

Increase the application of Information Technology in Innovative Teaching Methods of the Theory Section at Thanh Hoa University of Culture, Sports and Tourism

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Received: 30 Mar 2022; Received in revised form: 19 Apr 2022; Accepted: 25 Apr 2022
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Abstract

Information technology is applied in almost all fields of life, including education. ICT influences and transforms teaching and learning through its potential as a source of knowledge, a medium of content delivery, and a medium of interaction and dialogue. IT changes the elements of the curriculum and the type of program that prepares the essential foundation for learners to meet the requirements of the digital world, the information technology, and the technology era. The article focuses on analyzing the roles, and current situation and proposes solutions to enhance the application of information technology in teaching method innovation of theoretical modules at the Thanh Hoa University of Culture, Sports and Tourism.

Keywords— *Information technology, Teaching methods, Innovative solutions for teaching methods, the Thanh Hoa University of Culture, Sports and Tourism.*

I. INTRODUCTION

Information technology (IT) has been applied to almost all areas of life. In education, IT - communication has been put into application in both management, teaching, and learning; Today's IT is both a subject and a tool to support effective teaching and learning in schools.

Besides, the inevitable integration process in terms of economy, culture, education,... among countries creates a flatter world. The penetration and influence of technological advances, globalization, and integration trends change the perception and role of education and schools. Education must become a direct productive force, creating products with high value and gray matter content. The school must create an open and modern educational environment to train generations of smart citizens. The changing needs, interests, learning styles, and modes of activities of learners pose an indispensable requirement for the change of school education. ICT influences and transforms teaching and learning through its potential as a source of knowledge, a medium of content delivery, and a medium of interaction and dialogue. IT transforms curriculum elements and curriculum types, preparing learners with essential foundations for the demands of the digital world, the informatics and technology era.

The role, importance, and effectiveness of IT application in teaching have been proven by educational practice at home and abroad over the years, it shows that the application of IT in teaching and learning is an all-time trend. weakness of education. At Thanh Hoa University of Culture, Sports, and Tourism, the application of IT has been widely deployed to all faculty and staff and has achieved many positive results in improving teaching quality. However, with a multi-disciplinary training school, the application of IT in teaching still faces inadequacies. Therefore, it is very important to research and propose solutions to "Strengthening the application of information technology in innovating teaching methods of theoretical modules at the Thanh Hoa University of Culture, Sports and Tourism". necessary, making a practical contribution to promoting and improving the quality of teaching to meet the requirements of building smart schools in the 4.0 industrial era.

II. RESEARCH OVERVIEW

The issue of IT application in teaching activities in Vietnam has been interested in many researchers over the years. Many valuable research works such as "Application of IT in education towards an e-education" by Quach Tuan Ngoc (2009) [5], "IT for active teaching" by Jef Peeraer

(2011)) [6], "E-Learning and its application in teaching" by Le Huy Hoang and Le Xuan Quang (2011) [3], "Using information technology in teaching" program documents of Partner in learning of Microsoft (2008) [4].

Tran Dinh Chau - Dang Thi Thu Thuy (2011)[1] research on "Application of information technology to support innovation of teaching methods" asserts: "Application of IT in teaching needs to cross the point of view: active activity. students' learning, ensuring the requirements of teaching methods". Accordingly, learners can independently observe, have the opportunity to manipulate teaching software, and maximize positive thinking: compare, analyze, synthesize, generalize, .. events. , phenomenon, from which they can discover new knowledge by themselves or learn by themselves actively and actively. Research also shows that: electronic lectures, computers, teaching software, ... or boards, chalk, all are means, only supporting effects, nothing can replace labor, talent, pedagogical art of teachers, passion, and active learning spirit of students.

Vu Thi Thuy Hang (2018)[2] Research on "Smart Schools: Origins, Definitions, and Lessons for Vietnam" shows that ICT and communication influence and change teaching and learning methods. through its potential as a source of knowledge, a medium of content delivery, and a medium of interaction and dialogue. ICT is about changing curriculum elements and curriculum types that prepare learners with essential foundations for the demands of the digital world, informatics, and technology era.

