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Original Research Article

Improve the Quality of Online Teaching and Learning at Hung Vuong University on Technology Platform

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Abstract

In recent years, in order to innovate teaching methods and apply information technology to teaching, Hung Vuong University has applied an online teaching and learning model. However, this model has only been widely deployed to all sectors in the school when the nCov-19 epidemic broke out. This is a teaching method commonly applied in universities today. However, to be able to maximize the efficiency and quality of this model is not easy. This article proposes some solutions to improve the quality of online teaching and learning at Hung Vuong University.

Keywords: Online learning, technology platform, Hung Vuong University.

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1. INTRODUCTION

Currently, the development of the Internet and the World Wide Web has created many important changes in most aspects of life: economic, political, social and educational. The Internet has created a new and feasible method of learning, which is online learning. It has become an indispensable part of higher education. This is even more evident during the ongoing nCov-19 epidemic, causing millions of students around the world to not be able to go to school.

Web-based learning provides many benefits that traditional learning does not have such as increased accessibility and interaction with instructors and students; Students who do not have to go to school can still access digital learning resources and lecturers' lectures; Students can be proactive in their learning.... With the benefits of online learning, this form of learning is being favored and chosen by many students.

2. RESEARCH CONTENT

2.1. Methodology

• Document analysis: to study and interprete existing documents on education-based digital technology in order to provide scientific foundations for the study of digital technology applications in Vietnam's higher education in the Northern mountainous area, evaluate various authors' views to find out rational and irrational points, and give our own opinions at the same time.

- Sociological method: A survey was conducted by the authors at Hung Vuong University.
- The methods of panel study, expert interviews, and interviews: During the research process, the authors received different opinions of scientific experts and educators in the interest of selfimprovement and in earnest to drastically solve controversial issues.
- Other complementary research methods: The author analyzed, evaluated and synthesized our collected data and documents to find out helpful and scientific foundations. The authors also adopted the method of comparing and contrasting thoughts, ideas, and policies from various countries where digital technology is being adopted to third-level education, from which, some solutions are given that contribute to improving the quality of teaching at Hung Vuong University today.

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2.2. Online learning

In a 2008 report by the Sloan Consortium - an American organization about online learning, students' learning forms were divided into four types.

Traditional (Face to face): In traditional classrooms, content is provided verbally or with written materials. No learning content is delivered and managed online.

Web-facilitated: Courses are conducted primarily face-to-face, but instructors can use additional internet technology to enhance the course. For example, web-based courses may incorporate posting assignments and syllabuses on websites. A course is considered webbased if one to 29% of its content is delivered online.

Blended learning: Courses are conducted using a combination of traditional and online teaching methods. A course is considered blended learning if 30-79% of its content is delivered on the web.

Online learning: In this course, most of the content is transmitted on the web (80% or more). These courses often do not require face-to-face meetings between instructors and students. All discussions, tests and assessments are carried out on the web through software that supports online teaching and learning.

The benefits that online learning brings to learners are huge, causing online learning to develop, increasingly attracting learners' interest and participation in online courses. The benefits of online learning include:

Convenience: Web-based learning allows students to attend courses at their convenience. They can take courses at any time and from any location with Internet access. Therefore, parents tend to their children or students can pursue higher education without worrying about their income, and travelers can regularly take courses from anywhere. any location in the world by accessing it on the web. Furthermore, students can enroll in courses offered by institutions in other countries.

Easy Access: Online courses are readily available and widely available on the internet. Currently, colleges and universities in the country and around the world are providing online learning in many forms. Furthermore, students have access to the course 24 hours a day, seven days a week, which allows them to review lectures and discussions whenever they have time. Because online courses are readily available and easily accessible.

Enhance interaction between lecturers - students, students - students: Most students participating in online learning are more friendly with instructors than when participating in learning in the classroom. Because in online classes, students can be provided with anonymous accounts, allowing students to not be affected by external issues that affect their

learning psychology such as: seating arrangement, gender, race, age, etc. This increases student interaction and students can freely give their opinions about the course content. Students are more willing to interact with their instructors in an online setting instead of being apprehensive about interacting in person.

