International Journal of Economics, Business and Management Research

Vol. 5, No.06; 2021

ISSN: 2456-7760

ONLINE LEARNING SURVEY AFFECTED BY THE COVID-19 EPIDEMIC: AN EMPIRICAL STUDY OF A UNIVERSITY IN ZHEJIANG PROVINCE

Li-Wei Lin[1], Wan-ting Li[2*], Yun-Han Zhang[3]

[1]The School of International Business, Zhejiang Yuexiu University, No.428 Kuaiji Road, Yue Cheng District, Shaoxing 312000, China

[2*]Zhejiang Normal University(Corresponding Author)

[3]Zhejiang University of Finance and Economics Dongfang College, Zhejiang, China

Abstract

Since COVID-19 happened, many secondary schools and universities around the world have started teaching online. Online platforms have become increasingly popular in universities around the world for the diversity of course content. The design of this study is based on the triangulation verification method in qualitative research. The researchers investigated the interviewees of college students using this platform through a series of survey methods of guiding in-depth interview and coding. We conducted triangulation verification twice in this survey. The reliability of the first analysis triangulation verification was 0.24 but not more than 0.6, and the reliability of the second analysis triangulation verification was 0.66 to achieve its reliability effect. In the process, we can learn that the online platform's education courses and user experience will lead to its students' performance. Our observation is based on the empirical case study of college students in a university in Zhejiang Province in 2020, hoping to analyze their learning performance. Our main objective is to enable students to improve their learning status by creating the content courses provided by this online learning platform. Online learning platform environment through the development of knowledge management, and to do the movement of the integration of different disciplines, this platform to encourage students and teachers online interaction and knowledge sharing.

Keywords: Triangle verification; in-depth interview; online learning; knowledge management

1. Introduction

The establishment of online platform learning system is mainly to investigate students' learning performance as the main purpose and goal. [1] Waits and Lewis (2003) mentions that computer innovation can be developed into the distance learning part of online learning. [2] Hereington, Reeves, and Oliver (2010) mentioned that learning to design the platform scheme should be designed according to the real situation of the platform scheme. From the perspective of cognitive dissonance theory, we hope that the platform designed can achieve the expectations of users. [3]Festinger(1962) mentioned that researchers could understand the theory of cognitive dissonance through practical experiments. In this study, a qualitative study was conducted to understand the course functionality and final learning performance of the online learning system used by students. Many scholars combine online learning with knowledge management to make teachers and students more interested in this platform, and increase the learning interaction and knowledge growth of both sides. The online learning platform is an important tool and platform

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ISSN: 2456-7760

for the integration of knowledge management in interdisciplinary fields, which can help students to offer courses that are expert in different fields for learning. But the biggest drawback of the online platform is the lack of interaction between teachers and students. Many scholars have also observed such a lack of interaction, and in subsequent studies, they have gradually taken into account the ways of interaction needed to be done in the design of online platforms. We have observed that the online platform is like a database of information systems, and users can learn from this knowledge base through this platform. Users can understand their own learning behaviors and motivations, and the ultimate goal is that users can understand their own learning performance and status. The biggest goal of this study is to encourage users to use the platform more and improve their knowledge and application through the combination of knowledge management and online platform. Through the open platform of online learning, students can directly communicate and interact with online users to enhance their learning effectiveness and motivation.

In recent years, some textbook sellers in the United States have developed an online platform to help students learn by using pictures, fonts, colors or sounds. For example, when students are reading materials or self-testing, the system will display a set of font colors, sounds and picture symbols when they encounter important paragraphs or make mistakes in questions. Such a set of auxiliary prompt system design can help students in the process of self-learning can remind students of the whole learning state and performance effect. [4]Squire, Johnson & Bichelmer (1998) pointed out that the design of these systems can distinguish the next reaction of each learner. This mode allows users to think about which aspects of learning need to enhance knowledge. We through this series of platform design, the ultimate purpose is to establish a good platform system use environment, so that students' learning performance can continue to improve.