Le Van Son (2016)[7] studied the role of ICT in teaching method innovation applied to ethnic preparatory schools. Research has shown the role of IT in effectively supporting the implementation of content innovation and teaching methods. The study also pointed out the reasons why the innovation of teaching methods with the application of IT still revealed many limitations, as well as proposed measures to increase the effectiveness of IT application in teaching methods innovation in ethnic preparatory schools.

A study by Jef Peeraer and Peter Van Petegem (2010)[9] investigates the factors affecting the application of IT in the pedagogy of Vietnam, a country in the early stages of IT application. Exploratory multiple regression analysis is used to mention the importance of factors for teachers and the importance of pedagogical schools for IT application in teaching. . Research confirms that the use of IT application programs is limited, mainly to replace the old teaching methods. Factors affecting the application of ICT in practical teaching include access to computers, the intensity of computer use, ICT skills, confidence in ICT,

and personal characteristics (including attitude to ICT and perceptions of student learning). The study also gives some suggestions on how to effectively apply IT in Vietnam's pedagogy.

III. RESEARCH METHODS

The article uses the method of analysis, synthesis, comparison, generalization, and systematization of materials related to the enhancement of IT application in the innovation of teaching methods of theoretical modules in universities. Besides, it also uses practical research methods: a survey by questionnaire (conducting a survey by questionnaire for teachers teaching theory course at the Thanh Hoa University of Culture, Sports and Tourism); expert method (direct discussion with experts in the fields of IT, Education to get advice and suggestions on the development of research outlines; on the process and solutions to enhance the application IT); method using statistical math (using statistical mathematical formulas to process data).

IV. RESEARCH CONTENT

4.1. Current status of IT application in the innovation of teaching methods of theoretical modules at the Thanh Hoa University of Culture, Sports and Tourism

In recent years, staff and lecturers of the Thanh Hoa University of Culture, Sports, and Tourism have made great efforts in applying IT in teaching. However, the effect is not as expected due to many different reasons.

To have information as a basis for analyzing the current situation of IT application in teaching method innovation, the authors surveyed questionnaires with lecturers (teachers) in teaching groups of theoretical modules at the Thanh Hoa University of Culture, Sports and Tourism.

+ Number of teachers sending survey questionnaires: 121 teachers.

+ Number of teachers responding: 63 teachers.

Assess the importance of each factor based on the average score of that factor: Very good: 4.26-5.0; 3.51-4.25: Good; 2.51-3.5: Good; 1.76-2.50: Medium; 1.0-1.75: Weak/poor; The results allow the author to draw some conclusions about the current status of IT application in teaching methods of theoretical modules at the Thanh Hoa University of Culture, Sports and Tourism.

4.1.1. To the lecturer

a. Real state of awareness of the importance of applying IT in teaching

Table 1: Real state of awareness of the importance of applying IT in teaching

No	Content	Degree evaluation (%)					Medium score
		Very agree	Agree	Confused	Disagree	Strongly disagree	
1	Applying IT in teaching is necessary	79.4	20.6	0	0	0	4.79
2	IT helps to simulate phenomena that are difficult to describe easily and vividly.	61.9	28.6	9.5	0	0	4.52
3	I want to participate in training on IT applications in teaching	61.9	30.2	7.9	0	0	4.54
4	IT provides many resources and tools for teaching activities	61.9	34.9	3.2	0	0	4.59
5	IT makes me more productive	68.3	28.6	3.2	0	0	4.65
Medium score		4.62					

Table 1 shows, that 100% of teachers realize that the application of IT in teaching is really necessary. Most teachers want to participate in training on IT application in teaching to improve their level of IT application to better serve their teaching tasks.

b. Real state of awareness of the role of IT in teaching and learning innovation

Table 2: Real state of awareness of the role of IT in teaching and learning innovation

No	Content	Degree evaluation (%)					Degree evaluation (%)
		Very agree	Very agree	Very agree	Very agree	Very agree	
1	Is a tool to support the teaching and learning process in an active, positive, and creative way.	41.3	55.6	3.2	0	0	4.38
2	Help teachers grasp the system and structure of a lecture, understand the process of building and implementing the lesson	41.3	55.6	3.2	0	0	4.38
3	Help teachers improve creativity and become more flexible in the teaching process.	24.4	66.7	7.9	0	0	4.13
4	Create favorable conditions for students to self-innovate learning methods, and self-directed actions to build knowledge.	24.4	66.7	7.9	0	0	4.13
5	IT creates an ideal teaching environment	41.3	50.8	7.9	0	0	4.33
6	Promote the role and position of teachers and learners, taking learners as the center; Multi-sensory stimulation; Information exchange.	41.3	55.6	0	3.2	0	4.35
Medium score		4.28					

