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Current status of information technology application in teaching physical education at gang thep high school, Thai Nguyen Province

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Abstract

The article focuses on researching the current status of information technology (IT) application in teaching Physical Education (PE) at Gang Thep High School, Thai Nguyen city. The study uses methods of analyzing and synthesizing documents, pedagogical observation methods, interview methods and statistical mathematical methods to evaluate the current situation of the group of physical education teachers and the current state of IT infrastructure, current status of awareness and application of IT in teaching PE. The results show that, although there is a correct awareness of the potential of IT in teaching PE, its application is still limited, challenges encountered include lack of IT infrastructure, qualifications of teachers in technology. The research results are the basis for proposing solutions to improve the effectiveness of IT applications in teaching PE such as increasing school administrators' interest in investing in IT equipment and upgrading IT infrastructure for the teaching and learning process; Fostering and improving the capacity of IT application in teaching for PE teachers.

Keywords: Information technology, physical education, gang thep high school, it applications

Introduction

In today's context, IT has become an indispensable part in all areas of social life, including the field of Education. In the field of PE, the use of IT is not only a trend but also an opportunity to improve the quality of teaching, create conditions for students to be more active in practice activities, and increase interaction and feedback between teachers and students, creating a flexible and convenient learning environment, as well as creating conditions for advanced learning and developing self-study and creative skills for students^[1-3]. In the new 2018 General Education Program of the Ministry of Education and Training, IT application in teaching activities is a highly focused content through the use of classroom communication models via Website and social networks; Online public service classes to exchange information during the process of studying, training, being on leave, and registering for extracurricular; Application and database classes by applying IT to support teaching and learning innovation, testing and assessment, electronic lectures, and e-learning applications; Infrastructure and equipment classes for IT applications in the teaching and learning process^[6]. For the PE program, teachers can use images, videos, electronic models, multimedia lectures, electronic devices such as computers, smartphones/tablets combined with music to organize students to learn, choose and practice some sports; Through the use of IT applications to test and evaluate the training process and progress of students^[6]. Therefore, it can be seen that in the new 2018 general education program, IT application in the teaching and education process plays a very important role. Gang Thep High School is one of the key high schools in Thai Nguyen province which in recent years has also tried to take advantage of new technologies to improve the quality of teaching, but the application of IT in teaching still faces many challenges, especially for PE^[7]. To clearly understand this problem and serve as a basis for proposing appropriate solutions and effective IT applications in teaching PE, we conducted research to evaluate the current status of IT applications in teaching PE at Gang Thep High School, Thai Nguyen city, Thai Nguyen province.

Research methods

During the research process, we use the following research methods: Document analysis and synthesis method, pedagogical observation method, interview and discussion method, and statistical mathematical method.

Document analysis and synthesis method to analyze and synthesize documents related to the research problem, as a theoretical basis for analyzing and evaluating research results.

Pedagogical observation method to directly observe the current state of the school's physical facilities and the teaching process of teachers to have more basis to evaluate the current state of IT application in teaching PE at the school.

Interview method: Direct and indirect interviews with managers and teachers to collect data to evaluate the current status of the research problem.

Mathematical and Statistical Methods: using Excel to analyze data as a basis for correct analysis of the current state of the research problem.

Research subjects: managers and physical education teachers at Gang Thép High School, Thai Nguyen city including 03 managers and 08 PE teachers.

Research results and Discussion

Current status of the physical education teachers at Gang Thép High School

According to statistics, at present Gang Thép High School has 1,445 students in 32 classes, of which Grade 10 includes 11 classes (495 students), Grade 11 includes 11 classes (496 students), Grade 12 includes 10 classes (454 students) [7]. To carry out physical education work in schools, through a survey, the author compiled statistics on the current status of the physical education teachers at Gang Thép High School as follows (Table 1).

Table 1: Physical education teachers at Gang Thép High School

Quantity	Gender		Professional qualifications		Work seniority		IT level
	Male	Female	Masters	University	Over 10 years	Under 10 years	
8	5	3	0	8/8	7/8	1/8	Level B

Based on the statistics in Table 1 and through direct interviews, it can be assessed as follows: There are a total of 08 specialized teachers in the field of PE. All of them have university qualifications, 7/8 have worked for more than 10 years, showing that they are well-trained in professional knowledge and have enough experience to meet the professional teaching requirements. Regarding information technology proficiency, the survey found that the all PE teachers have informatics certificate level B, showing the ability to use IT, but the survey showed that the level of proficiency and application is uneven. To evaluate more fully, we conducted interviews on the issue of participation in training and updating the application of information in teaching of PE teachers, the results are presented in Table 2.

