SOLUTIONS FOR DEVELOPING LEADERSHIP CAPACITY OF INFORMATION TECHNOLOGY APPLICATION IN TEACHING AT THE ETHNIC MINORITIES BOARDING LOWER SECONDARY SCHOOLS IN CENTRAL HIGHLAND AREAS

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In recent years, the management staff at the ethnic minorities boarding lower secondary schools have made great efforts in leading the application of information technology in teaching. Subjects from basic subjects to specialized subjects use information technology (IT) to improve subject teaching effectiveness. Depending on the characteristics and characteristics of each subject, even each lesson, that is applied in accordance with the objectives and contents of the subject and the lesson. In general, the application of IT in teaching of ethnic minority boarding lower secondary schools teachers is shown in the following activities:

Teachers use computers as text editing tools to prepare lesson plans, exam questions, tests, print documents, access the Internet to collect materials for teaching; Electronic lecture design; Organize teaching by electronic lectures in class. However, the effectiveness of IT application in teaching of ethnic minorities boarding lower secondary schools in the Central Highlands provinces is not high. Through an in-depth assessment of the current situation of leadership capacity development in IT application in teaching at ethnic minority boarding lower secondary schools, the authors of the article has proposed an effective solution system for leadership capacity development in IT application in teaching at ethnic minority boarding lower secondary schools in accordance with the human, material and financial conditions of the ethnic minorities boarding general education schools for lower secondary in Central Highlands region in the current period.

Keywords: Effective solutions; Leadership capacity; Application of information technology in teaching; Ethnic minorities boarding schools for lower secondary; Central highlands region.

1. Introduction

In the current context, IT has become a key factor in changing economic and social activities, including education. The exploitation of software and multimedia is being widely used in the teaching process in many countries around the world. Increasing the application of IT in teaching at secondary schools for ethnic minorities will create a fundamental change in the process of timely and regular updating of science and technology advances in the content of the chapter, curriculum, innovating teaching methods to promote the activeness and initiative of ethnic minority students, contributing to improving the quality of training.

In recent years, the management staff at the
However, the effectiveness of IT application in teaching of ethnic minority boarding lower secondary schools is not high for a number of reasons such as:

- Due to the limited awareness and knowledge about IT of teachers, the thinking of teachers directly teaching has not been renewed or even afraid to access IT so they have not focused on investing time and effort to IT application in teaching.

- Especially, the management of IT application in teaching of ethnic minority boarding lower secondary schools is still inadequate; Conditions for applying IT in teaching at schools are heterogeneous in terms of facilities, teaching equipment,...

Leadership in the application of information technology in teaching is not too new in the field of management. Especially, at present, in the context of fundamental and comprehensive innovation in Education and training, context of industrial revolution 4.0. This is a broad and complex issue with great impact, requiring a combination of multiple approaches. However, in the scope of a separate study on developing leadership capacity in the application of information technology in teaching, the number of direct studies has hardly been studied. Most of the documents found were individual research aspects or reports integrated in research issues at home and abroad.

With the desire to effectively exploit existing resources, enhance the application of information technology in teaching in ethnic minority boarding lower secondary schools, the authors chose to study the topic: “Solutions to develop leadership capacity in the application of information technology in teaching in ethnic minority boarding lower secondary schools in Central Highlands region in the current period”.

2. Research method
2.1 Group of theoretical research methods
2.2. Group of practical research methods
2.3 Other supporting methods
3. Overview of the problem research
3.1. Studies on information technology and application of information technology in teaching

The 21st century is the era of information technology. Entering the 21st century humanity enters a new social institution: the information society. Information technology (IT) makes the difference of the 21st century with the previous social institutions in the way of social structure, economic production, communication, culture, science and technology and education.

Author Victoria L.Tinio has published the document “Information and Communication Technology in Education” to help educational managers make educational policy in developing countries, identify ways for the use of IT effectively and in line with the practice in the national education system is summarized in the following two basic issues:

First: Understand the potential benefits of using IT in education and how IT applications have been used in education so far.

Second: There are four basic issues in using IT in education: effectiveness, cost, rationality and stability.

Peter Van Gils, author of “Information Technology in Education” wrote: “IT applications can provide schools with the opportunity to optimize their entire operations. The more often a school applies IT, the more it is approaching the way to handle administrative tasks and arising activities more professionally”.

In this work, he emphasized and affirmed the values of IT in a developing society and the way of organizing management, teaching, learning and applying IT in all preschool schools, primary and secondary schools to vocational schools and universities. According to him, the reasons for bringing IT into education are not a separate form of innovation but a part of the development of society today. Therefore, IT is an indispensable tool in the administrative work of education, it brings tremendous help to educational leaders.