Table 2 shows that the majority of opinions agree and strongly agree that the application of IT in teaching helps to innovate teaching methods in a positive and modern way, helping teachers improve creativity and become more flexible and more active in the teaching process.

c. Current status of IT application in teaching theoretical modules

Table 3: Current status of IT application in teaching theory courses

No	Content	Degree evaluation (%)					Medium score
		Daily	Weekly	Monthly	1 to 2 times/period	Never	
1	Prepare lesson plan	25.4	38.1	27.0	9.5	0	3.79
2	Compose e-lectures	19.0	28.6	41.3	6.3	4.8	3.5
3	Look up information and materials for the preparation of lectures	58.7	25.4	15.9	0	0	4.43
4	Filmmaking, documentary photography, music cutting for teaching activities	19.0	11.1	54.0	7.9	7.9	3.25
5	Teaching using electronic lectures	66.7	25.4	7.9	0	0	4.59
6	Write answers, study guides on the forum, or share documents and lectures on the website	25.4	28.6	27.0	3.2	15.9	3.45
7	Reply Email to colleagues, students	63.5	20.6	3.2	12.7	0	4.35
Medium score		3.9					

Table 3 shows that the application of IT in teaching focuses mainly on the following tasks: Preparing lesson plans; Looking up information and materials for the preparation of lectures; Teaching using electronic lectures; Reply Emails to colleagues, and students. This result shows that the majority of teachers attach great importance to the application of IT in searching for documents, and serving the preparation of lectures for teaching. The frequent exchange of information between teachers, colleagues, and students shows that this is an increasingly popular information exchange channel, making work

exchange easier and more convenient. Students can interact and exchange with teachers in many ways, thereby making learning more active and flexible. However, some content teachers have never done such as films, documentary photos, music collages in service of teaching activities; Writing answers, study guides on the forum, or sharing documents and lectures on the website. These are difficult applications, requiring teachers to invest time and have new skills to implement.

d. Current status of teachers' computer skills

Table 4: Actual situation of teachers' computer skills

No	Content	Degree evaluation (%)					Medium score
		Very proficient	Competently	Not skillful	Know little	Don't know	
1	Simple computer troubleshooting	36.5	52.4	11.1	0	0	4.25
2	Search and get information from the internet	30.2	58.7	11.1	0	0	4.19
3	Use Google products: google docs, google sheets, google drive, google meet,...	23.8	34.9	36.5	4.8	0	3.77

4	Using software to organize online classes: Zoom meeting, Skype, Google Classroom, Microsoft Teams, Hangouts Meet,...	6.3	7.9	30.2	31.8	23.8	2.41
5	Use word processing software (such as MS Word or similar)	30.2	50.8	19.0	0	0	4.11
6	Use presentation software (like MS PowerPoint or similar)	30.2	46.0	23.8	0	0	4.06
7	Use spreadsheet software (like MS Excel or similar)	19.0	23.8	41.3	15.9	0	3.46
8	Use software that supports creating electronic lectures (such as Violet, Adobe Presenter, iSpring, Lecture Maker, or similar)	1.6	6.3	31.8	33.3	27.0	2.22
9	Database management systems (such as MS Access, SQL, My SQL, ...)	6.3	6.3	19.0	19.0	49.2	2.0
Medium score		3.38					

From Table 4, it can be seen that the basic computer skills of teachers are most proficient and very proficient. A small part has skills at the level of "know little" or "don't know". However, few teachers know how to use applications such as Violet, Adobe Presenter, iSpring, Lecture Maker, or similar. The average value is 3.38, equivalent to "Good".

