

# SOLUTIONS ON MANAGEMENT AND USE OF TEACHING EQUIPMENT UNDER THE DIRECTION OF DEVELOPING STUDENT CAPACITY IN LOWER SECONDARY SCHOOLS IN DIEN BIEN DISTRICT, DIEN BIEN PROVINCE IN THE CURRENT PERIOD

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*Through the process of surveying and researching on the situation of teaching equipment management, advantages and disadvantages, the cause of the situation of teaching equipment management in secondary schools in Dien Bien district, Dien Bien province, the author of the article proposed a system of appropriate management solutions to overcome the limitations, inadequacies, improve the efficiency of equipment, storage and use of teaching equipment in the direction of develop student capacity, improve the quality of education of secondary schools. The management of the use of teaching equipment in the direction of student's capacity development is also considered a necessary and urgent task in managing secondary schools in Dien Bien district, Dien Dien province in the current period.*

**Keywords:** Teaching equipment; Managing the use of teaching equipment; Management solutions; Developing student capacity; Secondary schools in Dien Bien district, Dien Bien province.

## 1. Introduction

The education and training sector is implementing the basic and comprehensive education objectives, creating a fundamental change in the quality of education, focusing on directing the renovation of curriculum contents and methods. Particularly, teaching methods need to be renewed in the direction of developing students' capacity.

In order to meet the requirements of innovation in program content, teaching methods need to have teaching equipment. Teaching aids have been found to be of great significance in helping teachers organize learning activities to promote students' positive, passionate learning, contributing to improving the effectiveness of teaching. Teaching equipment is one of the necessary conditions to implement the contents of education, education and intellectual development, arouse the intelligence of students.

Through surveys and practical research on measures to manage the equipment, storage and use of teaching equipment in secondary schools in Dien Bien district, Dien Bien province, the author of the article commented on the reason of the situation of teaching equipment management is as follows: In recent years, the practice of teaching equipment management towards the development of student competencies in secondary schools in Dien Bien district, Dien Bien province has bring certain effects. In general, all schools have teaching equipment to meet the teaching and learning in

the direction of promoting learners' activeness and developing practical capacity for students; overcome the "vegetarian" teaching style, one-way passive learning. Especially in some schools, which have implemented classroom teaching, teaching equipment has been preserved and used effectively. With the local budget and the support of social organizations, the secondary schools in Dien Bien district, Dien Bien province have focused on expanding land, increasing investment in building school facilities. learn. The quality of comprehensive education is respected and improved significantly, the number of excellent students at the secondary school level continues to increase. Teaching equipment is interested in investing, contributing to innovating teaching methods, developing practical capacity of students in secondary schools. The school leadership has developed a development plan that is suitable to the reality of the school and the locality, has a right and timely decision in purchasing, using and preserving teaching equipment reasonably and scientifically. School leaders as well as teachers, students are aware of the important role of teaching equipment in innovating teaching methods.

However, the management of teaching equipment towards developing student capacity in most junior secondary schools is not really effective: Many schools still lack teaching equipment, do not preserve and use effectively. results of available

teaching equipment, the frequency of using teaching equipment is not high, even in many cases, it is only a formality and coping that causes waste and no appropriate management measures for teaching equipment. meeting the requirements of innovation in curriculum content, teaching methods...Because the funding for training to improve the qualifications of officials is limited, the professional training is effectively used being taught is not paid adequate attention. The use of teaching equipment is not regular, not really become a routine throughout the school year. The number of teaching equipment is lacking, the professional level of teachers is not high, skills of using teaching equipment of teachers have not met practical requirements. On the other hand teaching without teaching equipment has become a habit, teachers love to teach vegetarianism, afraid to use teaching equipment. In order to overcome the above situation, it is necessary to set up criteria for evaluating, classifying and rewarding teachers who have achievements in using teaching equipment, but junior secondary schools in Dien Bien district, Dien Bien province has not yet done this. There are also school leaders who are not interested in raising awareness for teachers about teaching equipment. The equipment of pedagogical facilities is not appropriate, does not meet the requirements of renovating teaching methods. Funding for equipment, storage and use of teaching equipment is limited. The management of teaching equipment in secondary schools is not effective, formal, and has not planned to equip teaching equipment for all subjects at the beginning of the school year. Secondary schools mainly rely on the provision of teaching equipment as prescribed, there is no plan to supplement by other forms. The use of teaching equipment in teaching is still formal, not really promoting the role of renovating teaching methods, not contributing to the development of student competencies. Schools do not have incentives to discipline or encourage teachers to use teaching aids regularly. No staff in charge of teaching equipment, the school has to assign part-time staff to look after and preserve teaching equipment. The training time on teaching equipment was short, the knowledge gained after the training was limited, the trainees had not been able to visit the teaching equipment at the school units well.