The Indian author Sharmila Devi, Mohammad Rizwaan, Subhash Chander India, in the article “Information and Communication Technology for the Quality of Education in India” presented very convincingly:

- Application of IT to improve the quality of formal and non-formal education: IT is becoming one of the indispensable components of contemporary culture at all levels of education in India.

Sayling Wen (Taiwan) author of “Information technology and future education”, asserted that awareness of education innovation is no longer a slogan, but specific actions. Currently, the whole world has entered the field of education reform, with the goal that education must become the most fundamental foundation for all countries in the 21st century.

In the book “Vietnam Information and Communication Technology 2017 ” of information and communication publisher August 2017 (Ministry of Information and Communications, 2017). The book said: The Government has determined the goal of making Vietnam a strong country in IT and information technology (IT) with the highest determination of both the political system and the business community.

Originating from the characteristic of image thinking, specific thinking of people, IT will be an indispensable means and conditions for conducting effective teaching process. There have been many authors studying on different aspects of the role and outstanding advantages of IT to contribute to
improving the quality of specific teaching such as:

Authors Do Trung Ta (Ministry of Post and Telecommunications, 2006), Ngo Quang Son (Hoa & Son, 2008), Le Cong Triem - Nguyen Duc Vu (Triem & Vu, 2006), Ton Quang Cuong, Dao Thai Lai, Nguyen Huu Chi, Do Manh Cuong (Cuong, 2007), Nguyen Minh Tuan, Nguyen Chi Tang ... the authors have assessed the status of IT application in Vietnamese schools. Since then, it is confirmed that the application of IT in teaching is very necessary.

The authors Pho Duc Hoa - Ngo Quang Son in “Methods and technologies of teaching in interactive pedagogical environment” (Hoa & Son, 2011), gave a new approach on interactive pedagogy as well as active teaching methods are effectively implemented in a technology-rich environment and multimedia teaching environment. The support of information technology has helped teachers teach lessons more attractive and students gain knowledge less abstract.

The application of information technology in teaching in each specific subject has also been studied by many authors such as Ngo Quang Son (Hoa & Son, 2016), Nguyen Trong Tho, Nguyen Thi Ban, Tran Hoai Phuong, Nguyen Thanh Canh, Dang Thi Hong Dao, Bui Van Nghi, Hoang Ngoc Anh, Trinh Dinh Tung, Tran Minh Hung ... Especially with the ministry-level topic “Application of ICTs in teaching in high schools in Vietnam” (Lai, 2007) by author Dao Thai Lai pointed out the new approaches to teaching organization with information technology application and maximizing the benefits of information technology in the past. teaching process.

Pho Duc Hoa - Ngo Quang Son, “Application of ICTs in active teaching” (Hoa & Son, 2008), research on teaching technology with the design of active teaching lesson plans with public applications Information technology and electronic lesson plans. The author commented: “Compared to the old teaching medium with only blackboards, white chalks and textbooks ... the design of lecture content on computers with the support of a multi-teaching system Means are a big breakthrough.

Electronic lectures have supported teachers, giving students more information, more attractive through diverse and rich information channels: text content, audio, still images and animations. The author highly appreciates the positive effect of information technology on innovating and improving teaching quality.

Researching the current situation and proposing solutions to manage IT application in teaching in secondary vocational training schools in the Central Highlands in the current period. Authors Ngo Quang Son - Pham Van Truong have a common opinion that educational institutions have initially implemented the management of IT application in teaching but the effectiveness is not high. The exploitation and promotion of the effective use of infrastructure and equipment with information technology is still very low. Especially, the management of IT application in teaching has not been carried out synchronously, from planning to organizing, directing and evaluating.

The inclusion of IT in the management of education and teaching in schools in general and Central Highlands Secondary School for Children in particular to improve the quality of education is indispensable. However, the introduction of IT into educational management and how to promote the strengths of IT and achieve high educational efficiency requires the leadership of the school principal in the field of IT application in teaching in general, in the Central Highlands Lower Secondary Schools for Ethnic Minorities in particular.

3.2. Studies of leadership ability and development of leadership competencies

In the world, there have been many studies on leadership and leadership, especially in the US, Europe and some other developed countries. The most typical are the following studies and authors:

John C. Maxwell with the research book “Development of leadership skills” by John C. Maxwell published in 1993. In this study he pointed out the leadership skills needed by a leader. John C. Maxwell, with the study of the “21 golden principles of leadership art” published by John C. Maxwell in 1998. The author has pointed out that the key principles are the foundation of leadership; principles can stand alone but complementary to each other.