Table 2: Status of participating in training to improve the application of IT in teaching of PE teachers at Gang Thép High School (n=8)

Level	Option (n=8)	Percentage (%)
Regularly	1	12.5
Not often	7	87.5
No update	0	0

Table 2 reflects that the low proportion of PE teachers who regularly participate in training and updating IT applications in teaching (12.5%), while a small number of teachers (infrequent) participate training still accounts for a very high rate (87.5%). It shows that teachers are not really interested in improving their IT skills, which creates difficulties in accessing new updates and new IT applications to incorporate into teachers' teaching process for the subject. Overall, the PE teachers at Gang Thép High School basically meet the requirements for expertise and skills, however, it is necessary to constantly update new knowledge and skills, especially in IT, to improve the quality of teaching in the current trend of digitalization of education.

Current status of facility conditions for PE at Gang Thép High School

In order to evaluate the current state of IT application in teaching PE by school teachers, the author has compiled statistics on the current state of physical facilities for PE at Gang Thép High School as follows (Table 3).

Table 3: Current status of physical facilities for PE of Gang Thép High School

Facilities	Quantity	Current status of use
Multi-purpose building	1	Solidly built 400m ² , good use
PE ground	02	01 artificial turf field for 7 people, good use 01 concrete yard, good use
Computer room	02	Fully equipped computers with internet connection and 01 projector.
Number of computers	28	The computer is quite old and often fails when used.
Projection equipment		Fixed projector in the computer room There are no portable projectors or televisions in multi-purpose building and PE ground

The above survey shows that the facilities for the teaching of field in PE include multi-purpose building and basic PE ground that meet learning needs in terms of quality and quantity. However, based on statistical information about IT equipment at Gang Thép High School, it can be concluded that there have been investment efforts in terms of facilities for the application of IT in teaching, but with a large number of students in the school, the ratio of computers per number of students is very low, 1/51; Besides, the conditions of the computers are still old and often fail; Image projection output devices at multi-purpose building and PE ground are not equipped, hindering visual teaching with images and videos of movement techniques right at the practice ground. Therefore, continuing to increase investment in IT

equipment, upgrading and maintaining the system is necessary to ensure effective application of IT in teaching.

Current status of IT application in teaching PE at Gang Thep High School, Thai Nguyen City

Current status of awareness and ability to apply IT in teaching PE of administrators and teachers at Gang Thep High School

We conducted interviews with 03 administrators and 08 PE teachers of Gang Thep High School about their awareness of the issue of IT application in teaching PE at the school. The interview results are as follows:

Table 4: Awareness and self-assessment of the issue of applying IT in teaching PE at Gang Thep High School

No.	Survey contents	Results	Percentage (%)
Necessity of applying IT in teaching PE (n = 11)			
1	Very necessary	07	63.6
2	Necessary	04	36.4
3	Not necessary	0	0
Competence in applying IT in teaching through self-assessment of PE teachers (n = 8)			
4	Excellent	0	0
5	Very good	0	0
6	Good	5	62.5
7	Average	3	37.5
8	Poor	0	0

The interview results show a high level of appreciation for the necessity of applying IT in teaching PE by school

Table 5: Current status of IT application in the stages of teaching PE at Gang Thep High School (n = 8)

No.	Survey contents	Results	Percentage (%)
1	Search and preparing of documents and materials	08	100
2	Compiling course plans	08	100
3	Implementing a class time	03	37.5
4	Support, guidance, testing and evaluation of students outside of class time	02	25

The survey results in Table 5 show that for teaching stages such as searching, preparing documents and materials; When compiling course plans, 100% of teachers use IT applications. However, in the stage of compiling class time only 37.5% of teachers choose to apply IT, while in the support, guidance, and student assessment phase outside of class time, only 25% of teachers choose to use it. This shows that IT has not been fully exploited and applied in all stages of teaching, teachers are only interested in using IT to search for teaching content and complete personal records. Not really paying attention to the application of IT to deploy in class time and in student assessment, while this is a very important stage for through the use of IT for students to

administrators and PE teachers, expressed at a very necessary level of 63.6% and necessary 36.4% of people interviewed. This demonstrates a clear awareness of the importance of applying IT in teaching to improve the quality of teaching and learning of school administrators and PE teachers. It is important to have appropriate policies to improve the IT capacity of teachers and invest in IT equipment and infrastructure.