Proposing appropriate management solutions to overcome the above limitations and shortcomings, in order to improve the efficiency of equipment, maintenance and use of teaching equipment and improve the quality of education of secondary schools. Basing on student capacity development is a necessary and urgent task in the current period.

## 2. Research method

The author has used a combination of the following research methods: Group of theoretical research methods; Group of practical research

methods; Mathematical statistical methods

## 3. Overview of the problem research

### 3.1. Foreign

The 39th International Conference on Education, held in Geneva in 1984, as well as many conferences on educational equipment in socialist countries, affirmed that the education sector needs to be renewed regularly on the purpose, structure, content, teaching equipment and methods to develop student competencies. Depending on the economic, technical and social circumstances, countries around the world tend to perfect pedagogical facilities in accordance with the modernization of content, methods and organizational forms of teaching.

Since the end of the Second World War (1939-1945), many countries around the world have conducted model research and production of teaching equipment as well as proposed measures to manage teaching equipment. study in high schools.

In the era of industrial revolution 4.0, modern teaching equipment has been researched and used widely. Internet of Things (IoT) has been put into use in education. Artificial intelligence (AI), teaching software, electronic devices, computers, robots, high-precision electronic clocks, televisions, videos, etc. have been researched and designed. design and strengthening for high schools.

### 3.2. Domestic

Vietnam, from the 1960s in the nineteenth century, the Ministry of University and High School (now the Ministry of Education and Training) officially issued teaching equipment standards from kindergarten to high school. Subsequently, standards for teaching equipment were formulated and issued in 1975 and 1985. From 1986 onwards, in the form of research projects at ministerial level and research topics measuring industry standards. Vietnam Academy of Educational Sciences has continued to develop a system of standards for the list of teaching equipment in elementary, junior secondary schools and senior secondary schools for the educational reform program.

According to a report of many Departments of Education and Training, confirming: "At present, teaching equipment is lacking much compared to curriculum requirements." Therefore, it is necessary for education managers to study the actual situation of teaching equipment in their units, propose measures to equip, store and manage the effective use of teaching equipment in accordance with regional and local conditions.

Ministry-level project "A number of management measures to improve the effectiveness of teaching equipment with information and communication technology application in Continuing Education Centers and Community Learning Centers" code : B2004-53-17, implemented by author Ngo Quang

Son in 2005 (Son, 2005), stated the theoretical and practical basis to develop some measures to improve the use of appropriate teaching equipment, the use of information technology in educational institutions...

Thesis of Master of Education Management “Some management measures of the Principal in equipping, preserving and using teaching equipment at secondary schools in Phu Tho town, Phu Tho province” implemented by Ngo Thi Phong in 2007 (Phong, 2007), mentioned a number of effective management measures of the Principal in equipping, preserving and using teaching equipment in junior secondary schools.

Thesis of Master of Education Management “Some measures to manage school facilities and equipment of junior secondary school principals in Son Duong and Tuyen Quang mountainous districts” by Nguyen Thi Hue implemented in 2008 (Hue, 2008) mentioned measures to manage school pedagogical materials in general and teaching equipment in particular in mountainous secondary schools.

The thesis has proposed a number of measures to manage the equipment, storage and effective use of teaching equipment at educational institutions in the national education system. However, the management of teaching equipment in secondary schools in mountainous areas towards developing student capacity to bring about high efficiency in education still needs to be studied.

#### **4. Solutions for managing the equipment, storage and effective use of teaching equipment in the direction of developing students’ capabilities**

##### ***4.1. Solution 1: Raise awareness for managers and teachers about the role and effect of teaching equipment in renovating teaching methods, developing student capacity and improving the quality of teachers sex***

In recent years, due to many objective and subjective reasons, the direction of using teaching equipment towards developing students’ capacity in mountainous secondary schools still has some shortcomings. Quite a few managers and teachers have not seen the importance and effects of teaching equipment in innovating teaching methods at secondary schools. Recently, awareness of this issue has been changed but not yet thoroughly, still formalistic, coping in direction and use. Thus, awareness is a top issue that must be solved and this is not only a temporary measure, but also a strategic, long-term and persistent work which is very important for one reason: Without the contribution of teaching equipment in the teaching process, teaching method innovation is difficult to achieve the desired purpose.

