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**TRAINING THE SELF-LEARNING SKILL IN TEACHING PHYSICAL EXERCISES FOR HIGH SCHOOL STUDENTS**

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**Abstract.** Innovation of the student-oriented self-learning method, strengthening the self-learning role of the student requires creating a rich reference resource, so that students cannot only rely on knowledge from the teachers and textbooks as before. Self-learning skill is the ability to use the learning style impacting on teaching contents or the ability to perform a specific learning activity. This skill has the psychological nature, but the physical form of behavior or action. The skill is the expression of capacity. Thus, in order to determine the system of self-learning skill, firstly, it is necessary to determine the system of learning tasks. This article would like to introduce the self-learning skill in teaching physical exercises for high school students.

**Keyword:** self-learning; self-learning skill; training self-learning skill; teaching physical exercises; high school.

**1. Introduction**

The students' self-learning includes basic activities such as searching, accumulating, storing information and data needed for the learning, evaluation, selection and handling of the material collected into their own knowledge mine; then application of those knowledge and skills to solve the perceptual problems.

Communication and social relation in learning is expressed through the following activities: presenting, protecting ideas, own point of view and receiving, assessing opinions, views of others; participating in working and cooperating in small group, large group to share information and consult each other in learning; exploring and explaining the issues, social and psychological events in the learning process; making dialogue or having the other handling actions to resolve disputes or conflicts in the learning process.

Organizing, managing individual learning with the main activities as follows: management of plan, especially time, objectives and learning outcomes; management of behavior, style, learning intensity; management of vehicle, learning environment; management learning demand and attitude [1–4].

**2. Content and methodology of research**

Starting from the characteristics of self-learning activity that is a special cognitive

activity and from the identification of basic learning tasks, it can be listed that the self-learning skill system of students includes the skill groups as follows:

**2.1. Self-learning cognitive skill group**

- Skill for searching, exploiting sources of information includes: reading skill; skill for observing, investigating and gathering facts by experiment, practice, charts, graphs; skill for accessing, exploiting and using information online; Skill for memorizing information.

- Skill for handling, organizing and evaluating information and learning content includes the following component skills: Skill for reviewing materials and generalizing learning content; skill for making questions, stating assumptions, judgments; skill for detecting problem, identifying tasks and making decisions about how to solve the problem; skill for systemizing events, topics, formulas, theories, models, logos, signs, values and norms; skill for combining and using actions and different thinking manipulates to understand, apply and develop the oriented learning content.

- Skill for applying, changing, developing cognitive results to explain the technical phenomenon and daily life practice includes: skill for test/examination preparation, performance and conducting; skill for applying cognitive results to organize experiments,

proven practice and extend events; skill for changing and applying the cognitive results to form knowledge and new professional and interdisciplinary skill [3; 5].

### **2.2. Communication skill and academic relation group**

- Skill for presenting communicative language in writing, words with peers, with teachers about academic matters includes: skill for writing and presenting personal learning report; skill for developing and protecting opinions in front of people; skill for participating, debating, exchanging academic ideas in the form of group discussion and practice; skill for making dialogue, negotiating and settling disagreements, conflicts of views and learning behavior; skill for expressing in non-verbal behavior and language, etc.

- Skill for communication and learning through interactive form includes: skill for expressing friendliness and kindness with other people in the learning process; skill for criticizing and self-criticizing in learning and performing the learning tasks; skill for working together in group according to each assigned task; skill for organizing and participating in collective activities for learning.

- Communicative skill thanks to the support of information technology and telecommunications in learning includes: presentation skill, skill for using and participating in online learning forum; skill for exploiting learning resources or online learning.

### **2.3. Learning management skill group**

- Skill for organizing individual learning environment includes: skill for preparing and organizing the learning means and tools, organizing, arranging workplace and learning conditions; skill for preserving, maintaining means; skill for preserving, storing personal learning records (tests, exams, transcripts, certificates and records of discipline); skill for preparing and organizing outdoor learning environment.

- Skill for planning learning process and learning activities includes: skill for managing time and relaxing in learning; skill for making reviewing and personal practicing

plan, skill for making independent and advanced plan; skill for making plan on examination learning and plan implementation; skill for determining the objectives and individual learning methods in accordance with the purposes intended; skill for making training plan and developing learning style that is appropriate with learning task.

- Skill for testing, evaluating the process and outcomes of learning includes: skill for reviewing the test results and analyzing, evaluating strengths and weaknesses and shortcomings; skill for regularly assessing the own individual learning behavior and of other people; skill for regularly checking the own learning capacity through various forms of testing; skill for assessing and comparing learning outcomes between subjects, between periods, between self and other students, etc.

