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Some Measures to Train the Capacity of Teaching Circuit Geometry Content in Primary School for Students in Primary Education, Tan Trao University

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Abstract
Posts Introducing some measures to train geometry teaching capacity in elementary schools for students majoring in Primary Education at Tan Trao University. In each ability group, we have presented quite carefully the measures to train geometry teaching capacity in elementary school for students majoring in general education. From there, students - future teachers will have the direction to train and hone their teaching skills, thereby improving the quality of training for primary teachers of Tan Trao University in particular and improving the quality of primary teachers for students. Society in general.

Keywords: Measures, Teaching Capacity, Geometry, Students, Elementary Education

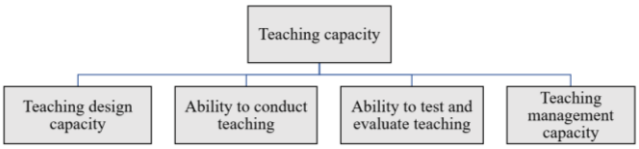
1. Ask a problem

The 2018 General Education Program identifies the core content of the Math learning program as integrated around three strands of knowledge: Numbers, Algebra and Some elements of analysis; Geometry and Measurement; Statistics and Probability. In which the content circuit is about Geometry and Measurement is one of the important components of mathematics education, essential for students to acquire spatial knowledge and develop essential practical skills. Geometry and Measurement form tools to describe objects and entities of the surrounding world; Provides students with basic mathematical knowledge and skills in Geometry, Measurement (with common measuring quantities) and gives students the ability to reason and perform mathematical proofs, contributing to contributes to the development of logical thinking, mathematical creativity, spatial imagination and intuition. At the same time, Geometry also contributes to aesthetic education and improving mathematical culture for students. Combining Measurement and Geometry will enhance the intuitiveness and practicality of teaching Mathematics [1; p16].

Math curriculum, knowledge of geometry is presented interspersed with knowledge of numbers and calculations, Statistics and Probability to create a close connection between the strands of knowledge. Geometry content in elementary school has the following tasks: Equipping elementary school students with basic knowledge about flat and cubic shapes, length, angle measurements, area, volume...; Form and train primary school students skills in drawing, assembling, and creating shapes associated with some learned flat and cubic shapes, practice calculating and estimating the perimeter, area, and angle of some flat shapes. In reality…. Therefore, proposing measures to train teaching capacity in geometry and measurement content for students majoring in Primary Education is necessary, in accordance with practical requirements. See off. This article would like to propose some measures to train teaching capacity in geometry content for students majoring in General Education, Tan Trao University.

2. Some teaching abilities need to be trained for students majoring in General Education, Tan Trao University

Teaching capacity is one of two components of pedagogical capacity and is specifically expressed through 4 component capacities according to the following diagram:



2.1 Teaching design capacity

2.1.1 Ability to prepare and design lessons

a. Ability to understand students

To be able to prepare students with the ability to design teaching well, lecturers are required to guide students in the ability to understand students; Capacity to research training programs and plans; Determine teaching content; capacity to collect textbooks and documents; Document research capacity... Among the above-mentioned capacities, *the capacity to understand the subject (the capacity to understand the students assigned to teach)* is one of the important capacities in the capacity to prepare teaching design.

Specific manifestations of the ability to understand students are: Understanding the physiological and psychological characteristics and cognitive characteristics of primary students; Able to understand students' mathematical thinking through the ideas and mathematical language they give; X determines the amount of knowledge students have about the lesson; the level and scope of knowledge acquisition and ability to form skills in students, thereby determining the amount of new knowledge and skills students need to learn, designing lessons and activities in accordance with the requirements. The needs of the lesson and are suitable for students.

b. Ability to understand issues related to geometry content in elementary schools:

This competency requires students to have the following understanding: Master the content and structure of geometric circuits in elementary school; Master the method of solving and proficiently solve geometric problems, know how to exploit and create new problems; Understanding the history of formation and development of elementary geometry in elementary school mathematics. Identify the mathematical basis of knowledge in textbooks; Understanding the construction perspective of geometric circuits, the meaning and relationship between geometric circuits and other knowledge circuits in the Mathematics curriculum in elementary schools; Master the levels of students' geometric knowledge.