In order to implement measures to raise the awareness of teachers about the role and effect of teaching equipment in renovating teaching

methods and raising the quality of teaching, firstly raising awareness of the role of teaching equipment in teaching to the leaders of the Department of Education and Training and the leaders of the school. In any job, the leading role of the leaders is very important and decisive. When leaders of the Education and Training Department have high awareness and determination, school leaders and teachers will have to abide by them.

##### ***4.2. Solution 2: Develop a plan for equipping, preserving and effectively using teaching equipment along the direction of developing students’ competence in the subjects at the beginning of the new school year.***

The enhancement of equipment, maintenance and use of teaching equipment in a planned manner to improve teaching quality, innovate teaching methods and develop students’ competence is an important issue that has been set out in recent years.

Despite the State’s interest in investing in pedagogical facilities, secondary schools still need to be proactive in managing teaching equipment in the direction of developing students’ capacity and planning equipment investment with the goal of building a comprehensive system of teaching equipment, commensurate with the development of the school and with the requirements of teaching work.

Building a synchronous system of teaching equipment, commensurate with the requirements of renewing textbook materials and teaching methods, is the target of striving junior secondary schools in Dien Bien district, Dien Bien province. The management of teaching equipment is only effective when the school leadership plans to equip, store and use teaching equipment for the subjects at the beginning of the school year as well as a plan for a period of time.

In order to be able to implement the solution, the Principal’s teaching equipment management plan must meet the following requirements: The plan must have goals, implementation roadmap and action plan. The plan must strike a balance with other specific tasks at the school. Planning should be a valuable tool in the realization of goals, a comprehensive action plan, effective and meaningful as a tool to monitor the managed objects.

The plan must come from the objective requirements of teaching, based on the practical situation of the school to be able to predict the budget and manpower.

##### ***4.3. Solution 3: Promote professional training to effectively use teaching equipment***

After participating in the training, teachers have a good understanding of teaching equipment: structure, usage, usage procedures and higher goals to help teachers use proficiently and increase equipment mastery. teaching. Teachers use effective teaching equipment will help innovate teaching methods

better, reduce waste when teaching equipment has been invested but not used effectively.

Effective use is the ultimate goal and the ultimate goal of all school equipment work. This view is very important and needs to be well understood throughout the entire staff of teaching equipment. If teaching equipment is not used effectively, the investment in equipment and construction of teaching equipment system also becomes redundant.

In order to implement the solution “promoting professional fostering and effective use of teaching equipment” at the leadership level, the following should be done: The school leadership creates a favorable environment for teachers to implement effective application of information technology and communication to the active teaching process. Encourage teachers to participate in fostering computer knowledge, exploiting and using teaching software to implement teaching methods innovation. Collect or compile instruction manuals for using teaching equipment. Regularly organize training courses to improve the use and maintenance of effective teaching equipment.

#### **4.4. Measure 4: Strengthening the deployment of teaching by subject classrooms**

Deploying classroom teaching to help teaching equipment be used and stored in the classroom. Teaching equipment and subject teachers do not have to move, and students move according to the subject schedule. To create the best conditions for teachers and students to use teaching equipment and maximize the effectiveness of teaching equipment in the process of conveying and acquiring knowledge.

Teaching by subject room will be an inevitable trend in secondary schools in Vietnam. Therefore, while developing development strategies, each school needs to be aware of that trend and have a plan to prepare. In order to implement classroom teaching effectively, managers must solve the following problems:

The construction and development of classrooms at lower secondary schools is necessary, however, it is not advisable to have rigid regulations in construction as well as equipment. If the school is large, the number of students is large, the area is large enough, it is possible to build two types of rooms: subject classrooms, laboratories and subject practice. Small schools, few classes, difficult investment conditions can organize teaching and experimentation in the same room. Thus, depending on the conditions of pedagogical facilities, junior secondary schools choose the method of building subject classrooms accordingly. The ultimate goal of implementing classroom-based teaching is that teachers and students organize innovative teaching activities.