Richard L.Hughes, Robert C.Ginnett and Gordon J.Curphy, Leadership, McGraw - Hill Education, 2009 with their work have shown that leadership is a process, not a position; leadership encompasses the interaction between the leader, the subordinate and the situation; leadership is developed through experience and educational process; power and influence; characteristics of leadership capacity; leadership behavior; leadership skills ... besides the research also emphasizes the importance of setting goals, conducting meetings, negotiating, resolving conflicts within groups, and dealing with personal stress, etc.

Warren Bennis (2009) with research presenting the importance of confidence, foresight, morality, intuition and trust in intuition are essential for leaders. The author emphasizes that leaders need to learn from everything, but at most from their own experience.

Dang Ngoc Su with his doctoral thesis on “Leadership - case studies of leaders of Vietnamese small and medium enterprises”, Central Institute for Economic Management - CIEM, December 2011. The thesis mainly deals with theoretical issues such as effective leadership and leadership; effective leadership models; leadership capacity; constitutes of leadership capacity.
4. Evaluating the current situation of leadership in application of Information Technology in teaching positively at the district-level boarding boarding schools in the Central Highlands region

4.1. Strengths

The leaders and most of the university’s teachers are aware of the importance of applying IT to active teaching and innovating teaching methods. School facilities in general and teaching equipment in particular necessary for the IT application were initially invested. The connection to the Internet with ADSL transmission line - an important condition for promoting and improving the quality of IT application in teaching has been implemented by 25 junior secondary education schools. From the school year 2012-2013, the Department of Education and Training has issued a lot of guidelines on IT application for secondary education schools. Computing skills and skills of leaders, teachers, and staff of ethnic minorities boarding lower secondary schools are guaranteed from basic upwards. Cadres in charge of information technology at ethnic minorities lower secondary schools have intermediate education level or higher of 100%. The application of IT in school management expressed through electronic information exchange online between the Division of Education and Training and the schools in the area via the website has good effect. The application of IT in teaching and learning also achieved a number of results, such as: the Division of Education and Training has proposed solutions to encourage the application of IT in teaching, building an electronic document system for teaching. 55% of surveyed schools already have an electronic learning library. Number of thematic innovations in teaching methodology with IT applications at all levels in a year. The percentage of lectures with IT applications at lower secondary level in lectures and competitions at district level reaches 100%, the rate of teachers using Internet for teaching is 88%, the rate of students using Internet Internets at 35 %. Activities of exchanging and learning IT experience are also focused.

4.2. Weak side

- The construction of a common database for ICTs application in teaching and learning is not effective, the database is still poor.

- The facilities of the schools in general and the teaching equipment in particular for the application of ICTs in teaching are lacking compared to the actual needs in the schools: The number of school classrooms; Electronic library room ... The exploitation of existing equipment has not reached a high frequency. The skills to use modern teaching equipment of teachers are not proficient and fluent. Teachers have not been proactive in preserving modern teaching equipment.

- The design of active teaching plans with the application of information technology is still spontaneous, without the active management of the school.

- And teachers misuse ICTs leading to ethnic minority students not timely recording the content of the lecture, the teaching process becomes passive making the lesson less effective. So with this way, teachers make the teaching process more passive than “read-write”. School leaders and teachers are not active in designing and using active teaching lesson plans with IT applications.

The limitations and inadequacies of the application of ICTs and the leadership of ICTs application in renovating teaching methods in ethnic minorities lower secondary schools have both objective and subjective causes. Funding for investment in modern equipment procurement and construction of infrastructure for the application of ICTs in teaching is limited.

The number of lesson plans of teachers per week is high, so teachers do not have much time to prepare teaching plans for teaching. Meanwhile, in addition to compiling lesson plans, teachers also have to make many types of books in the teacher’s file, all kinds of thematic lesson plans, extra-curricular lesson plans, topic-based teaching, practical lessons. show the work of universalizing, participating in competitions, guiding students to participate in contests ...

The secondary vocational training schools in the province are under pressure of the increase in mechanical population.

The application of information technology and communication in teaching at secondary education schools is still inadequate. The attention of managers and leaders is not strategic; thereby leading to unsynchronized infrastructure investment. Since then, the improvement of computer literacy for teachers is uneven and basic. These are the reasons that make the application of information technology in teaching in general and in secondary vocational training schools in particular very difficult and its effectiveness is therefore not clear.

Human resources for ICTs application in management and support for teachers in teaching are still lacking.