2.1.2 Lesson design capacity

a. Writing ability required for the lesson

In order for students to have good writing skills *required to meet the lesson's requirements*, instructors need to specifically guide how to determine: General competencies and specific competencies for Mathematics in elementary school, general competencies and specific competencies. Can be formed through lessons, requirements for skills and attitudes that need to be achieved in students, etc. The current new general education program is a capacity development program, lessons under the new program are capacity development lessons. Instructors need to guide students to recognize the basic differences between the old lesson plans that follow a content approach and the lesson plans that follow a competency approach and firmly grasp the competencies and qualities that need to be achieved in Mathematics for each grade. class, each specific lesson.

b. Competence determines teaching and learning activities

This capacity is demonstrated through the following criteria: Understanding of lesson types related to geometry and measurement content and the structure of teaching activities; Design teaching activities in accordance with objectives, content and teaching methods. Teaching activities often start with the learner's activities, so this capacity is reflected in determining the learner's activities during the lesson. Determining the activities that students must carry out is also synonymous with determining teaching methods, because each student activity needs at least one corresponding activity of the teacher to guide, organize, and evaluate. Prices for these activities. From there, instructors need to guide students to identify the main activities of the lesson in four stages: *Warm-up activities* (creating excitement) - *Discovery activities* - *practice* activities - *Application* activities.

2.2 Ability to conduct teaching

2.2.1 Ability to apply teaching methods (pedagogy)

There is no teaching method that is universal or the most optimal in the teaching process. Each teaching method has advantages and disadvantages. Some active teaching methods that lecturers need to equip students include: Visual method, suggestive - question and answer method; method teaching and solving problems; method of explanation – illustration. In order for graduates to be able to teach well, lecturers need to equip students to master the advantages, limitations and principles of application of teaching methods and forms commonly used in teaching Mathematics in elementary schools. From there, guide students to design teaching plans with flexible coordination of teaching methods and techniques to achieve the goals of the teaching hour.

2.2.2 Ability to predict students' difficulties in learning geometric content and how to overcome them

In order for students to have this competency, instructors need to equip students with the ability to: Understand how students learn geometry topics, systematize students' difficulties and mistakes when solving geometric math problems; Analyze and point out the causes of students' difficulties and mistakes, and provide ways to organize and overcome mistakes for them.

2.2.3 Ability to use teaching media and equipment

This is an indispensable competency of teachers at any educational level in the current period. In the current trend of innovating teaching methods, there is the phenomenon of being too dependent on teaching equipment and facilities, overlooking direct exchange activities between teachers and learners, etc. Thus, so that students can to teach well Mathematics in general and geometry content in particular, lecturers need to guide students to grasp the meaning, importance, and principles when using teaching aids: Ensuring practical service for the lesson. Lecture, suitable to the psychological and physiological characteristics of students; Use teaching equipment and facilities at the right time, in the right way, at the right level and intensity; Ensure operating rules and correct pedagogical procedures. In particular, it is necessary to equip students with the ability to design teaching aids and media, and design exercises and games to learn Math in elementary schools that are attractive and attractive to students.

2.2.4 Ability to flexibly use different forms of teaching organization

To have good teaching hours that attract students, teachers need to flexibly combine different forms of teaching organization such as: Whole class teaching, individual teaching, group teaching,... especially it is necessary to apply group teaching. This is a form of teaching organization that trains students in many abilities, notably communication, cooperation and problem-solving abilities. Therefore, during practice hours, lecturers need to practice teaching and practice their profession require students to practice combining teaching methods in a reasonable, effective and attractive way.

