

EFFECTIVE MANAGEMENT OF TEACHING TECHNIQUES AT PEDAGOGICAL COLLEGES IN THE CONTEXT OF THE CURRENT INDUSTRIAL REVOLUTION 4.0 AND EDUCATION 4.0 SITUATION AND MEASURES

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Before the trend of industrial revolution 4.0, education 4.0 today, in the process of teaching, technical means of teaching will be both a content and a means of information transmission and at the same time it will also create an learning environment. The interactive pedagogical school helps teachers organize and control students' cognitive activities, in addition, it also helps students have an interest in learning, practice practical skills, thereby forming learning methods. proactive and creative. Technical means of teaching are one of the necessary conditions to help teachers perform jobs related to education, retraining and intellectual development and arouse the inherent intelligent qualities of students. Currently, the management of teaching technology at the Central Kindergarten Pedagogical Colleges has been carried out on a regular basis and achieved certain results, but in fact there are still many problems. Finding out some limitations in the management of teaching technology, thereby proposing measures to overcome those limitations, improve the efficiency of investment, preservation and use technical means of teaching in the trend of Industrial Revolution 4.0, Education 4.0, improving the quality of teaching at the Central Kindergarten Pedagogy Colleges in the current period is a very important task and necessary.

Keywords: *Management; Effective management; Technical means of teaching; Central College of Kindergarten Pedagogy; Industry Revolution 4.0; Education 4.0.*

1. Introduction

Technical means of teaching at colleges play a great role in the teaching process, it contributes to innovating teaching methods, improving teaching quality and innovating methods of assessing students' learning outcomes. Students in the colleges, in the process of teaching, technical means of teaching will be both content and means of information transmission and help teachers organize and control cognitive activities of students, in addition, it also helps students to learning spirit, practice skills training, thereby forming active and

creative learning methods.

Technical means of teaching are one of the necessary conditions to help teachers perform well in jobs related to education, retraining and intellectual development and arouse the inherent intelligence of students. Currently, the management of teaching technology in the Central Kindergarten Pedagogical Colleges has been carried out on a regular basis and has achieved certain results, but in fact there are still many inadequacies such as: technical means of teaching are not synchronized, the management of teaching aids has not been paid

due attention, has not covered all the management contents and has not brought high efficiency in innovation of teaching methods, teaching methods to improve the quality of training.

Finding out a number of limitations in the management of teaching technology, thereby proposing measures to overcome those limitations, improve the efficiency of investment, preservation and use of technical means. Teaching techniques in the trend of Industrial Revolution 4.0, Education 4.0, improving the quality of teaching at the Central Kindergarten Pedagogical Colleges in the current period is a very important and urgent task.

2. Research Methods

Theoretical Research, Practical Research, Mathematical Statistics and Modeling

3. Overview of the problem research

3.1. Studies in the world

In the world since the sixteenth century, there have been studies on teaching techniques such as Komenski, an educator from Czechoslovakia. The Soviet school of education has eminent educators such as Usinski, A.N. Leontiev and the Swedish school of education has the eminent educator J.H. Pestalossi, has developed a view of visual teaching with high efficiency.

During the Renaissance, there were many avant-garde educators who came up with an active teaching approach. They helped students master learning issues through the use of visual aids.

J.A. Komensky (1592-1670), a prominent Czech educator, highly appreciated the role of teaching technology, he also said that “visualization is the golden rule”. Since then, he asked in teaching that teachers must regularly use visual aids so that learners can promote all their senses in perceiving the material, so that students can improve their cognitive abilities.

Theory of visual teaching has developed together with other fields, thereby helping us to recognize the role of teaching techniques in the teaching process, helping learners to understand the essence of things. phenomenon easier.

ANLeontiev (1903-1979) is an excellent representative psychologist of the modern Soviet School of Psychology, who said: “Technical means of teaching act as an external support for students’ inner actions. under the leadership of the lecturer in the process of students’ awareness”. He emphasized the need to use visual aids appropriate to the student’s age and subject content, which will bring

good educational results.