4.1.2. To the students

a. The reality of awareness about the role and importance of ICT in learning

In recent years, the Thanh Hoa University of Culture, Sports and Tourism has paid great attention to the issue of enhancing the application of IT to support learning activities for students, which has helped the school's students' learning activities to have many remarkable changes. encourage:

- The majority of students are aware of the role and importance of applying IT for learning and are very supportive of the application in education and training activities of the school.

- Students actively access and easily know their learning results each semester, thereby having a better direction to strive for learning and research.

- Regularly access the software to look up book titles at Library Information Center to support the learning and research process. Since then, contributed to innovating learning methods to help students achieve better learning results, focusing on self-study and self-research.

b. Current status of IT application in learning

Survey results on the level of IT use, specifically using social networks for learning purposes of students, revealed that: Students using social networks for learning purposes 35.2% of students answered "don't use it" use"; 22.2% of students answered "sometimes" and 20.3% answered "normally", students spent time using social media for learning purposes only 13% of students answered "frequently". and 9.2% answered, "very often". This shows that currently, students use social media for learning purposes not much. At the same time, we also found that students were aware of the importance of social networks in supporting students' learning.

4.1.3. Towards the school

a. Level of support for IT application in teaching

Table 5: Level of support for IT application in teaching

No	Content	Degree evaluation (%)					Medium score
		Very often	Regularly	Not often	Rarely	Not available yet	
1	There are policies to encourage lecturers to apply IT in teaching	25.4	27.0	41.3	3.2	3.2	3.68
2	Organize training workshops on skills of applying IT in teaching	12.7	4.8	19.0	36.5	27.0	2.4
3	Provide copyrighted software for students	0	0	34.9	11.1	54.0	1.81
4	Technical support team support (part-time)	19.0	30.2	25.4	19.0	6.3	3.36
5	Support of IT staff (specialist)	19.0	17.5	31.7	3.2	28.6	2.95
6	Colleagues teach each other how to use IT	19.0	39.7	25.4	9.5	6.3	3.55
Medium score		2.96					

From Table 5, it can be seen that: only 35.7% of the reviews have regular or very frequent support; while 20.9% said that there is no support from colleagues and school leaders. The mean value is 2.96 which equates to Good.

b. Facilities and means for teaching

Facilities and equipment are invested synchronously to meet the basic needs of teaching and learning activities of teachers and students. However, many items over time have deteriorated and become obsolete, unable to keep up with the development of the current level of science and technology. Most of the computers at the school, in addition to equipping computer practice rooms and working rooms, when going to class, teachers have to prepare their personal computers to serve their teaching and learning tasks. Classrooms are equipped with projectors only.

Besides, the internet connection at the school is easy to access, but the connection speed is slow. The school-wide wifi connection system has been set up for free, but the signal is weak, even unable to connect. This situation also causes certain difficulties for teaching activities as well as finding information and learning materials for teachers' teaching as well as for students' learning.

4.2.Solutions to enhance the application of information technology in teaching innovation in theoretical courses at the Thanh Hoa University of Culture, Sports and Tourism

From the survey results, the author presents some solutions to enhance the application of IT in the innovation of teaching methods of theoretical modules at Thanh Hoa University of Culture, Sports and Tourism as follows:

4.2.1. For the school

- It is necessary to promote propaganda to raise the awareness of teachers about the application of IT in teaching innovation.
- Organize training to improve computer skills and IT application skills for all teachers at least once a year.
- Organize university-level seminars on IT application in teaching method innovation. Teachers of universities and other educational institutions can be invited to report and share experiences.
- Organize group attendance, and organize teaching competitions with IT applications to praise and encourage excellent individuals.
- Develop a total solution for IT application, and issue regulations on management, maintenance, and use of the school's IT systems.
- Step by step implementing the construction of an online training system, in the immediate future focusing on building and organizing online training with common content and modules; content, theoretical courses by exploiting and thoroughly applying existing programs and applications on the Internet.

4.2.2. For lecturers

- Lecturers need to be deeply aware of the important role of applying IT in teaching, improving pedagogical capacity, and innovating teaching methods. Since then, there is a need and determination to overcome difficulties in applying IT to teaching and researching new teaching methods based on IT.

- Regularly study, practice, and improve professional skills. Research approaches new teaching perspectives in training, actively uses modern technical means, new teaching methods to support the teaching process effectively, focusing on updating scientific information, reality.

