1. Introduction

Today information technology deeply affects all activities of social life in all countries. In order to absorb such a huge and increasing amount of knowledge in a short time of studying at schools, the urgent problem for schools today is to equip basic knowledge and basic skills and develop learners’ abilities and at the same time teach learners how to learn, create their skills, habits and lifelong passion for learning. Therefore, innovating teaching content and innovating teaching methods towards modernization and technologyization are inevitable.

Currently, in the world as well as in Vietnam, teaching method innovation is taking place very vigorously in three main trends: positive, personalized and technology to contribute to improving teaching and learning quality... In all three trends, good application of information technology in teaching at district ethnic minorities boarding high schools is still very difficult and therefore its effectiveness is not clear. There are many reasons for this situation, including the underlying causes of leadership capacity in applying information technology in teaching. To gradually overcome this situation, the authors of the article have conducted a survey to investigate the situation of developing leadership capacity in the application of information technology in teaching in district ethnic minority boarding high schools in the Central Highlands Region in the period from 2013 to 2018. The authors analyzed the survey results on the status of leadership capacity development in information technology application in teaching in district ethnic minority boarding lower secondary schools, the strengths sides, the weak sides and the causes of the strengths, weaknesses and issues to be posed to solve in the current period.

Keywords: Leadership capacity; Develop leadership capacity; Application of information technology (IT) in teaching; District boarding lower secondary schools for ethnic minorities; Central Highlands Region.
Recognizing the importance of applying IT in teaching to contribute to the innovation of teaching method, the district boarding lower secondary schools for ethnic minorities in the Central Highlands region have implemented many measures to promote the application of IT in teaching and managing and initially achieve certain results. By the 2017-2018 school year, all district boarding lower secondary schools in 5 Central Highlands provinces are equipped with computer rooms, multifunction projectors for ethnic minority students to study and teachers of the school. 100% of schools have websites that use effectively in management. However, the application of information technology in teaching at secondary education schools is still very difficult and therefore its effectiveness is not clear.

There are many reasons for this situation, including the underlying cause of the leadership capacity in the application of information technology in teaching, which is still limited: some leaders have not oriented teachers, being fully aware of the role and meaning of applying IT in teaching and contributing to innovating teaching method; Teachers have not mastered basic computer knowledge and skills. There are teachers who do not fully understand the nature of positive teaching lesson plans with IT applications and active electronic teaching plans that lead to IT abuse in teaching. Another reason is that the funding for the procurement of modern teaching equipment and the construction of infrastructure for IT application in teaching is limited. For the above reasons, the authors of the paper chose to research the topic: “Developing leadership capacity in the application of Information Technology in teaching at ethnic minorities boarding high schools in the Central Highlands in the current period”.

On the basis of theoretical and practical research on leading the application of IT in teaching, the research team proposed a system of solutions to develop the leadership capacity of applying IT in teaching, contributing to innovating teaching method and improving high quality of teaching at district ethnic minority boarding lower secondary schools in 5 provinces in the Central Highlands region for Industry Revolution 4.0 trend.

2. Research method

2.1. Group of theoretical research methods

- Studying the Education Law, documents of the Party and State on education and training development orientations; Orientation of developing the application of IT in teaching.
- Studying documents of Ministry of Education and Training, Departments of Education and Training related to teaching equipment, innovating teaching methods, applying IT in teaching.
- Research scientific documents related to the research topic.

2.2. Group of practical research methods

- Methods of survey by questionnaire: Through the opinion questionnaires, understanding the perceptions and aspirations of managers, teachers and students to collect information on the current situation of developing leadership capacity in IT application in teaching at ethnic minorities boarding lower secondary schools in the Central Highlands in the current period.
- Method of experts: Giving opinions of experts in the field of leadership development in the application of IT in teaching at ethnic minorities boarding lower secondary schools in the Central Highlands in the current period.
- Supplementary method: Going directly to some teaching hours with IT application; conduct interviews with students, teachers and administrators; Draw out comments on the development of leadership capacity in the application of IT in teaching at ethnic minorities boarding lower secondary schools in the Central Highlands in the current period

2.3. Other supporting methods

Using mathematical statistical methods to process survey data.