In the presentation: “Management of teaching and technical means of teaching: developing resources” at the Moscow International Education Exhibition (2001), Ms. Yulia Olegovna Krasilnikova of the National University of Technology Research of the Russian Federation “Management of teaching technology is a part of the management of the education and training process, which plays an important role in improving the training quality of educational institutions. Management processes to ensure the operation of teaching technology need to be automated to the maximum extent. The management of teaching and learning technology needs to be conducted according to the governance model: it is necessary to clearly define the purpose of the management, build effective evaluation indicators, assign responsibility for the completion of the teaching and learning process. or fail to achieve the set objectives”. At the same time, A.V. Zafievsky (2010) published in the journal “The achievements of modern natural sciences” stated: “Management of teaching technology is one of the important tasks of all institutions operating in the field of education...To improve management efficiency, it is necessary to automate the process and develop evaluation standards”.

3.2. Studies in Vietnam

Inheriting and promoting the theories of world pedagogy, Vietnam also has many researchers on teaching technology and the management of teaching technology. These studies can include typical scientists who have developed and spread theories about the principles of visual teaching such as To Xuan Giap, Vu Trong Ry, Tran Duc Vuong, Ngo Quang Son... (Vuong, 2005), (Son, 2005), (Giap, 1997)

Author Nguyen Duc Thang with the topic “Management of training equipment of technical universities in the Army according to the quality assurance approach” has focused on surveying the management of training equipment of universities. military technical training in the Army, including: Military Technical Academy, Naval Academy, Air Defense - Air Force Academy, Military Technical Officer School. Since then, the author has proposed solutions to manage training equipment of technical universities in the Army according to the quality assurance approach, in accordance with the requirements of the Army’s higher education innovation in the context of military innovation. current scene.

In the study on the topic “The current situation and some solutions to improve the effectiveness of the management of technical means of teaching at Hanoi National University of Education”, the author Pham Viet Hung assessed the current situation of procurement, using, preserving and proposing a number of solutions to improve the efficiency of the management of teaching and technical means in the University.

The ministerial-level project “Some management solutions to improve the efficiency of using teaching techniques, at Continuing Education Centers and Community Learning Centers” (Son, 2005). The author, Ngo Quang Son, has clarified the theoretical and practical basis of equipping, using and preserving teaching techniques in continuing education centers and community education centers. On the basis of analyzing that situation, the author has proposed a system of solutions to improve the efficiency of using teaching techniques in continuing education centers and community learning centers.

So far, there have been a few research topics on the management of teaching technology in colleges and universities, but the analysis has not been profound. Especially, there has been no research on the management of teaching technology at the Central College of Kindergarten Education in the trend of Industry 4.0 and Education 4.0. This research topic is important and urgent, meeting the theoretical and practical needs of managing technical means of teaching at universities in the trend of Industrial Revolution 4.0 and Education 4.0, meeting the changing needs of college students in the current period.

4. Research content

4.1. The current situation of measures for managing technical means of teaching in the Central Kindergarten Pedagogical Colleges

The author of the article raised the question: “How do you evaluate the responsiveness of the teaching technology management measures available at the Central College of Kindergarten Education?” and obtained the following assessment results on management measures:

Regarding “Measures for effective use of teaching and technical means” the majority of administrators and lecturers rated it at a relatively good level, 52.6% rated it at a very good level, 18.1% rated as good, the rest rated as average.

Regarding “Measures to improve teaching and technical means of teaching”, the majority of

administrators and lecturers rated it at an average level of 50.8%, 15.0% rated it at a very good level, 19.5 % rated at very good level, however, 14.7% rated it at a poor level.

Regarding “Measures to manage teaching and technical means of teaching in accordance with the content of programs, curricula and teaching methods at colleges” was evaluated at a fairly good level, only 27.9% rated it at a good level. average, the rest rated very good 28.7% and good 43.4%

About “Measures to preserve and safely use teaching and technical means.” rated by the majority of administrators and lecturers at an average level of 55.6%, even 12.7% rated at a poor level.