Organizing how to manage a classroom room effectively is a job that requires a lot of effort. There must be a uniform and uniform direction

from the school administrators to the teachers and staff in charge of teaching equipment. The specific assignment and administration is done in the manner of each school, but must ensure the following principles: The staff in charge of teaching equipment is the general manager of the subject classroom; Subject teachers must have a firm grasp of the teaching equipment they are in charge of teaching, regularly check the quantity and quality of teaching equipment in the subject classroom, prepare teaching equipment to be taught in advance 1 week; There is a contingent of practice teachers who help subject teachers in various teaching hours with many experiments and practical exercises; The school pays attention to arranging the schedule so that the subject classrooms have enough time to prepare teaching equipment, especially for the subject classrooms incorporating many subjects.

#### **4.5. Solution 5: Launching the movement to make simple and cheap teaching equipment**

Launching the movement to make simple and cheap teaching equipment to stimulate teachers' career interests, students' passion for learning, through this activity, teachers' knowledge and awareness be expanded, see the need to use teaching equipment. Activities of making teaching aids on your own will also serve to promptly supplement the missing teaching equipment.

In fact, the Government has paid attention to invest in teaching equipment for all fields of study. Provinces and cities have equipped teaching equipment according to the list of minimum teaching equipment set by the Ministry of Education and Training, but due to the country's limited economic capacity while the number of schools It has developed fast and strongly, so the shortage of teaching equipment in junior secondary schools is still common. Therefore, in order to overcome the above situation, the Principal needs to launch a movement of making teaching aids among teachers and students. This activity will promote positive, proactive, creative, promoting the intellectual potential and creative capacity in each person.

In order to stimulate the creativity of teachers and students, the school should organize annual self-teaching contests, manual competitions... for teachers and students participate. The contest should be held solemnly, the equipment brought to the contest must not only be displayed but must be experimented through lessons. Need to mark the construction fairly, objectively, with reward regulations that deserve the right subjects. After each contest, the winning products should be kept in the equipment room for later use, which will encourage teachers and students to actively respond and promote their creative ability with teaching equipment that requires the technical and high professionalism of the school designers can take the ideas of teachers and the cost to hire designers to

do, the teachers have creative ideas as well, should be commended and rewarded.

#### **4.6. Solution 6: Strengthening the inspection and evaluation of equipment, storage and effective use of teaching equipment**

Check, process of managing and using teaching equipment effectively, in accordance with the set goals, plans, standards, regulations, indicating deviations from which can identify redefine the direction, goals, adjustments, rectification and help to improve the quality and effectiveness of teaching.

Examining to create a reverse information linkage in management of teaching equipment. The use of teaching equipment in the teaching process is complex and diverse but not allowed to make mistakes. Therefore, the Principal must regularly check to detect, prevent and evaluate accurately in order to motivate help, rectify and make timely adjustments to suit the goals, regulations and plans.

Testing contributes to improving school management efficiency, it affects teachers' awareness, behavior and activities, enhances the sense of responsibility, encourages the performance of tasks.

Examination contributes to enhancing school management effectiveness, it affects teachers' awareness, behavior and activities to enhance the sense of responsibility, motivate and promote the performance of teachers' tasks in the public process.

### **5. Discussion**

The author offers 2 solutions to build subject classrooms at junior secondary schools in Dien Bien district, Dien Bien province as follows:

- Building separate subject classrooms for the subjects:

According to the ideal requirements for high quality teaching, each subject needs to have a separate classroom, however, due to budget requirements, we will build a subject classroom to meet teaching requirements of science subjects that require high experimentation such as Physics, Chemistry, Biology, Technology and subjects that require special teaching space such as Music and Physical Education. Therefore, the solution of building a complete classroom for junior secondary schools is that each school must have the following subject classrooms: Physics classrooms, Chemistry classrooms, and classrooms. Biology, Technology Technology classroom, Geography, History and Citizenship classrooms, Music subject, Physical education classroom. Regarding the requirements of designing teaching service systems for Physics, Chemistry, Biological and Technology classroom, we have mentioned above, Music classroom requires a soundproof system.

Depending on the conditions of investment funding and the number of students in each school,

junior secondary schools should build all three subject rooms at the same time: subject classrooms, subject laboratories and subject practice rooms. The construction of all three types of rooms will be a favorable condition to arrange teaching hours for all classes in accordance with the program requirements.