2.3. Quality of online learning

In general, the quality of online courses is guaranteed to the same extent as traditional courses. Studies show that student outcomes in traditional and online classrooms are equivalent. Many students find online courses more academically challenging than traditional courses.

Many distance education programs implement tools to evaluate course design, learner experience, learner completion and success, and interaction patterns between students and instructors. Learning management systems are capable of providing analytics that show statistics about the amount of time students spend on course activities, page views, and other learner actions.

3. DISCUSSION

Realizing the great effectiveness of online teaching and learning tools, leaders of Hung Vuong University are very interested in applying these tools in the school's teaching. In recent years, the school has organized many training sessions for lecturers on evaluating the effectiveness and applying online teaching tools (Elearning, Edmodo, Zoom, Microsoft teams, etc.) in teaching.

Regardless of the teaching and learning model, quality is extremely important. The quality of the online learning model depends on many factors such as: program evaluation, lecturer's teaching style, assessment of student learning results, interaction between lecturers and students, Here are some proposed solutions to improve the quality of online teaching and learning:

Evaluate lecturer style

One of the factors that determine the quality of the online teaching and learning model is the lecturer's teaching style in designing lessons, the method of conveying knowledge to create excitement for students, and increase student interest. interaction between students and lecturers. From there, it helps students have good learning results, be able to master content knowledge and improve critical thinking, problem solving skills, and communication skills - characteristics of higher education. Lecturers' teaching style must be regularly evaluated to update and supplement teaching methods suitable for the online teaching model.

Assessing an instructor's teaching style is one of the first steps instructors should take before selecting and implementing online teaching and learning tools. Understanding teaching style can help lecturers best improve the shortcomings of traditional classrooms, and at the same time, lecturers can choose which online teaching and learning tools will best suit their teaching style. self. The instructor's teaching style can be modified through personal reflection or through the use of any one of a number of available teaching styles.

Two popular tools designed to assess teaching style are Grasha's ISI (Instructional Styles Inventory) and TSI (Teaching Styles Inventory). The ISI classifies teaching styles into two basic types: social or independent and theoretical or applied. For example, if the Teaching Style is identified as social, an instructor who wants to incorporate online teaching may consider online tools that effectively replace or supplement traditional teaching techniques such as discussion. group discussion and group activities. Online chat rooms or discussion tools are designed to create a collegial learning environment and a sense of community between instructors and students (Zoom, Microsoft Teams, etc.).

Grasha's TSI describes teaching styles with five main categories: instructor, delegate, expert, individual model, and representative. If a teaching style is primarily an instructor role, instructors should identify tools that support the instructor role. On the other hand, if the teaching style is determined to be expert, the instructor may include advanced presentations and lectures with video or audio.

Assess students' learning styles

For models that combine online and traditional teaching and learning tools, assessing students' preferred learning style is a very important issue. Currently, learners' learning styles are popular in 4 styles: MBIT (Myers Briggs Type Indicator), Kolb, LSI (Learning Styles Instrument), PEP (Productivity Environmental Preference). In particular, MBIT focuses on exploiting aspects of learners: extroversion vs. introversion, sensing vs. intuition, thinking vs. feeling, and evaluation vs. perception; Kolb collects student information on four scales including: concrete experiences, abstract concepts, reflective observation and active practice; LSI includes learning styles: social, independent, applied and theoretical; PEP describes learners' learning preferences in terms of environmental factors related to learning such as noise, light, temperature, motivation, persistence, time of day, etc.

Information about students' preferred learning styles can be gathered informally through discussions with students or observations of students by instructors in the classroom. From there, instructors can evaluate and determine students' learning styles.

Once the instructor has identified his or her teaching style and can identify the learning style of the students, a combination of the best online teaching and learning tools with the traditional classroom can be achieved. For example, if LSI is used and students identify themselves as social learners, it would be appropriate to combine online teaching and learning tools with traditional classrooms such as online chat rooms. online or discussion tool. If social learning styles cannot be adequately accommodated by online tools for a particular course, instructors may decide to emphasize social learning styles more by using online tools. traditional classroom tools or a combination of online and traditional tools. If an instructor has a studentcentered teaching style but learners prefer a teachercentered environment, students may achieve lower learning outcomes due to a mismatch between teaching and learning styles.