Regarding “Measures of using teaching and learning techniques suitable to students’ psycho-cognitive characteristics and thinking ability”, only 9.7% rated very good and 29.8% rated it at a very good level. good price, most rated it at an average of 52%, the rest rated it at a weak level.

Advantages and disadvantages in the management of teaching technology at the Central Kindergarten Pedagogy Colleges.

* Advantage

100% of administrators and lecturers are equipped with minimum teaching facilities such as computers, even handheld microphones, this is a very favorable condition for the management of teaching technology. study at the Central Kindergarten Pedagogy College because it reduces the investment burden for the school. School leaders are interested in the quality of teaching techniques. Users of teaching technology (administrators, lecturers) are aware of and comply with the regulations on the use of teaching technology. Most of the teaching staff and managers are highly creative and capable of implementing modern training methods based on Information and Communication Technology.

* Difficult

Technical means of teaching practice and practice have not been synchronized and have not been effectively exploited. The regular and periodical training in the management of teaching technology is not done well, so it often leads to the situation that the management staff of teaching technology cannot keep up with the development and requirements. of training needs. The inspection and examination of the management level has not been regular and timely, in the assessment, the problem of exploitation, use, preservation and maintenance has not been taken seriously. The procurement and investment of teaching and technical equipment and

funds used for the maintenance and maintenance of teaching and technical equipment are still passively dependent on administrative procedures and financial resources of the school.

4.2. The system of measures to manage teaching techniques at the Central Kindergarten Pedagogical Colleges in the current trend of Industrial Revolution 4.0, Education 4.0 today

4.2.1. Measure 1: Raise positive awareness for educational administrators, lecturers and staff about the role of teaching technology management in educational innovation, in the trend of Industry 4.0, Education 4.0 today

Helping administrators and lecturers have the ability to effectively organize and implement the management of teaching and technical means. Helping the teaching staff to realize the important role of teaching technology such as: linking lessons with real life, learning with practice, school with society.

Raising awareness for educational administrators and lecturers in the management of teaching technology through training and retraining courses, training courses are conducted in short courses. For example, training programs of the Ministry of Education and Training. In order to effectively implement the training course, the school must be responsible for developing a separate training program for the management team and lecturers on the use and maintenance of teaching technology. The content of the training course focuses on improving the ability to inspect and evaluate teaching and learning technical equipment about the state of use, damage and the ability to coordinate with other departments in the use of technical means, teaching according to the frequency plan using teaching techniques.

In addition, the refresher course should pay attention to the forms of fostering, the form of fostering must be diverse and suitable to the actual circumstances of education administrators and lecturers such as: regularly by the Ministry of Education and Training; self-improvement of lecturers through reading books and exploiting information on the Internet; Or organize a study tour from other schools...Conduct a survey to collect opinions on the needs and conditions of participation of lecturers and educational administrators before organizing a training course to select subjects and forms of training that are appropriate and effective.

4.2.2. Measure 2: Develop a plan to manage the investment, preservation and effective use

of teaching and technical means to meet the development strategy of the colleges to achieve a complete system of teaching and technical means to meet the requirements of teaching and improve training quality.

Colleges leaders must be familiar with the current legal documents and regulations on the management of teaching and technical means. It is necessary to investigate the current status of teaching and technical facilities of their units (conditions, lack of sufficient and sufficient teaching techniques, quality, synchronization between books, qualifications of lecturers...) and conditions for preservation and application, the reality of teaching and learning. Developing a management plan to use teaching technology must coordinate with activities in the colleges. In the current trend, we have been carrying out synchronous renovation of curriculum materials, teaching methods...Therefore, it is necessary to build a system of teaching techniques commensurate with the requirements of the public. In current teaching and learning activities, the plan to purchase, supplement and repair teaching technology must be directed at specific contents. However, the content of the plan must be flexible, must be consistent with the changes of the colleges. Therefore, different scenarios and solutions must be developed. When purchasing teaching technology, it is necessary to study samples and select the items of teaching technology that need to be purchased. There must be a room for teaching and technical means of teaching, and teaching and technical means of teaching must be scientifically arranged, easy to use, with measures and preserved technical means of teaching (cabinets, shelves, boxes ...) covering, means of moisture-proof, anti-termite, tools, fire protection.