3. Overview of the issues research

3.1. Foreign countries

Currently knowledge economy has a great influence on the economy of each country as well as the whole world. In the knowledge economy, knowledge plays a leading role in socio-economic development. Improving the efficiency of education and training quality is a measure to develop the knowledge economy. One of the solutions to improve the quality of education is to apply IT to apply new technologies to education. To accomplish this, the problem for educational managers is: How to promote the application of IT in teaching activities? Therefore, the issue of researching management measures to promote the application of IT in education has really developed throughout the world in general and in Vietnam in particular.

In the world, countries with developed education focused on the application of IT such as America, Australia, Canada, Japan, Korea, Singapore, Philippines, Taiwan ... through many national programs on computerization as well as IT applications in the fields of science and technology, in all areas of social life, especially in science and technology and education. These countries see this as a key issue of the scientific and technological revolution, a key to building and developing
industrialization and modernization of the country and increasing the economy to build and develop, developing knowledge economy, integration with countries in the region and around the world. Some IT policies and programs of IT applications can be reviewed in the following countries:

The United States: Information technology - especially the Internet - began to be used in the United States in 1995 (Wiles and Bondi, 2002) and then began to be widely available worldwide.

Australia: In March 2000, the Council of Ministers supported the direction presented in the “Strategic Structure for the Information Economy” document, which covers two broad school education goals for the information economy.

Canada: Currently Canada is a country of high technology, media, entertainment and arts development. Canada uses high technology in almost all areas of operation and pioneers in the fields of information technology, computers, telecommunications, transportation, mechanics, aerospace, urban transportation, microelectronics, medical instruments, advanced software...

Japan: Develop a national program named “Plan of an information society - national target until 2000” has been published since 1972.

South Korea: E-government activities and IT applications are distinguished: Projects involving many ministries, sectors and localities are considered as e-government projects funded by central budget. IT application projects are conducted by each ministry, sector or locality using recurrent budget or IT promotion fund under the management of the Ministry of Information and Communications.

Singapore: In 1981 passed a National Computerization Act that defined three tasks: First, to computerize all administrative and governmental jobs. Second, coordinate education and training informatics. Third, develop and promote the IT services industry in Singapore. A National Computer Committee was established to direct that work.

Philippines: The National IT Plan of the Philippines, published in 1989, defines a common strategy to bring IT to the country’s socio-economic development in the 1990s.

Taiwan: In 1980, Taiwan’s informatics policy was announced and “The 10-year IT Development Plan in Taiwan” mentioned the organizational structure of IT in the country and the contents that the Government needed to do to develop IT, continue to successfully compete in the world market.

3.2. Vietnam

Right from the anti-American era to save the country, the Party and the State had advocated applying technology - information in a number of fields. Entering the period of renovation, that policy has been emphasized and concretized in many resolutions of the Party and Government. Resolution No.26/NQ/TU, March 30, 1991 of the Political Bureau on science and technology in the renovation cause stated: "Focusing on developing a number of spearhead sciences and technologies such as electronics, Information Technology...". Resolution of the Seventh Conference of the Central Executive Committee (Session VII), dated July 30, 1994: Prioritizing the application and development of advanced technologies, such as information technology, serving electronic requirements. computerize and computerize the national economy". The Resolution of the Eighth National Party Congress emphasized:"Application of information technology in all fields of the national economy, creating a change clearly on productivity, quality and efficiency of the economy...Establishing a national information network linking with some international information networks". In order to institutionalize the State and the Government issued Resolution No.49/CP of August 4, 1993 on "Development of information technology in Vietnam in the 90s".

Implementing the policies of the Party and the State, since the 70s, information technology in our country has been applied and developed, making an important contribution to promoting the socio-economic development of the country.

The awareness of the whole society about the role and significance of information technology has been raised one step. Human resources for information technology increased significantly. Telecommunications are developing rapidly in the direction of modernization. The Government's Resolution No.07/2000/NQ-CP of June 5, 2000 on building and developing the software industry in the 2000-2005 period is and will continue to create a favorable environment for organizations, domestic and foreign individuals invest, trade, produce and provide software services. Especially, Politburo's Directive No. 58-CT/TW of October 17, 2000 on accelerating the application of IT development for the industrialization and modernization cause.

