"EFFECTIVENESS OF VOCATIONALLY ORIENTED APPROACH IN TEACHING MATHEMATICS IN VOCATIONAL SCHOOLS"

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ABSTRACT: *In vocational schools, mathematics plays a pivotal role in equipping students with essential skills for their chosen professions. This thesis explores the effectiveness of a career-oriented approach in teaching mathematics, focusing on aligning mathematical concepts with practical applications relevant to students' future careers. The research emphasizes the integration of professional tasks and real-life problem-solving into the curriculum, aiming to enhance students' understanding and motivation. Innovative teaching methods, including the use of digital tools and case-based learning, are analyzed to determine their impact on learning outcomes. Examples of tailored mathematical tasks for various professions are provided to illustrate the implementation of this approach. The findings suggest that a career-oriented approach in teaching mathematics significantly improves students' engagement, comprehension, and preparedness for the labor market. The thesis concludes with recommendations for optimizing vocational school mathematics curricula to better meet the demands of the modern workforce.*

KEY WORDS: *Vocational schools, mathematics education, career-oriented approach, professional tasks, applied mathematics, innovative pedagogy, educational technologies, professional competencies, curriculum optimization, real-world problems, student motivation, mathematical problem analysis, digital learning tools, integrated teaching, labor market preparation.*

INTRODUCTION: Vocational school is important in teaching mathematics and national theoretical knowledge, but also in practical skills necessary for students' professional activities. In the process of producing highly qualified specialists working today, mathematics is an issue in the educational market, which is demanded on the basis of a professionally oriented product. Ushkurgan envisages connecting the education of mathematics students with a professional career. In the current modern education system, providing teaching methods, introducing innovative pedagogical technologies, and enriching lessons with professional issues is one of the effective methods of managing students' mathematical literacy. In this way, it prepares and develops professional competences of students with the help of real-life exercises for the lesson. This study can be practical to study the basis and application of the schooled production of the vocational method in the teaching of vocational mathematics.

Methods of Using Professional Tasks and Problems in Lessons

Integrating professional tasks and problems into mathematics lessons plays a crucial role in preparing students for their chosen professions. This approach connects theoretical knowledge with practical applications, enhancing students' interest in the subject and developing their ability to solve real-world problems. Below are key methods for effectively implementing this approach:

1. *Selection of Profession-Oriented Problems*

Tasks and problems relevant to students' career paths should be chosen. For example:

- **Construction field**: Calculating areas and volumes of geometric shapes.
- **Engineering field**: Solving systems of linear equations to determine material costs.
- **Economics field**: Calculating percentages and loan-related problems.

2. *Linking Lesson Topics to Professional Needs*

Each topic should be connected to its application in students' future careers. For instance:

- **Trigonometry**: Determining building heights or designing inclined roads.
- **Statistics**: Analyzing data in manufacturing processes.

3. *Organizing Practical Activities*

Students should have opportunities to solve professional tasks in workshops or labs. Examples include:

- Drawing graphs and performing mathematical modeling in technical fields.
- Visualizing calculation results using software tools.

4. *Teaching Through Team-Based Projects*

Divide students into small groups to work collaboratively on professional projects. This not only applies mathematical knowledge but also develops teamwork skills. Examples include:

- Creating a water distribution model for agriculture.
- Calculating the efficiency of a production line.

5. *Utilizing Digital Technologies*

Tools like GeoGebra, AutoCAD, and Excel can be used to solve professional problems. These technologies allow precise calculations and better presentation of results. Examples include:

- Automating calculations using Excel.
- Visualizing graphs with GeoGebra.

6. *Encouraging Student Creativity*

Assign tasks where students analyze problems they encounter in their fields from a mathematical perspective and propose solutions. This fosters independent thinking and a sense of responsibility.

CONCLUSION: 1. Students' interest in the lesson increases

Adaptation of mathematics lessons to professional needs increases students' motivation to acquire real-life knowledge. This, in turn, encourages students to actively participate in the lesson.

2. The skills of applying theoretical knowledge in practice are formed

Through professional problems and tasks, students learn how to apply mathematical knowledge to solve real-world problems. This will help them to effectively use their knowledge in their future professional activities.

3. Professional competencies are developed

By solving professional problems in mathematics classes, students develop basic skills related to their professional fields. For example:

• Geometry and calculations for construction.

• Calculation of interest for financial lines.

4. Practical and independent thinking skills are formed

Students begin to learn analytical thinking through the problems they solve. This prepares them to make independent decisions in difficult situations.

5. The level of training required in the labor market will increase

Vocationally oriented mathematics education contributes to the preparation of qualified specialists who are in high demand in the labor market. Students will develop practical skills necessary for their professional activities and adapt to market requirements.

6. The effectiveness of the innovative approach is determined

The effectiveness of teaching mathematics with the help of innovative technologies (for example, digital tools, programs) is evaluated. This makes it possible to develop recommendations for the wider introduction of new methods.

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