The colleges needs to regularly organize faculty and department-level seminars on the effective use of teaching technology in teaching.

4.2.3. Measure 3: Develop a system of standards and criteria and perfect the management process of teaching technical means

This is the most important solution to implement the management of technical means of teaching and learning in schools in the current trend of Industrial Revolution 4.0 and education 4.0. Because, only developing standards, criteria and perfecting the management process of good teaching technology can ensure the implementation of teaching technology management in the trend of industrial revolution 4.0. education 4.0 today.

First, develop criteria to evaluate the quality of the organization of the teaching and technical equipment management apparatus:

In order to improve capacity and create motivation in the use of teaching techniques, it is necessary to pay special attention to the human factor, which is knowledge, psycho-personal qualities, skills, and techniques, for students, the use of teaching technology. In order to effectively manage the use of teaching technology in the colleges, in addition to the human factor, managers need to institutionalize documents.

Second, develop criteria to evaluate the quality of investment and procurement of teaching and technical means: The quality criteria of teaching technical means must be developed in association with training purposes to guide the procurement and supplement of equipment for training as well as self-development of teaching technical means. associated with specific training activities.

Third, develop criteria for evaluating the use of teaching technology. The developed criteria need to be associated with promoting the efficiency and effectiveness of teaching technology in the process of using teaching technology in training activities of the school.

Fourth, develop criteria to evaluate the quality of the maintenance and preservation of teaching technical means: The criteria for the content of this activity should be developed based on the norms and frequency of using the teaching and learning equipment, in addition, this criterion must also be associated with the process of preservation, maintenance and statistical monitoring in order to have a plan. supplementing technical means of teaching to serve the expansion of training activities according to the needs of modernization and integration of the school in the current trend of Industry 4.0, Education 4.0.

4.2.4. Measure 4: Strengthening the professional training in the management of teaching and technical means of teaching

Teaching technology helps students to acquire knowledge actively and quickly. If administrators know how to organize knowledge training and direct teachers on how to choose and effectively use teaching techniques, if teachers actively choose and use teaching techniques, they will improving the effectiveness of teaching hours, contributing to innovating the content, methods and forms of organization, creating excitement for students. It is necessary to foster informatics knowledge,

guide the use of teaching software so that teachers can exploit and put it into teaching to innovate teaching techniques. The colleges needs to have a plan to send educational managers and lecturers for training and retraining to improve the efficiency of teaching and technical means of teaching. The refresher courses and training courses that need to be organized flexibly can be divided into several batches with suitable purposes for each participant.

For administrators: It is necessary to foster the development of plans on management of teaching and learning techniques by period and each college year in accordance with the school's development plan; fostering skills in formulating regulations on the preservation and use of technical teaching aids; skills in the application of Information Technology in the management of teaching technical media by using office applications, then using software to manage teaching technical media; skills in consulting and guiding the team on the selection and use of teaching techniques; skills in inspection and supervision to improve the effectiveness and efficiency of the management of teaching and technical means.

For lecturers: To provide training on the development of plans to use teaching techniques, integrated with educational plans on a weekly and monthly basis in the academic year approved by the leader; fostering computer knowledge, using teaching software; skills in choosing teaching techniques for educational fields and activities; flexible use skills, combining traditional teaching techniques and modern teaching techniques; skills in inventory, review and preservation of teaching and technical means.

4.2.5. Measure 5: Increase investment in teaching and technical means of teaching according to the structure of sufficient quantity and quality to meet the requirements of improving teaching quality.

