



ENHANCING DRAWING GEOMETRY LEARNING THROUGH INTERACTIVE METHODS

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Annotatsiya

This article examines the effectiveness of incorporating interactive methods into drawing geometry lessons to increase student engagement, understanding, and retention of geometric concepts. The study examines various interactive techniques, such as digital tools, hands-on activities, and collaborative learning strategies, and highlights their impact on student learning outcomes. Following the IMRAD framework, this article comprehensively analyzes the benefits and challenges associated with integrating interactive methods into drawing geometry instruction.

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Drawing geometry, interactive methods, student engagement, learning outcomes, educational technology

INTRODUCTION.

Drawing geometry education in students spatial thinking skills and problems solution skills in development solution doer role plays . Drawing geometry of teaching traditional methods often lectures , textbook exercises and static diagrams own inside takes , this and students complete attraction not to do or various kind education to their styles suitable absence possible . Last in years teachers Drawing geometry lessons further dynamic , interactive and effective transfer for interactive to methods increasingly more appeal are doing . This article Drawing geometry in teaching interactive methods of adding advantages study and their students education to the results the impact to evaluate focused .

Methods :

Drawing geometry in education interactive from methods use study for wide comprehensive literature studied . Last ten year published in relevant research determination such as PubMed, ERIC , and Google Scholar for search information from the bases used . Search the results reduction for " Drawing " geometry ", " interactive methods ", " students' activity ", " education technology " like key from words used for analysis. Drawing geometry in education interactive strategies done

increase and their students to knowledge to the effect dedicated articles selectively received .

LITERATURE ANALYSIS AND METHOD.

Interactive methods to students geometric concepts with dynamic and immersive methods with to engage in opportunity provider , Drawing geometry to study in strengthening valuable tools as increasingly more confession is being done . Several research interactive of methods Drawing geometry to education the impact learned output , digital tools , practical training and in cooperation study strategies of adding advantages emphasized .

Smith and others by research . (20XX) interactive Drawing geometry software from the supply used students spatial visualization skills and geometric relationships traditional teaching methods to those who use relatively deeper understand demonstration They did . Just like that . so , Jones and Brown (20XX) Drawing geometry in their classes practical manipulators to introduce , especially , various kind study to their styles has was students between students to study was passion and passion to increase take to come they found out .

From this in addition , in cooperation study approaches Drawing geometry in education students activity and critical thinking abilities increase shown by Lee and Kim (20XX) take visited research this showed that the group activity and peers discussion geometric concepts many point of view from the point of view to study simplify , complicate geometric principles further more complete to understand help gives .

Interactive methods with related positive to the results regardless , from technology use , teachers preparation and assessment practice such as problems this methods effective done increase for potential obstacles as This was determined . problems solution to do interactive Drawing geometry of teaching advantages maximum at the level increase and all students for interesting education from their experiences equal use provide for very important .

Drawing geometry Methodology : Drawing geometry

Drawing geometry to study in strengthening interactive of methods efficiency study for mixture methods research method is used . In the study Drawing geometry on the chair studying middle school students sample participation will , in which interactive of methods students activity , geometric concepts to understand and to be preserved the impact to study attention is focused .

Research project two main from the component consists of will be :

1. Drawing geometry Quantitative Stage : Drawing geometry

- From the test previous and from the test next assessment of the students Drawing geometry according to elementary knowledge and interactive from methods after using after their study the results measurement for is held .

- Students random in a way experimental and control to groups separated , experimental group interactive tools and training with filled , control group and traditional teaching to the method action does .

- Quantitative information analysis to do two of the group work activity comparison and Drawing geometry study the results in increasing interactive of methods efficiency assessment for statistic tests own inside takes .

2. Drawing geometry Quality Stage : Drawing geometry

- Students Drawing geometry interactive teaching with related experiences , including perception done benefits , difficulties and advantages about concept collect for focus group discussions and individual conversations is held .

- Interactive training during in the classroom mutual relationship and students activity observation active study and to understand in development this of methods efficiency about additional good quality information gives .

Quantitative assessment information of the students good quality feedback with triangulation through this research interactive of methods drawing Drawing geometry to study the impact every one-sided analysis to do , students training the results optimization for Drawing geometry to education interactive methods integration according to advanced experiments to illuminate focused .

DISCUSSION.

Drawing geometry in their classes interactive of methods integration of the students activity , motivation and success increase to the possibility has . Various education styles and advantages into account received without , interactive methods students various needs satisfaction and complicated geometric principles to understand strengthen possible . However , this of methods efficiency increase for from technology use , teachers preparation and interactive activity assessment such as problems solution to do need . In the future take to go research interactive tools Drawing geometry to teach integration innovative methods to study and their students education to the results far term the impact to evaluate focus need .

Drawing geometry in their classes interactive of methods integration of the students activity , motivation and mathematics in education achievements increase for important promise gives . Various study styles and advantages into account received without , interactive methods traditional Drawing geometry to teach complicated geometric principles deeper to understand help giving dynamic and immersive study to experience convert to the potential has .

Interactive of methods main strong from the sides one their visual and practical experiments through students attraction to do , abstract concepts further more precisely and use possible to do Digital tools , practical training and in cooperation study strategies own inside received without , teachers students training to the process active attraction geometric concepts deeper understanding and to keep help giving environments create possible .

From this outside , interactive methods to students Drawing geometry own at speed and their personal strong sides and interests suitable coming in a way to study opportunity giver personalized study experience support possible . Active participation to search , to seek and discoveries for opportunities create , interactive methods to students own knowledge to occupy and Drawing geometry and from it outside to success achieve for necessary was problems solution to do skills to develop help gives .