Choose online teaching and learning tools

Currently, there are many online learning tools popular in the world. Lecturers can completely continue teaching in the classroom using traditional classroom methods or can replace it with online technology in some subjects. To get a more general view of online classrooms with Web technology, the classroom environment can be classified into four components: administration, assessment, content delivery, and community. Various online tools are provided for maximum support of these components. Choosing the right online tool will depend not only on the content taught but also on the quality of the tools available and the information technology capabilities of instructors and students. For example, if both instructors and students are proficient in a content delivery tool, delivering content online rather than in the classroom is easy and highly effective. Similarly, if instructors found a way to meaningfully incorporate synchronous communication tools (like chat), students could also benefit from the added community component. The following discussion of each component will demonstrate how web tools can be combined to address certain aspects of the course to enhance student learning.

The administrative component is fundamental to the organization of a course and allows instructors to spend more class time working creatively with students instead of on routine activities. For example, activities such as assigning or returning homework done during class time can be replaced by Internet technology. The time gained from doing this in the classroom can be used for other learning and higher-order thinking activities.

The assessment component addresses effective problem solving and student learning performance. Using online assessment tools such as online quizzes to provide student feedback and having students take repeated tests can help students learn the problem. more thoroughly. This method requires more study time for students and interaction between students and teachers. In fact, students are comfortable watching and taking quizzes and tests online, preferring online access to their classes to evaluate how well they did in the course. The content delivery component focuses on communicating course content and student learning activities. Research shows that a significant amount of learning can be accomplished outside of the traditional classroom if students are given access and motivated to study the material according to their individual abilities.

The community component refers to the development of a community of learners, a sense of community among students, and between faculty and students. Online teaching and learning tools can help create a community of learners that is no longer limited to just a teacher and his or her students in a classroom. Depending on the teaching and learning style, a community (including experts and experienced practitioners) from outside the classroom can be introduced to the classroom and benefit both instructors and learners. . Many online academic and educational communities can be accessed and incorporated into the learning process. Careful, detailed planning is needed to help students deal with the many challenges of online interaction and community building. In this learning model students have misperceptions about the value of being required to access and participate in online classrooms and bulletin boards as the primary community component of the classes.

Consideration of adopting online learning delivery methods may offer avenues for achieving learning goals beyond the acquisition of basic knowledge and skills such as enhancing the level of understanding of students. student. However, the effectiveness of different online teaching tools, in addition to meticulously and carefully designed lectures, also depends on the student's learning style and their ability to use and master technology. pellets. It has been shown that students who regularly study computer applications using a number of computer-based teaching and learning tools acquire both skills and knowledge better than identified as incidental learners. Students identified as abstract in learning style performed significantly better than students with other learning styles.

4. CONCLUSIONS

Currently, online teaching and learning is an inevitable trend in higher education. It can provide university study opportunities at a lower cost than traditional study costs and with learning quality that meets the needs of learners as well as society. This learning model is a dynamic learning model, instructors will need to be open to continuous change.

Creating a successful learning environment is a heavy responsibility that depends on the creativity of each instructor. It is important to decide which courses can be most effectively enhanced through the Internet and can be delivered more effectively in a traditional classroom.

The online teaching and learning model is the best choice in university teaching in general and of Hung Vuong University in particular. This model needs to be deployed more strongly in the future to improve the school's training quality.

REFERENCES

- Schmidt, K. (2002a). Classroom action research: A case study to assess students' perceptions and learning outcomes of classroom teaching versus online teaching. *Journal of Industrial Teacher Education*, 40(1), 45-59.
- Allen, E., & Seaman, J. (2014). *Grade change: Tracking online education in the United States.* Babson Park, MA: Babson Survey Research Group and Quahog Research Group.
- Allen, I. E., & Jeff, S. (2008). *Staying the Course: Online Education in the United States*. The Sloan Consortium. Needham: Sloan-C, 2008. 20 Nov. 2008
- Grasha, A., & Yangarber-Hicks, N. (2000). Integrating teaching styles and learning styles with The Journal of Technology Studies instructional technology. *College Teaching*, 48(1), 2-10.
- https://hcmcpv.org.vn/tin-tuc/lam-the-nao-de-dayhoc-truc-tuyen-mang-lai-hieu-qua-nhat-1491885415.