Inspect, repair and regularly purchase teaching and technical means to meet all teaching activities for educational administrators and lecturers and organize training for the management team, educational management and lecturers raise awareness and implement effective management of teaching and technical means. In order to achieve the goal, the school must rationally use state budget funds to invest in facilities in general and teaching technology in particular and at the same time call for funding from businesses, sponsors at home and abroad to purchase new technical teaching aids as well as repair and supplement damaged technical

teaching aids that cannot be used, contributing to meeting the needs of users and safety in the process of using teaching technology. Right from the beginning of the school year, the management board needs to survey the school's existing physical and technical facilities, make a plan to purchase from existing funding sources and call for funding. In addition, managers must be responsible for monitoring the progress of the implementation of the plan and proposing to the Rectors any arising problems and corrections during implementation.

There is advice from faculty leaders, department heads with leaders at all levels to find funding sources to purchase and repair teaching techniques to meet the requirements of teaching quality.

Colleges leaders coordinate with organizations, unions, as well as specialized groups to enhance education on the sense of preserving colleges property.

4.2.6. Measure 6: Build a system of documents and regulations on investment, preservation and use of teaching technology

Promulgating fully, synchronously and timely a system of guiding documents and creating mechanisms and policies to promote activities of exploiting and using teaching techniques at colleges to have consistency in management, technical means of teaching right from the stage of planning to supplement, preserve and use teaching technology in the whole colleges.

In addition, the development of a system of documents and regulations on investment, preservation and use of teaching technology also helps to improve the initiative of the units and the management of teaching technology, serving training activities are public and clear.

To implement the purpose of the measure, the college management board needs to develop a specific system of documents and manuals for use, as well as exploit and preserve effective teaching techniques. The documents and materials must be consistent and scientific, contribute to improving the usability, and strictly follow the process and safety of teaching technical means for the use capacity of lecturers. In addition, it is necessary to check and monitor the use of teaching technology by the teaching staff in order to promptly adjust as well as train and improve the management of teaching technology and teaching ability. used for educational administrators and teachers at the school.

5. Discussion

Colleges leaders are aware of the important

role of teaching technology and the management of teaching technology to ensure the best teaching process. The planning of investment in teaching and learning technology is closely related to the content of the training program and approaches the training methods in a modern direction. In addition, quality criteria were mentioned in the content of the plan. The organization and implementation of procurement of teaching and technical equipment for most of the departments, faculties, institutes and centers completed on schedule according to the plan and regulations of law and also ensured the quality in the procurement. However, the management mechanism has inappropriate content, has not promoted the initiative and creativity of the units in investment planning, preservation, maintenance and repair... Management capacity, the comprehensiveness of the units in the management of teaching technology is still weak and the principles of quality assurance have not been taken seriously in the decision to invest in teaching technology. A part of lecturers and professional managers have not been trained and fostered in management skills in general and teaching technical means in particular; With little access to modern science and technology, management in the process of using teaching techniques is still weak. The system of regulations and regulations on teaching technical means has not kept pace with the development of equipment. The documents specifying specific instructions are not sufficient to force or motivate administrators and lecturers in the management of equipment, use and preservation of teaching and technical means. The work of checking and urging the implementation is not regular, sometimes it is still a formality. The application of modern advanced technologies in the management of technical means of teaching is still limited. The thought and principles of quality assurance have not been incorporated into activities at school in general and in the management of teaching and technical means, so the effectiveness is not high and the timeliness is limited. The assessment is still heavy according to the report, which does not attach importance to the evidence and follows the evaluation process of the quality management in the development of teaching technical means to contribute to improving the quality of teaching and training. The apparatus in charge of the management of teaching and technical means has not yet promoted its active role as the focal point to coordinate the development of teaching technology every year according to the motto of gradually modernizing the colleges in the future, the current trend of Industry 4.0 and