On the other hand, we also aim at the importance of users' operation and application of the platform. The satisfaction of users is also one of the factors to observe the online platform this time. [5]Allen and Seaman (2013) found that some universities or colleges showed no signs of decreasing their interest in online education. The continuous growth of online education has broken the traditional way of learning through schools. In the process of research and investigation, we found that some online courses are satisfied with the learning effect of students, but not all of them are satisfied with the results. This has an important relationship with students' personal habit of learning online platform behavior adaptability. [6] Sinclaire (2011) pointed out that online learning is to increase and understand the satisfaction of students. Therefore, we have observed that when designing a new platform, it is necessary to take the user's experience and process into consideration at the beginning. For such online learning mode, we need to take into account the functions and modes of the whole design platform. Such a platform mode needs the support of users (including teachers and students).

This study has observed that teaching content is also one of the key factors affecting students' learning performance. Through the course content design of this platform, students can communicate and interact with community members to learn, and such a learning mode can help

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ISSN: 2456-7760

students improve their learning performance. [7] Kleinman (2005) proposed that improving teaching design is an important activity of integrating online courses.

2. Theory and Development Hypothesis

[5]Allen and Seaman (2013) put forward a report on the growth of online education, including the now popular open online courses (MOOCs), which can be observed and viewed from the system. The biggest advantage of this online platform is that students can learn by themselves. They can find a WiFi hotspot anywhere and learn the content they want to learn by themselves. On the contrary, the disadvantage of online education is the lack of face-to-face interaction between teachers and students, and students' learning performance can only be tested through the course questions and assignments designed online. How to build such a platform online community environment is one of the key success factors. We have observed that when designing this online education and learning website, it is necessary to take into account in detail that the website platform can interact with other users who have taken classes and with the lecturers, and design this online platform through the way of message interaction and response between platform users and lecturers, as well as the way of learning and discussion between users. [8]Kranzow(2013) hypothesizes that if students have a satisfactory experience using the online education platform, students are likely to maintain their use of the course. [9]Sher(2009) mentions that the interaction between students and mentors is an important factor in students' satisfaction with learning. Therefore, the satisfaction of students using the platform has also become one of the factors we need to consider.

This research model is shown in Figure 1:

H1: Whether the content of the course is relevant to learning performance

H2: Whether the online platform environment is relevant to learning performance

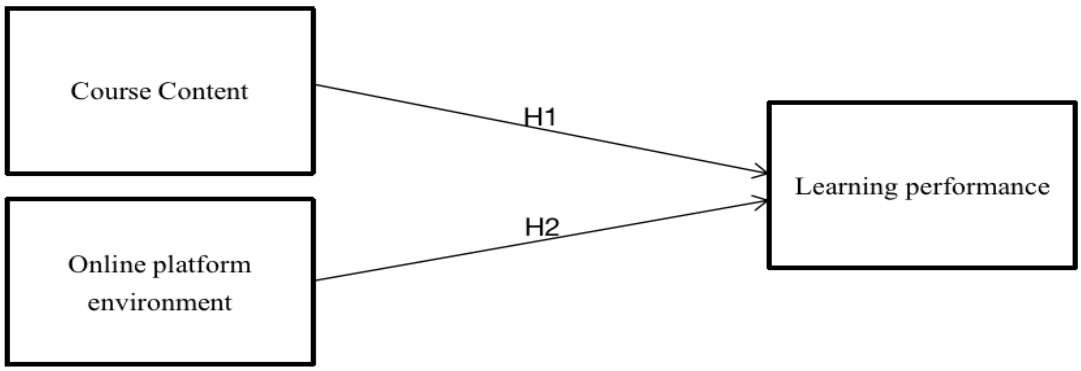

FIGURE 1 ASSUMPTION ARCHITECTURE

3. Study design and data collection

Way this research data collected by the researchers and students face to face interview set beforehand questionnaire multi-item (researchers), the researchers collected in writing the student questionnaire and documents (for one course content and the use of online platform)

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collection, through the different way of data collection to sorting and collecting data, in order to comply with the research methods of the triangle. We do design coding by means of coding (main axis coding: teaching course content quality, learning performance, user experience, satisfaction, system quality). We further design its proposition through the design of in-depth interview survey mode. Table 1 below is the coded method to calculate the data relations of triangulation verification, and the reliability is 0.24 but not up to the standard value of 0.6.

