are applied; - If the rod voltage is positive, it is working on compression, if it is negative, it is working on elongation. - If the stem voltage is zero, it is not working, that is, it can be removed. - all nodes are considered in sequence.
2.	Ritter (cutting) method	- is used when it is necessary to find the voltage on some rods of the farm. - The truss is divided into two parts by cutting through three rods on which the tension of the truss is to be found, and the balance of one piece is checked. - To find the voltage, it is necessary to create an equation in which only the voltage sought from the unknown stresses is involved;

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS

		- this equation is a projection of all forces on an axis or a moment equation with respect to a point.
3.	Graphic method	- graphical method of finding the stresses in the rods; - a closed force polygon is constructed because the system of contact forces in the node is in equilibrium; - the magnitude is found by measuring the force of the unknown stress on the rod on the ruler; - A closed power polygon is built for the whole farm.
4.	General of 1,2,3 methods sides	**in all ways** **- flat farm balance is studied;** **- find the amount and direction of stresses on the rods;** **- equilibrium equations are used;** **- a closed force polygon is used;** **- methods of calculating farms;** -

The Venn diagram shows that the statics section is a convenient way to demonstrate the essence of key words and phrases. Using the above method of demonstration, students develop the ability to divide the topic into sections, the components of the science, to distinguish between general and specific features of its parts, to apply the acquired knowledge in solving problems. This situation leads to a qualitative increase in students' knowledge.

References:

1. доц.З. Маҳмудов, кат. ўқ. К.М.Ахмадалиев .”Назарий механика фанидан маъруза машғулотларини ташкил этишда талабалар фаоллигини оширишнинг бир усули хақида”. “Механиканинг хозирги замон муаммолари” халқаро илмий-техник конференция материаллари, Тошкент , 23-24 сентябр 2009 йил, II том, 381-383 бетлар.

2. З.С.Махмудов, М.М.Тошмирзаев. «К вопросу о повышения качества лекционных занятий будущим энергетикам». Интернет-портал «Онлайн-электрик» . 2014 г. www. Online-electric.ru.

3. Zokirjon Mahmudov. “Application Of Venn Diagrams In Lectures On Theoretical Mechanics”. International Journal of Progressive Sciences and Technologies (IJPSAT) Vol.24 No.1 December 2020. pp. 219-222.

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS

4. Zokirjon Mahmudov Sotivoldievich. “A Way To Increase Students Activity In The Organization Of Lectures”. International Journal of Progressive Sciences and Technologies (IJPSAT) Vol.25 No.1 Februare 2021. pp. 90-92.

5. З.С.Махмудов. Применение диаграммы Венна на занятиях. «Электронный инновационный вестник», периодический журнал научных трудов, 2021 год, № 1 , стр. 4-5. www. Elvestnik. com.

6. Mahmudov Z.S., Daminov J.A., Rahimov A.M. “The Use Of Cluster Method In Lectures On Theoretical Mechanics”. International Journal of Progressive Sciences and Technologies (IJPSAT) Vol.27 No.1 Junio 2021, pp. 145-147.

7. Dehqonov U.,Tillaboev Y. “Rotors Of Wind Aggregates and Their Construction Problems”. International Journal of Progressive Sciences and Technologies (IJPSAT) Vol.27 No.1 Junio 2021, pp. 148-154.

8. Махмудов З.С., Дехканов У.Г. “Повышение благосостояние народа – основная цель государства”. «Электронный инновационный вестник», периодический журнал научных трудов, 2021 год, № 3 , стр. 12-14. www. Elvestnik. com.

9. Sotivoldievich, M. Z., Abduvalievich, D. J., & Mutalovich, R. A. (2021). The Use Of The Cluster Method In Lectures On Theoretical Mechanics. *International Journal of Progressive Sciences and Technologies*, *27*(1), 145-147.

10. Sotivoldievich, Z. M. (2021). A Way To Increase Student Activity In The Organization Of Lectures. *International Journal of Progressive Sciences and Technologies*, *25*(1), 90-92.

11. Mahmudov, Z. (2021). Application Of Venn Diagrams In Lectures On Theoretical Mechanics. *International Journal of Progressive Sciences and Technologies*, *24*(1), 219-222.

12. Mahmudov, Z., & Ahmadaliev, K. M. (2009, September). On a way to increase the activity of students in the organization of lectures on theoretical mechanics. In *Proceedings of the International Scientific and Technical Conference" Modern Problems of Mechanics", Tashkent* (Vol. 2, pp. 381-383).

13. Mahmudov, Z., & Ahmadaliev, K. M. (2009, September). On a way to increase the activity of students in the organization of lectures on theoretical mechanics. In *Proceedings of the International Scientific and Technical Conference" Modern Problems of Mechanics", Tashkent* (Vol. 2, pp. 381-383).

14. Hayriddinov, B. E., Holmirzayev, N. S., & Ergashev, S. H. (2017). Combination of the solar greenhouse-livestock farms with the subsoil accumulator of heat.«. Symbol of science». International scientific magazine. OMEGA SCIENCE INTERNATIONAL CENTER OF I,(OVATION), 16.

ISSN 2349-7793 (online), Published by INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES.,
under Volume: 16 Issue: 12 in December-2022
https://www.gejournal.net/index.php/IJRCIESS