2.2.5 Ability to communicate and use language

Ability to use language Primary teachers are very important, because in elementary school all the teachers' words, writing, blackboard presentations, etc. are standards and models of students. Therefore, in the process of training primary teachers, it is necessary to focus on training students to read correctly, write correctly, and make arguments, evidence, and arguments that are coherent, coherent, clear, and easy to understand for students. During teaching practice hours, students need to practice clean, clear and coherent presentation (speaking and writing) from which they know how to train elementary students to express standards in speaking or writing content and solutions. Mathematics, knowing how to ask and answer questions when solving exercises; know how to use appropriate mathematical language.

2.2.6 Ability to handle pedagogical situations

To train students in this capacity, we need to focus right from the subjects Psychology, Primary Education, equipping students with background knowledge of psychology, education, and principles of education.,... at the same time, in the pedagogical practice modules and methodology modules, lecturers pay attention to building common pedagogical communication situations in elementary schools such as situations with students, colleagues, parents,... to Students practice. On the other hand, students need to increase their awareness of self-training, hone their communication skills, and handle pedagogical situations to serve their future work.

3. Some specific measures to train the ability to teach Geometry content in elementary schools for students majoring in General Education, Tan Trao University

3.1 Practice teaching skills in forming geometric symbols for students majoring in Primary Education

***The purpose of the measure:** Helps students have teaching skills to form geometric symbols in elementary school.

***How to do it:** In this method, through teaching the modules Math Teaching Methods in Primary Schools and Practicing Math Solving in Primary Schools, we take time to organize seminars to practice formative teaching skills. Geometric symbols for students include the following steps:

- **Preparation:** The lecturer asks students to list corresponding geometric shapes according to stages appropriate to the students' awareness.
- **Conducting seminars:** Lecturers organize for students to present the content they have prepared. For each geometric symbol, the lecturer organizes students to discuss and draw the most suitable approach for primary students.

3.2 Equipping students with teaching skills to solve math problems with geometric content

**Purpose of the measure:*

- Help students master and have methods to guide students in solving math problems with geometric content in the Math textbook program in elementary schools;
- Help students understand the difficulties and mistakes of students and know how to organize them to overcome mistakes when solving geometry problems.

****How to do it:*** In this method, students are equipped with teaching skills to solve math problems with geometric content through the module *practicing solving elementary math problems* on:

a) Systematize mathematical forms with geometric content in elementary schools

- **Prepare seminar:** Students perform the following tasks based on self-study activities:

Classifying mathematical forms: Students rely on the system of geometric exercises in elementary school *mathematics textbooks* to identify and systematize mathematical forms. For each type of math, students need to describe the characteristics (conditions and requirements) or general problem; Present solutions and systematize common mistakes of students when solving math problems.

- **Conducting seminars in class:** Lecturers organize for students to present and discuss the prepared content. Then, draw results about the types of math, characteristics, solution methods, and common mistakes of students when solving each type of math.

b) Find out the causes and organize corrections for common mistakes of students when solving math problems with geometric content. In this content, we present specific situations (or problems), ask students to discuss, find out the causes and propose ways to organize students to overcome mistakes when solving situations (or problems). Math) that. Below is an illustrative example:

Example 1: When solving the problem "A rectangular schoolyard has a perimeter of 146 m. The length is 10 m more than the width. Calculate the length and width of that school yard. One student solved it as follows:

The width of the rectangular school yard is:

(146-10):=68(m)

The width of the rectangular school yard is:

68+10=78(m)

Answer: Width: 68 m:
Length: 78 m.

- **Requirement:** *Find the mistakes and causes of students' mistakes and suggest ways to organize and correct students' mistakes in the above situations.*
- **Student discussion results:** In the example above, the student is wrong in considering the perimeter of the rectangle as the total length and width.
- **Cause:** Students have not mastered the formula for calculating the perimeter of a rectangle.

- **How to fix:**

+ The teacher asks students to repeat the formula for calculating the perimeter of a rectangle and retry the results, through which they can see whether their math is right or wrong;
+ Students repeat the formula for calculating the perimeter of a rectangle and perform mathematical operations to find the length and width. Teachers can analyze to help students understand clearly that the sum of the length and width of a rectangle is only half of the perimeter, how to present answers and calculations, and recognize the causes of mistakes;
+ Students present the solution to the problem according to the instructions just mentioned;
+ Teacher notes to students that when a problem shows the half-perimeter of a rectangle, they are required to find the half-perimeter first.
+ Teachers should pay attention to creating for students the habit of retrying results after solving word problems.