Most recently on August 27, 2010, the Prime Minister signed the Decision No.1605/ QD-TTg approving the National Program on IT application in state agencies’ activities for the period of 2011-2015 with total investment over 1700 billion dong. There are also 20 national projects on IT application that are approved by the Prime Minister.

In Education and Training: From the 2008-2009 school year selected as the school year with the theme: "The academic year of information technology application and financial management innovation" shows that the Ministry of Education and Training has been very important. pay attention to the application of IT in schools through the school year mandate...in the following school years, the Ministry of Education and Training continues to direct: "Promote the application of information technology in educational management. education,
unified state management on IT application in Education and Training ... ”

In recent years, the application of IT in management and organizing teaching activities has been interested in many scientists. Scientific conferences and seminars on IT research have mentioned a lot about IT application management in education and the ability to apply to the Education and Training environment in Vietnam such as:

- Scientific conference "Research and implementation of E-Learning" organized by the Information Technology Institute (Hanoi National University) and the Faculty of Information Technology (Hanoi University of Technology) organized in early March 2005 was the first scientific conference on IT application in the education system held in Vietnam.

- National scientific conference on IT: "Technology and management solutions in IT application in teaching method innovation" organized by Hanoi University of Education in collaboration with Higher Education Project May 9-10, 2006. The main contents of the seminar are: Technology solutions in teaching method innovation (high school, university and postgraduate), IT development strategy in teaching method innovation. The results and experiences of applying IT in teaching: Building and using teaching software, electronic learning materials,... The 2010 National Conference on Information and Communications of Vietnam (held on December 3, 2010) evaluated Directive No.58-CT/TW to mean a wise, correct and practical policy of the Politburo, creating a positive turn for the development of IT industry. The conference also evaluated the results achieved over 10 years of implementing Directive 58 in 5 aspects: State management, IT application, IT industry development, IT human resource development and lower development.

On December 22, 2015, in Da Nang, Department of Information Technology (Ministry of Education and Training) organized a seminar on “Enhancing the application of information technology to meet the requirements of fundamental and comprehensive innovation in education and training”. During the seminars, scientists and managers raised issues of research on the importance, application and development of IT, especially solutions to promote IT application in education.

In recent times, there have been a number of scientific master’s theses on IT application management in teaching in high schools in our country successfully protected such as:

- Author Bui Thi Ngoc Quyen researches the subject: “Measures to manage IT application in teaching at secondary schools in Le Chan District, Hai Phong City”. Done in 2010 at Hanoi National University of Education.

- Author Pham Anh Tuan researched the topic: “Solutions for managing IT applications in teaching at high schools in Ha Nam province” studied theoretical issues about the management of IT applications in education. Find out the reality of the management of IT application in teaching, propose some measures to manage IT application in teaching of high schools in Ha Nam province, Implement at the Institute of Education Management year 2012.

- Author Vu Van Hung researches the subject: “Measures to manage IT application and communication in teaching at high schools in Giao Thuy district, Nam Dinh province” has systematized the basic issues of management and application, IT application in education, Implemented at the 2013 Academy of Educational Management. Through research, the authors affirmed the significance of the application of IT in teaching, contributing to innovating teaching methods and the important role of management measures. From the above works, the author found that developing leadership capacity in the application of Information Technology in teaching at ethnic minorities boarding lower secondary schools in the Central Highlands region in the current trend of Industry Revolution 4.0, it is very important and urgent.

4. The reality of developing leadership capacity in the application of Information Technology in teaching at ethnic boarding high schools in the Central Highlands region in the current trend of Industry Revolution 4.0

4.1. Lead the construction and use of multimedia classrooms

By the end of the school year 2018-2019, the district ethnic minorities boarding lower secondary schools have built up multimedia classrooms. When we conducted a survey on the educational management staff of 25 district boarding schools for the ethnic minorities, the following results were obtained: Of the 25 leading officials of 25 district junior boarding boarding schools The Central Highlands region, which was surveyed, found that the construction of multimedia classrooms was really necessary.

4.2. Lead the use of teaching software and effective Internet access

Currently, there are no specific regulations on teachers’ leadership to exploit information on the internet. This is an issue that leaders in ethnic minority boarding lower secondary schools in the Central Highlands need to be concerned and propose appropriate remedies.