TABLE 1 FIRST CODING TABLE

The coder	Code number
A	45
B	40
C	60
A∩C	30
A∩B	23
B∩C	26
A∩B∩ C	21

Table 2 shows the data relationship of the second encoding, and the reliability of the second encoding is 0.66. In the exploratory study, the triangulation verification reliability of the researcher should be greater than 0.6. The reliability of the second encoding is 0.66, which meets the reliability requirements.

TABLE 2 SECOND ENCODING TABLE

The coder	Code number
A	58
B	49
C	61
A∩C	54
A∩B	47
B∩C	45
A∩B∩ C	43

4. Discuss and apply practices

The biggest contribution of this study is to find out the difference between traditional learning and online learning. Through this online education platform, this research aims to investigate the users' experience in the use of the platform. Our survey found that the content of course teaching and the experience of users will have a relevant impact on learning performance. Through in-depth interviews of qualitative research, our team sorted out these materials for the practical questions and answers of students in a university in Zhejiang Province, and found that the system platform of online learning would enable students to self-enhance and integrate their cognitive learning. We have observed that the environment of the whole platform system is very important, and how to create a good learning environment can directly affect students' academic

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ISSN: 2456-7760

performance and learning satisfaction. This online teaching mode is very different from the traditional teaching mode. We have studied and observed the knowledge tests that students have learned in online learning. Through self-learning, we have learned what level of knowledge they have learned, and the system will give detailed explanations and suggestions. The biggest difference between this and traditional courses is that the traditional teaching mode is that students learn passively, while the current online learning mode is that students take an active and active way to learn the course content by themselves. The learning performance of the two modes will be significantly different.

5. Conclusions and future research

The greatest contribution of this study is to study the effect and performance of students' online learning courses. In order to make up for the gap studied by previous scholars, we set up and observed the influence of different courses and online platform environment on the overall learning performance. For example, (1) whether students' perception of the original platform is dissonant; (2) whether the platform's enhanced interaction with users has a significant impact on learning performance; (3) whether the system environment of the platform attracts users to continue using it. We aim at these factors that can lead to whether students can continue to use the online platform education system to learn. This research combines the knowledge of different schools to design the research, and combines the knowledge perspectives of psychology, consumer behavior, information system management and pedagogy to analyze and explain, hoping to deduce the influence of students' learning performance.

In this study, we conducted an in-depth interview qualitative research investigation in a university in Zhejiang. We conducted reliability analysis through triangulation verification. However, there are still some limitations that can't be best done.

5.1 Restrictions on the distribution of questionnaires:

This questionnaire was distributed by students of a university in Zhejiang. In the process of issuing the in-depth interview questionnaire, we had to set the question type well. However, in the process of issuing the questionnaire, it was found that many respondents would have irrelevant answer condition, and the degree of rigor would have a qualitative impact. Our research team needs to guide the respondents to understand and accurately answer their question options. In addition, we used the method of in-depth interview to calculate the reliability of the in-depth interview questionnaire. The reliability of the first time did not pass the test, and the reliability of the second time reached the standard of 0.66. At the end of the investigation process, we need to design the options to gradually find out the causal factors of the whole proposition through the collation of data by the team. Only in this way can we understand the content of the course and the impact of the online platform environment on learning performance.

5.2 Limitations of the study variables:

This research is mainly aimed at college students in a certain university in Zhejiang as the object of investigation. It is suggested that later researchers can expand to all universities and colleges in the whole Zhejiang region, without limiting to the students in a certain university in Zhejiang

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ISSN: 2456-7760

region. In this way, we can expand perspective to the whole Zhejiang region of the university to observe. Due to time and manpower and material resources, our research is limited to a student in Zhejiang University as the object of in-depth interview. It is suggested that future researchers can extend the observation time, because qualitative research requires a long period of observation time. The time limit of this study is only half a year, which allows future researchers to make long-term observation of time variables. In this way, qualitative research will be conducted in a more rigorous way and students will be observed to use the platform more carefully. Therefore, the whole questionnaire design will be more rigorous and different results will be obtained. Many research literature about online learning, can communicate through the online platform with all over the world to do and become a social network, we believe that people around the world through communication studies there is a problem, that is if leave a message to Internet information through the Internet or completed, can't again on the part of the question of detail, That's why our team will exclude this variable. The teaching content and online environment of the learning platform can directly affect their learning performance, and the important results can be obtained obviously through the triangulation of qualitative research.

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