- Actively and proactively applying IT in teaching, discovering new technologies that have a positive impact on the development of their own IT capacity, effectively exploiting the school's IT resources, improving self-learning own level, thereby serving as a basis for innovating teaching methods based on IT application in teaching. Because "All the technological devices that are in schools today will be of no value if teachers do not know how to use them effectively. It is the teachers who bring out the magic, not the computer" - Craig Barrett (2012) [8].

4.2.3. For students

- It is necessary to be aware of the importance of IT in learning and training activities, improving self-study, self-researching, and mastering knowledge. Know how to search and use the information on the internet effectively.

- Promoting the positive aspects of IT, especially the internet, for learning and information exchange: information searches, online chat, connection and sharing via social networks, commercial services, money transfer, and educational health services such as telemedicine or virtual classrooms. Besides, limiting and overcoming the limitations of the internet environment such as dependence, immersing in virtual networks, and spending too much time on entertainment games on the internet.

- Actively participate in group activities, and extracurricular activities, connect to learning forums on the internet and exchange with classmates to solve the learning and research tasks set by the teacher.

- Promote the potential for learning, research, personal development skills connected with society, bright skills, mastery of IT, and other technologies.

V. DISCUSSION

It can be seen that the application of IT in teaching and learning, using modern pedagogical methods

is very necessary, making practical contributions to promoting and improving teaching quality to meet the requirements of building smart schools smart in the industrial age 4.0.

The school needs to invest in IT infrastructure and information security. Organize training on basic IT use and information security skills for staff and lecturers of the whole university to effectively use the invested IT systems, in which priority is given to online training in combination with online training. next. Include in the school's development plan the content of IT application, and at the same time formalize through the 5-year and annual IT application plans approved by the school leadership. The content of the plan includes objectives, tasks, solutions, funding, and organization assignment.

Promoting the role of teachers in self-study, self-research, and IT application in teaching method innovation. Organize teaching methods with effective IT application.

Strengthening the role of professional groups in the school to help school leaders evaluate the content of digital learning materials before putting them into use; review, evaluate, and complete models, solutions, and methods of applying IT to innovate content and teaching methods to ensure effectiveness and suitability with the school's conditions.

VI. CONCLUSION

The application of IT in teaching to contribute to the innovation of teaching methods is difficult and long-term work, requiring a lot of conditions in terms of facilities, capacity, and awareness of teachers. It has a particularly important meaning in improving the quality of education and training of the school. Therefore, to promote the application and development of IT ineffective teaching method innovation, it is necessary to pay attention to investing in facilities at all levels, the synchronous direction of the industry - the school and especially. is the effort to learn and draw from each teacher's own experience. Applying IT in teaching is one of many advanced teaching methods today, but it is not effective in all cases. Abuse in some situations will bring about side effects. How to use it, when it's necessary... requires teachers to be flexible and creative, not too dependent to become passive and follow technology.

REFERENCES

- [1] Tran Dinh Chau – Dang Thi Thu Thuy (2011), "Application of information technology to support innovation in teaching methods", Education Journal, No. 226, pp. 27-29.

- [2] Vu Thi Thuy Hang (2018), "*Smart schools: origin, definition, and lessons learned for Vietnam*", Education Magazine, No. 432 (Term 2 – 6/2018), p6- 10, 60.
- [3] Le Huy Hoang and Le Xuan Quang (2011), "*E-Learning and its application in teaching*", VVOB Viet Nam.
- [4] Microsoft (2008), "*Using information technology in teaching*", Vietnam Education Publishing House.
- [5] Quach Tuan Ngoc (2009), "*Application of IT in education towards an e-education*", Ministry of Education and Training of Vietnam.
- [6] Jef Peeraer (2011), "*Information technology for active teaching*", Vietnam Education Publishing House.
- [7] Le Van Son (2016), "*Application of IT in teaching methods innovation in ethnic preparatory schools*", Education Journal, Special Issue (4/2016), pp.125-128.
- [8] Intel (2012). Intel's educational program website in Vietnam, www.intel.com/education/vn.
- [9] Peeraer, J. and P.V. Petegem, Factors Influencing Integration of ICT in higher education in Vietnam Proceedings of Global Learn 2010, 2010.