4.3. Leading the design and use of positive teaching lesson plans with IT applications

4.3.1. Planning work

The Departments of Education and Training have issued documents guiding the application of IT in schools for each school year. The schools have based on the guiding documents to plan for
the implementation of IT applications, as well as the preparation of active teaching plans with IT applications, and plans to organize lectures and associations. Active Teaching – Learning Lesson Plan contest with IT applications, proposing solutions to implement that plan, also planning to buy modern teaching equipment and putting the design and use of Active Teaching – Learning Lesson Plan with IT applications. However, the plan does not really stick to the actual situation of pedagogical competence, computer literacy of teachers and school facilities in general and modern equipment of the school in particular.

4.3.2. Organization of implementation

The organization of implementation of the schools has not been agreed. At the same time, the process of designing Active Teaching – Learning Lesson Plan with the application of IT does not yet have specific instructions, the leaders of the junior secondary education schools are still confused in the implementation stage from the planning to train teachers for IT, Procurement of modern equipment and materials to the stage of coordinating resources.

4.3.3. Steering work

Having ensured the unified direction from the professional steering agencies, the Departments of Education and Training advised the District People’s Committee to provide funding for the construction of the web portal, linked to the website of all schools in the area. Direct teachers in schools to actively put up lesson plans, especially lectures and competitions. However, there are still problems and shortcomings such as orientation for teachers about the design and effective use of Active Teaching – Learning Lesson Plan with IT applications. How to teach in class? Teach what? What was the composition like? Ideas and design like? Many Active Teaching – Learning Lesson Plan design refresher courses with IT applications for teachers have not been organized.

4.3.4. Inspection and evaluation

Assessment is a very important activity in the work of leading officials. The leaders of the schools have set out right from the stage of planning and organizing the implementation through lectures, scheduled hours or contests...However, the adjustment, repairing and rectifying the design and using Active Teaching – Learning Lesson Plan with IT application has not been implemented effectively. Because in fact, there are many times when launching and planning the organization of implementation are not concerned, but the stage of summarizing and drawing experience from the implementation process has not been paid attention.

* General comment

Designing lesson plans of teachers is one of the important tasks of the school’s leadership team. The results obtained when conducting the survey on this issue in 25 schools are as follows: 100% of the managers of the ten schools think that in order to improve the quality of teaching hours, it is necessary to strictly manage the design and use lesson plans of teachers. However, the leaders of 25 schools also said that managing the lesson plans of the entire school teachers, especially when preparing lectures with Active Teaching – Learning Lesson Plan using IT is very difficult.

4.4. Leadership in applying IT in the examination and evaluation of learning results of ethnic minority students

First of all, evaluation is a stage and an important tool which is indispensable in the educational process; functions, adjusts the teaching and learning process, is a motivation for innovating teaching methods, contributing to improve and improve teaching quality. Assessment has many implications for learners, teachers as well as managers. Through the assessment and evaluation, it also helps ethnic minorities students adjust their learning methods, knowledge and skills and motivate them to strive better.

Using IT in renewing the examination and assessment of learning results of ethnic minority students in schools helps to quickly check the grasp of basic knowledge of students, the results are more objective and take advantage of opportunities for students to practice self-assessment and assessment skills. IT applications make managing student results more convenient.

4.5. Assessment of the current situation of information technology application and the situation of leadership in the application of information technology in active teaching in district-level ethnic minorities boarding lower secondary schools in the Central Highlands region

4.5.1. Strengths

The leadership team 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 until now, the Departments 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 junior secondary education schools are guaranteed from basic upwards. Cadres in charge of information technology at district–level ethnic minorities boarding lower secondary education schools have intermediate education level or higher of 100%.

The application of IT in school management
4.5.2. Weak side

- The construction of a common database for IT application in teaching and learning is not effective, the database is poor.
- The facilities of the schools in general and the teaching equipment in particular for the application of IT in teaching are lacking compared to the actual needs in the schools: The number of high 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 – Learning Lesson Plan with IT application is still spontaneous without the active management of the school.
- And teachers misuse IT 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 – Learning Lesson Plan with IT applications (Hoa & Son, 2008).