5. Solutions to develop leadership capacity in information technology application in teaching at ethnic minority boarding lower secondary schools in the Central Highlands in the current period

5.1. Solution 1: Develop and implement a teacher awareness-raising plan on the importance of ICTs application in teaching

Making schools leaders and teachers see the great role, the need to adjust the perception of applying ICTs in teaching, especially being aware of the correct design and use of interactive teaching lesson plans. ICTs use in teaching contributes to innovating
current teaching method. On the basis of proper awareness, with the attention and direction of unit leaders, teachers voluntarily study to improve their ICTs use, actively design and use positive teaching lesson plans that are appropriate.

Creating consensus, consensus in the cell, the board of directors, the leaders, the executive committee of the trade union, the secretary of the Youth Union, the General Manager of the Team. On that basis, forming a unified block, the collective determination of the teachers, staff of the whole school, from which to actively design and use this type of lesson plan.

5.2. Solution 2: Organizing training courses for teachers in ethnic minority boarding lower secondary schools on basic computer knowledge and skills. Instruct teachers to use teaching software and teachers how to access the Internet effectively

Equipping basic information technology, ICTs skills for managers and teachers so that they can organize and apply well at work. Create ICTs human resources to carry out ICTs tasks and requirements for the school. Managers and teachers have the ability to use the basic functions of some teaching software such as: Total Video Converter 3.12; Cabri; Maple; Study English 1.0; Crocodile Physics 605; Geometer’s Sketchpad, Macromedia Flash; Violet software...uses the design of electronic materials integrated into active teaching lesson plans. The leadership levels of the education sector need to have plans on training and retraining computer skills and the use of teaching equipment for teachers in a synchronized manner and on a sector-wide scale. Organizing refresher classes for teachers of computer knowledge to design a teaching curriculum with ICTs applications based on the following principles: Principles suitable to teachers’ conditions and abilities; Principle easy to apply for teachers; Principles specific for each teacher, for each content.

Implementing comprehensive solutions on ICTs application; design and use of teaching curriculum with application of ICTs. Create opportunities for teachers to develop capacity for mastering new technology. Preparing ICTs human resources with general computer skills because of weak human resources will greatly affect the design and use of ICTs teaching lesson plans with ICTs applications.

Applying various forms of fostering for teachers about computer skills and design and use of teaching curriculum with ICTs applications. Combining models: experts, instructors in the classroom and online training (E-Learning) to optimize the quality of learning. In addition, during the school year, we often use Computer Informatics teachers in schools to guide other teachers.

Fostering for teachers who have designed a teaching plan with ICTs applications, know how to filter information such as images, writing, colors, sounds, forms, etc. in combination with active teaching method to make lectures vivid, attractive, stimulating learning and stimulating learners’ thinking.

5.3. Solution 3: Directing the development of positive lesson plan design processes with ICTs applications and teaching instruction

Develop a standard process applied for ethnic minority boarding lower secondary school teachers to teach in all subjects when designing active teaching lesson plans with ICTs applications. In order to build a standard process applied for ethnic minority boarding lower secondary school teachers to teach in all subjects when designing a teaching plan with ICTs applications, the school administrators must introduce teachers ICTs applications in teaching and contributing innovation part of teaching method. Measures to help teachers use basic computer literacy and use of teaching software in the design of active teaching lesson plans with ICTs applications.

- The Principal directs professional groups to bring the content of active teaching lesson plans design with ICTs application into professional activities. The way to proceed is as follows: teachers exchange and select lessons that can effectively apply ICTs to contribute to innovating teaching methodology then assign designs, build thematic topics, draw experience and deploy teaching and those lesson plans can be used to organize teaching activities in school classrooms with high efficiency, meeting the current requirements of renovating teaching methodology at lower secondary education schools of 5 provinces in the Central Highlands.

5.4. Solution 4: Direct the implementation of the electronic active teaching lesson plan design process (Electronic lesson plan) and conduct teaching

Develop the process of designing e-lesson plans instruct and direct teachers to follow the design process to improve the quality of lesson preparation and effective use of e-textbook lesson plans. Helping to implement the process of designing electronic teaching lesson plans in a scientific, unified and effective manner. Organizing inspection and supervision, encouraging timely, emulating and commending the form to promote the positive, creative staff. Ensuring the uniformity between teachers and students, applying in accordance with the knowledge. Avoid the situation:

+ Abuse the presentation function of the software
+ Students do not keep up the lesson, do not promptly understand the problem
+ ICTs application is just a formality

When teachers have been trained and fostered in basic informatics skills, grasped utility software in applying to the design and use of electronic teaching materials, understanding the utility of
ICTs applications in teaching, the difficult problem for teachers is how to successfully design e-lesson plans and use lesson plans most effectively. Through research, the author boldly gives the content and method of directing this work at the unit as follows:

Firstly: Develop the process of designing electronic teaching lesson plans

Second: Managing the process of designing active electronic lesson plans

5.5. Solution 5: Making long-term and specific plans for each year of investment in purchasing additional modern teaching equipment and building high-class classrooms to effectively apply ICTs in teaching

Developing a modern equipment system to meet the requirements of building school classrooms and well serving the needs of teaching by active teaching lesson plans with ICTs applications of ethnic minority boarding lower secondary school teachers in 5 province. The first task that the administrative officer should perform when conducting the management of the purchase of modern teaching equipment, building high school classrooms is to review all the modern teaching equipment that our school currently has, check carefully.

Are those devices still available?

The administrators then base on the specific requirements of the number and types of modern teaching equipment necessary for the construction of high school classrooms of the school before making a list to buy. Ensure that the equipment is purchased in sufficient quantity, correct in type and avoids unnecessary waste. On the basis of equipment that needs to be purchased, the management officer estimates the cost to pay for the purchase of these equipment. Investing in modern equipment and building high classrooms is very expensive. Moreover, managing the use of modern teaching equipment and classrooms so that the effectiveness is also very difficult.

5.6. Solution 6: Application of ICTs in checking and assessing learning outcomes of ethnic minority boarding lower secondary school students

Unify in directing the exploitation and use of ICTs in renovating the examination and assessment of students’ learning results in schools. Quickly check students’ basic knowledge. Evaluate results more objectively. Take advantage of opportunities for students to practice self-test and assessment skills. Improving the quality of teaching in secondary schools. Evaluation is a crucial and indispensable tool in the educational process; functions, adjusts the teaching and learning process, is the motivation for renovating teaching method, contributing to improve and improve teaching quality. In order to organize the implementation of innovating methods of testing and assessing learning results using ICTs, the Principal should direct the following:

- Teaching testing and evaluation must be based on the teaching objectives of each subject in the lower secondary school for ethnic minorities.

- Reasonable use of the objective multiple choice test to evaluate learning results: consolidation test (at the end of the lesson) by multiple choice test; taking multiple-choice tests that account for at least 20% of the total number of one-point tests with some subjects.

- Direct professional leaders to assign the preparation of multiple-choice questions, arranged in chapters and sections to build multiple-choice question banks.

- Direct the ICTs Department to collect test software and revision software in the form of multiple-choice questions to enrich the multiple choice question bank for the subjects currently using the test format. Objective experiences dominate subjects such as English, Physics, Chemistry, Biology.

- Direct the effective use of the school’s website, connect the computer room so that students can check and assess the learning results themselves: Link to the content review websites to consolidate knowledge with the system Multiple choice questions range from easy to difficult, with time for assigning and grading.

6. Conclusion

Application of ICTs in teaching requires unity from awareness to specific jobs, the participation of educational management levels, teachers and students. In which, playing an important role is the contingent of managers and teachers of the junior secondary schools. From this situation, the author has oriented research and proposed appropriate solutions in helping the leadership of the junior high schools of ethnic minorities in leadership to develop the capacity of applying ICTs in teaching effectively, contributing to innovating the method, teaching according to the orientation of developing students’ capacity, improving the quality of education, meeting the expectations of local leaders and people.

From the results of testing the necessity and feasibility of the solutions, the system of proposed solutions is completely suitable to apply in the leadership development of ICTs application in teaching, contributing to innovating teaching method at secondary schools for general education in the Central Highlands in the current period. Leadership in developing the capacity of ICTs application in teaching to achieve high efficiency requires the leadership of the junior secondary schools for ethnic minorities not only to grasp the specific management solutions contained in this paper but also to have a firm grasp of the rules. Basic law on the development of education as well as related sciences such as Philosophy, Informatics, Economics...
GIẢI PHÁP PHÁT TRIỂN NĂNG LỰC LÃNH ĐẠO ỨNG DỤNG CÔNG NGHỆ THÔNG TIN TRONG DẠY HỌC Ở CÁC TRƯỜNG PHỔ TRƯỜNG TRƯỜNG TRƯỜNG DÂN TỘC NỘI TRÚ TRUNG HỌC CƠ SỞ KHU VỰC TÂY NGUYÊN

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Từ khóa: Giải pháp hiệu quả; Năng lực lãnh đạo; Ứng dụng công nghệ thông tin trong dạy học; Trường phổ thông dân tộc nội trú trung học cơ sở; Khu vực Tây Nguyên