## **3. Results of research and discussion**

### **3.1. Training self-learning skill for students through teaching physical exercises**

In order to achieve good results in self-learning, self-learners need to master the skills and should train to form their skills. So as to train students to have self-learning skill system, in the process of teaching, the teacher must organize the training right from the class hours and pay first attention to help students use their brains effectively, planning self-learning, listening and recording the lessons in class, reviewing, practicing the reading skill and how to take notes via thinking diagrams:

#### **3.1.1. Training skill for students to use their brains effectively in self-learning**

The neurons link creates each person's intelligence. Human intelligence can be trained and anyone can become smarter by creating neurons links. The unique way to make the students more intelligent is doing the things that make your brain feel very "difficult, very tough." Each day, students should find something difficult that they must brainstorm to understand or to be skilled. This is the secret to help students become more intelligent [5].

#### **3.1.2. Training skill for planning the self-learning**

This skill needs to comply with the following principles: Ensuring the self-learning time in compliance with the information of the subject; reasonably alternating between self-learning forms, between subjects, between the hours of self-learning and hours of relaxing; strictly implementing the self-learning plan such as knowing how to work independently, self-examine and self-evaluate.

**3.1.3. Training skill for listening and taking notes in class**

The lecture-listening process includes the stages such as revising old lesson, being acquainted with following lesson and imagining the questions for the new lesson. When listening to the lecture, it is necessary to focus on tracking the guidance of teachers, contact with knowledge being listened, obtained knowledge with questions imagined before. It should be noted about how to take notes when listening to the lecture such as selectively recording, using particular signs, recording both the subject and the antithesis, recording the own questions.

**3.1.4. Training skill for reviewing**

Reviewing skill is a significant activity in occupying knowledge of the teacher's lectures. It is the activity of rediscovering lecture as reviewing the whole record, the relationship between the fragments, supplementing the record with information researched in other documents, identifying structure of each part and the whole of lesson. The reproduction of lecture based on the symbols, concepts, judgments recorded from teacher's lectures, from activity of rediscovering lecture, reconstructing the teacher's lecture by the own language, which are the logical connections that may include both old and new knowledge.

The training skill is effective in forming the corresponding skills with the learned knowledge. From solving the teacher's homework to self-designing types of exercises and solving them; from the exercises consolidating knowledge to the exercises codifying lessons, units as well as the exercises applying knowledge to the life [1].

**3.1.5. Training the effective reading method**

Must clearly define the purpose of reading; select an appropriate reading way as studying the general content of the book, try reading some passages, skim but with key words, read carefully with analysis, comments, evaluation. When reading, it is necessary to pay attention, positively think and write.

Reading method enables students to learn reading method to get the information. Before noting, learning by heart or revising lesson, the first thing to do is always to read textbook and course materials to capture the necessary, important information. Some effective reading skills that can be applied immediately are using a pencil as reading guide tool, studying the main ideas and marking key words, expanding the reading vision so that a phrase of 5–7 words can be read at the same time, reading the summary at the end of each chapter at first because at the end of each chapter, there are always several paragraphs summarizing main ideas, or in many cases, there are questions checking content of that chapter.

**3.1.6. Training for students to use thinking chart**

Thinking chart is a tool for thinking organization, is a method to convey information to the brain and then take out of the brain. It is an innovative and very effective mean of recording according to its effectiveness, "Sorting" thoughts of each person. It can consider that the thinking chart "is a tool of platform thinking organization, is a recording form using color, key words and images in order to expand and deepen the ideas". In teaching, the thinking chart helps the learners systematize problems easily, develop generalizing skill and promote creativity.

The typical advantages of thinking chart are as:

- Easy to grasp the core of the problem, avoiding waste of time for recording compared to the old recording style;
- Improving creativity and memory, grasping opportunities to discover and study;

- Completing the brain, absorbing flexibly and effectively;
- Helping learners become more confident in their abilities;
- Creating excitement for students, then students can understand and remember the problems better;
- Teacher can save time to make lesson plans, be more active in lessons;
- In particular, the thinking chart can help to develop thinking capacity for the learners in effective way.

Because the characteristics of the thinking chart is systematic, so it plays an effective role in the development of thinking capacities as systematic thinking, generalization thinking, logical thinking, synthetic thinking.

### **3.2. Determining the structural model of Physics exercises teaching skill**

Pursuant to the standard outcome of Physics teacher training bachelor, some Physics Teacher Training Facilities of Vietnam, based on the standard of high school teacher issued by the Ministry of Education and Training of Vietnam in 2009, based on the order of tasks that the teachers of Physics must perform to accomplish a specific lesson, based on the theoretical teaching function of physical exercises; We determine the exercise teaching skill includes:

#### **3.2.1. Skill for solving physics homework**

- Skill for studying the assignment

Reading the assignment carefully, studying the meaning of important terms, determining which the unknown is and which the fact is.

Using the notation to summarize what the assignment gives out? What it asks? Using drawings to describe situation and illustration if necessary.

- Skill for analyzing phenomena

Getting to know the facts given in the assignment related to which knowledge, concepts, phenomena, rules and laws in physics.