4.5.3. Analyze objective and subjective reasons

The limitations and inadequacies of the application of IT and the leadership of IT applications in renovating teaching methodology at junior secondary education secondary schools have both objective and subjective causes.

4.5.3.1. Objective reasons

Funds for investment in modern equipment and equipment procurement, construction of infrastructure for IT application in teaching are 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 included 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 district – level ethnic minorities boarding lower secondary schools in the province are under pressure of the increase in mechanical population.

4.5.3.2. Subjective reasons

The application of information technology in teaching at district – level ethnic minorities boarding lower secondary schools for secondary education still has many shortcomings. 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 district – level ethnic minorities boarding lower secondary schools in particular very difficult and its effectiveness is not so clear. Human resources for IT application in management and support for teachers in teaching are still lacking (Hoa & Son, 2016).

5. Conclusion

Through studying the current situation of IT application in district – level ethnic minorities boarding lower secondary education schools, the authors found that: to effectively apply IT in teaching, avoid IT abuse, requires consistency from awareness to specific jobs, the participation in educational management, school leaders, teachers and ethnic minority students. In which, playing an important role is the contingent of leaders, managers, teachers and staff of the district – level ethnic minorities boarding junior secondary schools.

Practice shows that to improve the quality of teaching, it is necessary to coordinate many solutions, with unified leadership from educational management levels in which the application of IT in teaching contributes to innovating teaching method is a right direction of lower secondary schools. From the results of the survey and the use of software to analyze in detail the current situation of IT application in innovation of teaching method and the situation of leadership in IT application in teaching and management at 25 district – level ethnic minorities boarding lower secondary schools in the Central Highlands region will be a convincing practical basis for the authors to come up with a system of leadership solutions to apply IT in teaching, contributing to innovating teaching method for ethnic minority students, improving the quality of education of district – level ethnic minorities boarding lower secondary schools in the current trend of technology revolution 4.0 (Bao, 2007).
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PHÁT TRIỂN NĂNG LỰC LÃNH ĐẠO ỨNG DỤNG CÔNG NGHỆ THÔNG TIN TRONG DẠY HỌC Ở CÁC TRƯỜNG PHỔ THÔNG DÂN TỘC NỘI TRÚ KHU VỰC TÂY NGUYÊN TRONG GIAI ĐOẠN HIỆN NAY
Thực trạng và những vấn đề đặt ra

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Tóm tắt
Nhận thức rõ tầm quan trọng của việc ứng dụng công nghệ thông tin trong dạy học nhằm góp phần đổi mới phương pháp dạy học, các trường phổ thông dân tộc nội trú huyện khu vực Tây Nguyên đã triển khai nhiều biện pháp nhằm đẩy mạnh ứng dụng công nghệ thông tin trong dạy học, quản lý và bố trí dạy đạt được một số kết quả nhất định. Tuy nhiên, công tác ứng dụng công nghệ thông tin trong dạy học ở các trường phổ thông dân tộc nội trú trung học cơ sở còn rất khó khăn và hiệu quả của nó vì thế cũng chưa rõ nét. Có nhiều nguyên nhân dẫn đến thực trạng này trong đó có nguyên nhân cơ bản thuộc về năng lực lãnh đạo ứng dụng công nghệ thông tin và truyền thông trong dạy học còn nhiều hạn chế. Để khắc phục từng bước thực trạng này, nhóm tác giả đã tiến hành điều tra khảo sát thực trạng phát triển năng lực lãnh đạo ứng dụng công nghệ thông tin trong dạy học ở các trường phổ thông dân tộc nội trú cấp huyện (trung học cơ sở) khu vực Tây Nguyên trong giai đoạn từ năm 2013-2018. Nhóm tác giả đã phân tích kết quả khảo sát về thực trạng phát triển năng lực lãnh đạo ứng dụng công nghệ thông tin trong dạy học ở các trường phổ thông dân tộc nội trú, những mặt mạnh, những mặt yếu, nguyên nhân của những mặt mạnh, mặt yếu và những vấn đề cần đặt ra để giải quyết trong giai đoạn hiện nay.

Từ khóa
Năng lực lãnh đạo; Phát triển năng lực lãnh đạo; Ứng dụng công nghệ thông tin trong dạy học; Trường phổ thông dân tộc nội trú; Khu vực Tây Nguyên.