3.3 Organize students to practice creating situations, questions, and exercises in teaching geometry in elementary schools

*__The purpose of the measure:__ Helps students have skills in designing real-life situations, designing exercises, asking questions and using questions in teaching.
*__How to do it:__ In this method, through the Elementary Math Solving Practice module, we organize students to practice the following content:
*a) **Practice building situations in teaching geometry:*** In teaching the module Practicing solving elementary math problems, we organize students to practice building situations in teaching geometry by giving the content specifically and ask students to build situations to teach that content. Building situations in teaching needs to ensure the goals of the lesson and teaching activities; situations appropriate to students' knowledge, experience and characteristics.
Example 2: Lecturer asks students to create situations that motivate students to learn in teaching the lesson *"Perimeter of a square"*. The following is the situation constructed by students:
An wants to use a string with enough stars attached to decorate a square picture frame with sides of 20 cm. Of the three pieces of string below, which piece of string is cut enough to make that picture frame?
A. The piece of string is 100 cm long.
B. The piece of string is 80 cm long.
C. The string is 90 cm long.

b) Practice asking and using questions in teaching geometry. Before organizing practice for students, lecturers need to provide reference materials to help them learn knowledge about asking questions and using questions in teaching such as: Goals of asking questions, Question asking techniques (in this article, we mainly train students to ask 6 types of open questions according to Bloom's cognitive level),... The process of practicing asking questions and using questions in Teaching geometry includes the following steps:
Step 1: The lecturer presents a situation (it can be a lesson, exercise or teaching that forms a unit of knowledge). Some form of geometry content), choose a question type and ask students to ask teaching questions for that situation.
Step 2: Students ask questions as requested, the lecturer writes students' questions on the board.
Step 3: Lecturers and students comment and evaluate the given questions to choose the appropriate questions.

3.4 Organize students to research, exploit and transform known problems in teaching geometry in elementary schools

*__The purpose of the measure:__ Helps students have the skills to exploit and transform the original problem into a new, more complex problem.
*__How to do it:__ In this method, through the module Practicing solving elementary math problems, we organize students to practice exploiting and transforming geometric problems. We give specific problems, ask students to discuss and come up with new problems.
Example 3: After teaching and solving the problem "A rectangle is 5 cm long and 3 cm wide. The square has sides of 2 cm. How many times is the perimeter of a rectangle greater than the perimeter of a square?

- **Requirement:** *Please replace the above question with another question to get a more difficult problem.*
- **Student discussion results:** In the example above, we can change "perimeter" to "area", we get a new problem that is more difficult than the first problem because to solve it, we must first calculate it. Length of the rectangle (5 cm); Then calculate the area of the rectangle and the area of the square; finally, divide the area of the rectangle by the area of the square to get the desired answer.

Example 4: The mouth of a water well is a circle with a radius of 0.7 m. People build well walls 0.3 m wide around the well mouth. Calculate the area of the well wall.

- **Requirement:** *Please give the opposite problem to the above problem.*
- **Results of student discussion:** People build a well, with the size as shown in the picture. Calculate the radius of the well mouth, knowing that the well wall area is 1.6014 m^2.

4. Conclusion

Teaching solving mathematical problems with geometric content, building situations, designing practical exercise systems, etc. are important skills for teachers in teaching Mathematics in primary schools, especially in the early stages. Today with the educational goal of developing the qualities and abilities of learners. The lessons will contribute to developing students' general and mathematical abilities; develop key knowledge and skills and create opportunities for students to experience and apply mathematics into practice; create connections between mathematical ideas, between Mathematics and other subjects and educational activities. Therefore, training the above basic teaching skills for students in the field of general education is very necessary to contribute to equipping them with foundational professional knowledge, thereby creating future teachers who can well meet their needs. society's human resource needs.

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