Determining the evolution stage of the phenomena mentioned in the assignment,

each stage is dominated by which properties and laws. Only when doing like that, the students can understand the nature of the phenomenon and avoiding the mechanical and formula application.

- Skill for building arguments and selecting solutions.

The essence of this step is to find the relationship between the unknowns and the data given. Comparing the data given and what needing to look for in order to know their contact and through which formula and laws to establish the relationship. Establishing the equations if necessary with the note that the number of unknowns is equal to the number of equations.

Selecting appropriate solutions in solving the physical exercises is an important stage. If selecting an appropriate solution will simplify the picky operations, avoid walking around to obtain the final result in the most accurate and fastest way.

- Skill for checking, certifying the results and arguing

Analyzing the final results to eliminate the results that are inconsistent with the assignment conditions or unsuitable with reality. This argument is also a way to check the correctness of the argument process. Sometimes, thanks to this argument, students can discover the mistakes of the argument process, because the absurdity of the results obtained [4].

#### **3.2.2. Skill for analyzing didactics function of physical exercises**

Currently in the high schools, teaching physics performs three main functions:

- Reformatory function: it is the main decisive function of the subject. When performing this function, the students can get knowledge on the basis of physics, gain skills and habits of physical knowledge application into practice.

- Development function: it requires students to develop in cognitive capacity, innovative capacity and improve their skills and constantly self-learning habits to enrich their knowledge and capacity.

- Education function: it is an indispensable component of teaching physics.

### 3.2.3. Skill for building system of questions guiding students to solve exercises

The questions must stimulate thinking, require students to process their memories and apply knowledge, avoid questions answering by “yes/ no? right/ wrong ? If yes, please explain reason.”

The question must have purpose, directly relate to the exercise and be put in the right place and the right time in the assignment in order to emphasize key points.

Teachers ask questions to the whole class, hear thoughts, designate for students to answer. When certain student completes his answer, it is necessary to ask other students to comment and supplement the answer (correct, incorrect, surpluses or deficits, needing a better expression) to stimulate attention and stimulate general activity of the whole class.

About the problem of calling students, the teachers should avoid calling some students repeatedly and leave the other ones behind. The questions must be suitable with the learners’ proficiency. The teacher should prepare both easy and difficult questions and should take the difficult questions for gifted students.

### 3.2.4. Skill for using exercises in typical teaching situations

Based on the popular/typical teaching situations in the practice of teaching physical exercises, we propose the following 7 lessons for training the exercise teaching skill:

- Using exercises to strengthen the initial knowledge, creating problematic situations: In order to strengthen old/learned knowledge and make a basis for acquiring new knowledge

+ Getting students involved in problematic situations, creating excited motivation, needs to explore new knowledge

+ Helping students find the new knowledge, new methods of operation

- Using exercises to strengthen and apply new knowledge: In order to getting students involved in new situations to train the possi-

bility of flexible and creative use, consolidate and expand, deepen knowledge

- Using sample exercises to form a new method: In order to train skill for applying the certain knowledge to solve the exercises.

+ Students solve new exercises under the programmed general guidance of the teachers;

+ Students generalize solution method under the guidance of teachers.

- Training the exercises solving skill under the known method and fully developing the method: Applying in familiar situations, practicing in the form to train the basic skills and memory.

- Using exercises to review: In order to help students better understand what they have learned, practice skills, techniques of applying knowledge to practical life, production.

- Using laboratory exercises in teaching physics: In order to improve empirical capacity, clarify the relationship between theory and practice.

- The teachers manipulate on the tools, equipment that are new to students.

- Students conduct experiments to collect information, process information collected

- Using the evaluation test exercises in teaching physics: in order to examine and evaluate subject knowledge of students.

The teaching skills should be developed as samples. We will introduce the content details on the other occasion.

## 4. Conclusion

Self-learning is the determinants of the learning and training quality. It is the optimal way for early taking our education profession and economy to catch up with other countries in the region and around the world. The student’s learning is essentially self-learning, no one can learn for someone else is, therefore, in teaching, the teachers need to pay attention to teach the students how to learn by themselves. As such, they can learn efficiently and form lifelong self-learning capability right from the time they still are students.

## Bibliography

1. Le Cong Triem. *Guiding self-learning method for students through Physics* (teacher training docu-

- ment). Pedagogical University – Hue University, 2011.
2. Nguyen Duc Tham, Nguyen Ngoc. Pham Xuan Que, Physics teaching method at high schools, Physics teaching method at high schools, Pedagogical University Publishing House, 2002.
3. Do Huong Tra. Teaching Physics assignments at high schools, Hanoi National University of Education Publishing House, 2009.
4. Pham Huu Tong. Methods of teaching physical exercises. Hanoi Education Publishing House, 1989.
5. Nguyen Khanh Tung. Self-learning, self-researching is the most durable solid development path of knowledge, personality. Hue Pedagogical University, 1998.

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