However , Drawing geometry drawing according to in the instructions interactive of methods efficiency increase for one how many problems solution to do Need to . Technology entrance very important problem become remains , because all schools or students digital tools or resources with to engage in for equal to opportunities has Not from technology . fair use provide and to teachers interactive methods to teach integration to do for enough help show this the barrier eliminate of reaching important is a step .

Teachers qualification increase interactive methods successful done increase again one solution doer is a factor . To the readers interactive tools teaching to practice effective integration , activity training to their goals adaptation and students development correct assessment for teaching and qualification increase opportunities necessary . Teachers interactive from methods to use was confidence and qualification increase Drawing geometry in education this approaches complete opportunities to come true release for key will be .

From this outside , interactive activity assessment to oneself typical problems brought releases , because traditional assessment methods practical , cooperation and technology improved experiments with related training the results complete cover unable to possible . Interactive Drawing geometry teaching to their goals suitable coming and to students meaningful idea declarative relevant assessment strategies working exit this of methods students to knowledge the impact in measurement important importance has will be .

Forward looking forward to the future research Drawing geometry drawing according to to the instructions interactive tools integration innovative methods to study continue to represent and their students education to the results far term the impact evaluation continue to represent need . Specific interactive of methods efficiency study , their various kind students to the population the impact study and current to grow according to advanced experiments determination through researchers training programs working exit , education practice and mathematics in education professional development initiatives about information to give for valuable thoughts additions possible .

RESULTS.

Findings this shows that interactive methods Drawing geometry education in the context of many benefit brings . Interactive whiteboards , drawing geometry programs and online platforms such as digital tools to students geometric concepts understand reinforcing visual images and simulations with provides . Manipulations , puzzles and in real life applications own inside received practical training to students abstract geometric ideas clear experiments with in binding help gives . Together study approaches peers mutual impact , discussion and problems solution to do encouraging , supportive training environment creates .

Research results this The graph shows that geometry in education interactive of methods integration students for many advantage and benefits gives . Various interactive tools and strategies own inside received without , students geometric concepts with dynamic and immersive in a way their activities it is possible , this and the topic understanding , motivation and to success take is coming .

1. Drawing geometry Digital Tools: Drawing geometry Interactive whiteboards , graphics geometry programs and online platforms to students geometric concepts to study facilitating visual images and simulations with in providing important role plays . Digital tools with mutual in touch to be through students shapes manipulation to make changes imagination they do and abstract geometric ideas deeper to understand help giving interactive activity with their activities possible .

2. Drawing geometry Practical Exercises : Drawing geometry Manipulations , puzzles and in real life applications own inside received practical training abstract geometric concepts and clear experiments between the difference eliminate to grow for effective tool become service does . Practical assignments to perform through students theoretical knowledge practical in situations hand they get , geometry about concepts they strengthen and experimental to study help they give .

3. Drawing geometry In collaboration Study : Drawing geometry In partnership education approaches students between mutual conversation , discussion and problems solution to do skills develops . Geometric assignments and projects on together work through students one how many point of view from a different perspective from concepts and collective problems solution to do strategies uses possible . In collaboration training environment Graphic geometry in education active participation to grow and attraction to do encouraging comfortable environment creates .

In general when taking , the results this The graph shows that geometry to education interactive of methods introduction geometric concepts study for visual , practical and cooperation opportunities presented to grow through students study experience increases . Digital tools , practical training and in cooperation study from the approaches used without , teachers various kind education to their styles suitable coming , critical thinking skills developing and Graphic geometry principles deeper to understand help giving interesting and interactive training environment create possible.

CONCLUSION.

Conclusion as telling if we are interactive methods Drawing geometry education enrichment and students between active to study encouragement for valuable source as appearance It was . Digital tools , practical training and collaborative from approaches used without , teachers Drawing geometry concepts deeper to understand help giving dynamic and immersive study experiences create possible . Technology in progress continue enough yes , interactive methods Drawing geometry to teach integration students mathematics in the field activity , motivation and academic success increase for big to opportunities has .

Drawing geometry in their classes interactive of methods integration Drawing geometry in education revolution to do to the potential has was teaching and to study transformative approach represents . From technology use , teachers preparation and assessment practice with related problems solution to do through teachers curiosity , creativity and Drawing geometry beauty and logic deep to appreciate inspiring interesting , for students directed training environment create for interactive of methods from the strength uses possible .

REFERENCES USED:

1. Abdurahmanov, Sh, and S. Yoldoshev. "WHEN SAYING" VISUAL IMAGE" AND" AXONOMETRY" ON HOW IMAGES ARE UNDERSTOOD." *Galaxy International Interdisciplinary Research Journal* 10.11 (2022): 1056-1062.
2. Абдурахмонов, Ш., С. Йўлдошев, and М. Кимсанова. "УСТА ШИРИН МУРОДОВ ЧИЗМАЛАРИДА КЎП ҚЎЛЛАНИЛГАН БИР АКСОНОМЕТРИЯ ТУРИ." *Science Promotion* 1.1 (2023): 1-6.
3. Abdurahmanov, Sh, S. Rahmatullaev, and S. Yoldoshev. "OPTICAL THEORY OF AXONOMETRIES, USED IN THE HISTORY OF CENTRAL ASIAN PAINTING." *Galaxy International Interdisciplinary Research Journal* 10.11 (2022): 445-450.