- Building a subject classroom combining subjects

Grounds for combining subjects in building a subject classroom

+ Subjects with close and relevant professional knowledge.

+ Subjects using similar teaching equipment system.

In the junior secondary school in Dien Bien district, Dien Bien province can build the following combination of Physics subject classroom + Technology subject classroom, Biology subject classroom + Chemistry subject classroom, Informatics subject classroom + Foreign Language subject classroom, History subject classroom + Geography subject classroom + Citizenship education subject classroom.

Regarding the number of combination of subject classrooms must be based on the teaching plan of each subject, the number of students of each school and the teaching requirements of the school to calculate the construction reasonably. Lower secondary schools, which do not have investment conditions, may only build laboratories and practice rooms. Traditional libraries and libraries can also be used as learning environments like subject classrooms for a number of science subjects.

Therefore, it is not necessary to have a rigid regulation for the number and area of subject classroom in junior high schools. What designers and users need to care about is that the minimum area (as defined in the MoET's Regulations on Education and Training) of each subject classroom so that students can carry out learning activities easily. Moreover, in the trend of educational development, close subjects will be integrated, for example: Physics subject, Chemistry subject, Biology subjects into Natural Sciences, History subjects, Geography subjects to Science subjects for example society. Thus, the construction of subject classroom in the direction of combining subjects must be set right from the beginning of construction. This approach helps the overall planning and development orientation to avoid waste in the condition that the investment capital for lower secondary schools is limited. It can be said that teaching towards the subject room has become an indispensable need of the teaching process. Teaching according to the subject classroom has maximized the effect of teaching equipment and can preserve teaching equipment in the best condition.

## 6. Conclusion

The role of teaching equipment has been confirmed by teaching theory and is an indispensable condition in the teaching process. The principal, as the managing subject of all pedagogical activities in the school, must be fully aware of the meaning, position and role of teaching equipment in the educational process, in developing skills. force of students at the same time must manage and make the officers, teachers and students clearly see the relationship between the teaching equipment and the teaching method and quality. Principals are in charge of comprehensive management of teaching equipment, the management solutions that they give are extremely important to the equipment, storage

and use of teaching equipment effectively.

With the purpose of offering solutions to manage pedagogical equipment in accordance with the characteristics of secondary schools in mountainous, deep-lying and remote areas, the author of the article has studied the theoretical basis of teaching equipment management. learn, conduct field surveys, investigate the situation via questionnaires. With a major issue being deeply concerned by the whole society, the author of the article boldly proposed six solutions for managing teaching equipment for principals of junior secondary schools in Dien Bien district, Dien Bien province. Six management solutions have been tested and appreciated for their urgency and feasibility.

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# GIẢI PHÁP QUẢN LÝ SỬ DỤNG THIẾT BỊ DẠY HỌC THEO HƯỚNG PHÁT TRIỂN NĂNG LỰC HỌC SINH Ở CÁC TRƯỜNG TRUNG HỌC CƠ SỞ HUYỆN ĐIỆN BIÊN, TỈNH ĐIỆN BIÊN TRONG GIAI ĐOẠN HIỆN NAY

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## Tóm tắt

Qua quá trình khảo sát và nghiên cứu về thực trạng quản lý thiết bị dạy học, những thuận lợi và khó khăn, nguyên nhân của thực trạng quản lý thiết bị dạy học ở các trường trung học cơ sở huyện Điện Biên, tỉnh Điện Biên từ đó tác giả bài báo đã đề xuất được hệ thống giải pháp quản lý phù hợp nhằm khắc phục những hạn chế, bất cập, nâng cao được hiệu quả trang bị, bảo quản và sử dụng thiết bị dạy học theo hướng phát triển năng lực học sinh, nâng cao chất lượng giáo dục của các trường trung học cơ sở. Việc quản lý sử dụng thiết bị dạy học theo hướng phát triển năng lực của học sinh cũng được coi là một nhiệm vụ cần thiết và cấp bách trong quản lý nhà trường trung học cơ sở ở huyện Điện Biên, tỉnh Điện Biên trong giai đoạn hiện nay.

## Từ khóa

Thiết bị dạy học; Quản lý sử dụng thiết bị dạy học; Giải pháp quản lý; Phát triển năng lực học sinh; Các trường trung học cơ sở huyện Điện Biên, tỉnh Điện Biên