Education 4.0. Six management measures need to be implemented synchronously to be able to improve the efficiency of managing the equipment, use and preservation of teaching and learning techniques at the Central Kindergarten Pedagogy Colleges in the current trend. Industry 4.0 and Education 4.0 today. These six management measures have a dialectical relationship with each other, interacting and influencing each other. The six measures that the author has proposed are all important measures that are closely related to each other and cannot be without any measure if you want the measure to be feasible and implement the most effective. The Central Kindergarten Pedagogy Colleges need to develop short-term and long-term plans on equipping facilities and teaching techniques. There is an annual survey plan to know clearly the number of existing teaching technology equipment, additional capacity, repair cost, qualifications and skills in using teaching technology of teaching staff to be proactive in management and direction. Promote socialization in the management of teaching technology, mobilizing funds from various

sources in society to continue investing in teaching technology such as calling for business funding, seeking sponsorships of teaching and technical means of foreign organizations

6. Conclusion

The article has analyzed the factors affecting the management of technical means of teaching at colleges and universities in the current trend of Industrial Revolution 4.0 and Education 4.0. The systematic research on the management of technical means of teaching in the trend of the Industrial Revolution 4.0 and Education 4.0 has helped the author of the article to have a basis to study the current situation of media management. teaching techniques by giving a system of survey questions, from which to propose six effective management measures of teaching technical means at the Central Pedagogical Colleges in the trend of Industry Revolution 4.0 and Education 4.0 today. Six management measures have been carefully and scientifically tested and shown that all six measures are necessary and highly feasible.

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QUẢN LÝ HIỆU QUẢ PHƯƠNG TIỆN KỸ THUẬT DẠY HỌC TẠI CÁC TRƯỜNG CAO ĐẲNG SƯ PHẠM MẪU GIÁO TRUNG ƯƠNG TRONG BỐI CẢNH CÁCH MẠNG CÔNG NGHIỆP 4.0 VÀ GIÁO DỤC 4.0 HIỆN NAY THỰC TRẠNG VÀ GIẢI PHÁP

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Trước xu thế cách mạng công nghiệp 4.0, giáo dục 4.0 hiện nay, trong quá trình giảng dạy phương tiện kỹ thuật dạy học sẽ vừa là nội dung vừa là phương tiện chuyển tải thông tin đồng thời nó còn tạo ra một môi trường tương tác sư phạm, giúp cho giảng viên tổ chức và điều khiển hoạt động nhận thức của sinh viên, ngoài ra nó còn giúp sinh viên có hứng thú học tập, rèn luyện kỹ năng thực hành từ đó hình thành phương pháp học tập chủ động tích cực và sáng tạo. Phương tiện kỹ thuật dạy học là một trong những điều kiện cần thiết để giúp giảng viên thực hiện được các công việc liên quan đến giáo dục, giáo dưỡng và phát triển trí tuệ, khơi dậy những tố chất thông minh vốn có của sinh viên. Hiện nay công tác quản lý phương tiện kỹ thuật dạy học ở các trường Cao đẳng sư phạm Mẫu giáo Trung ương đã và đang được thực hiện một cách thường xuyên và đạt được một số thành quả nhất định, nhưng trên thực tế vẫn còn nhiều bất cập. Việc tìm ra một số mặt còn hạn chế trong quản lý phương tiện kỹ thuật dạy học, từ đó đề xuất những giải pháp nhằm khắc phục những mặt hạn chế đó, nâng cao hiệu quả đầu tư, bảo quản và sử dụng phương tiện kỹ thuật dạy học trong xu thế Cách mạng Công nghiệp 4.0, giáo dục 4.0, nâng cao chất lượng dạy học ở các trường Cao đẳng Sư phạm Mẫu giáo Trung ương trong giai đoạn hiện nay là một nhiệm vụ hết sức quan trọng và cấp thiết.

Từ khóa: *Quản lý; Quản lý hiệu quả; Phương tiện kỹ thuật dạy học; Cao đẳng Sư phạm Mẫu giáo Trung ương; Cách mạng Công nghiệp 4.0; Giáo dục 4.0.*