Regarding the capacity to apply IT in teaching through the self-assessment process of PE teachers, it shows that the current situation of IT application capacity of PE teachers is only at the Good level (62.5%) and the Average level (37.5%). This is one of the main reasons affecting the effectiveness of IT application in PE teaching hours. From there, it shows that the school needs to continue to encourage and create conditions for teachers to participate in further training courses on IT applications. PE teachers also need to make efforts to self-study to improve their own capacity to meet the needs of digital transformation in education today.

Current status of IT application in teaching PE at Gang Thep High School

Current status of IT application in the stages of teaching PE at Gang Thep High School

Conducted interviews with 08 PE teachers of Gang Thep High School about the application of IT in the teaching stages, the results are presented in table 5.

have a deeper understanding of the movement techniques from many different angles, as well as enhancing the ability to interact between teachers and students, creating flexibility in the training instruction process as well as diversifying testing and receiving feedback methods on the student's practice process.

Current status of using software and tools in teaching PE

To know the software and IT applications that teachers often use to teach PE. We conducted interviews with 08 PE teachers of the school, the results are presented in table 6.

Table 6: Current status of using software and applications in teaching PE at Gang Thep High School (n = 8)

No.	Survey contents	Software and tools	Results	Percentage (%)
1	Search, prepare documents and materials	Google	8	100
		YouTube	8	100
		Chat GPT	0	0
		Pinterest	0	0
		Others (Google Scholar, Academic Journals, ERIC,)	0	0
2	Designing lesson plans	Microsoft Word	08	100
		Microsoft Excel	05	62.5
		Chat GPT	0	0
		Others (Microsoft OneNote, Trello,...)	0	0
3	Conducting class time	Microsoft Powerpoint	3	37.5
		Zoom	3	37.5

		Google Meet	3	37.5
		Microsoft Teams	0	0
		Google Classroom	0	0
		Kahoot, Quizzz	0	0
		Others (Edmodo, Padlet,...)	0	0
4	Support, guidance, testing and evaluation of students	Browsers such as Zalo, Facebook, You Tube to assign tasks to students	02	25
		Software such as Zoom, Google Meet, Microsoft Teams, Google Classroom,... to guide, test and evaluate students	0	0
		Others (Google Forms, Kahoot, Quizzz, ...)	0	0

The results of Table 6 show that the number of teachers choosing IT software and applications is similar to the number of teachers using IT applications in the teaching stages in Table 5, when teachers only focus on using IT applications to search, prepare documents, materials and design lesson plans. The results of Table 6 show that during the teaching stages, teachers only exploit and use popular and easy-to-use IT software and applications. As in the document search stage, they only use google search and youtube videos; The stage of designing lesson plans mainly uses Microsoft Word. While an effective new tool like Chat GPT has not been exploited and used by teachers; Besides, in the process of teaching, teachers choose IT applications is only stopped at relatively simple applications. The use of IT to support the after-school assessment process is hardly done but only through social applications to assign tasks to students. This is the limitation that reduces the interaction between teachers and students, the diversity of teaching aids and limits the flexibility in testing and evaluating students' practice progress. This reduces the effectiveness of IT application in teaching PE.

Conclusion

Research results show that school administrators and PE teachers are all aware of the necessity of applying IT in teaching. Teachers are well trained professionally; however, most teachers self-assess their IT proficiency as good or average level. Teachers do not regularly participate in training to improve their level of IT application in teaching; The application of IT only focuses on the stage of searching, preparing documents, materials and designing lesson plans, with little emphasis on applying IT in the process of class time and testing and evaluating students. Teachers only use popular, easy-to-use applications without updating new applications. In term of IT infrastructure, there is investment in computer rooms, but the quantity is still small and the quality is limited. To improve the effectiveness of IT application in teaching PE at Gang Thép High School, school administrators need to pay attention to increasing investment in IT equipment and upgrading IT infrastructure to serve the teaching process; Strengthen training to improve the level of IT application in teaching for teachers; Continuously updating and using new IT applications in all stages of the teaching process will contribute to improving the effectiveness and quality of teaching PE in Gang Thép high school.

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