Model of Appropriate Online Teaching and Learning Process in the Situation of the Coronavirus Disease of ndergraduate Students in Chongqing, China

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Abstract

This research aimed to study and develop a model for appropriate online teaching and learning management specifically tailored to the needs of students in Chongqing, China. Data analysis revealed overall student agreement towards the proposed model for online teaching ($\bar{X}$= 3.48). This consensus was evident across all three stages of learning: pre-learning ($\bar{X}$=3.5024), during the study ($\bar{X}$=3.47), and evaluation ($\bar{X}$= 3.46). Key practices and strategies were identified at each stage. In pre-learning, readiness checks ($\bar{X}$=3.46), determination of suitable teaching channels ($\bar{X}$= 3.52), and engaging lesson introductions ($\bar{X}$= 3.49) were favored. During the study phase, periodic comprehension checks ($\bar{X}$= 3.48), progressive learning techniques ($\bar{X}$=3.47), and fostering a collaborative online environment ($\bar{X}$=3.47) were appreciated. In the evaluation phase, continual instructor self-evaluation ($\bar{X}$=3.48), remedial assistance for low-performing

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students ($\bar{x}$=3.47), and scheduled comprehension tests ($\bar{x}$=3.46) were considered beneficial.

However, student opinions on the online teaching and learning model did not significantly different based on sex, age, or educational level, underscoring the broad acceptability of the model. These findings contribute valuable insights for developing and implementing effective online teaching strategies in higher education.

Keywords: Online teaching, online learning, learning process

Introduction

Currently, there is an epidemic of Coronavirus Disease 2019-COVID-19, also known as COVID-19, which has spread to many countries worldwide. Most of the countries affected were severely infected. The coronavirus disease 2019 can spread quickly because it can be easily transmitted. To prevent and stop the spread of COVID-19, governments have implemented lockdown measures by asking people to control activities and stop traveling. And stay at the location or accommodation for a specified period, and continue to refrain from social activities, including campaigning for public health measures and social distancing. Such a situation affects the country's development in terms of public health, economy, society, and education, both during the period of the epidemic and during the long-term impact. Education management in all countries has been affected by the COVID-19 situation, with teaching and learning halts both in a nationwide break. And halting only certain areas, according to UNESCO data on the impact of COVID-19. to the management of education around the world,

many countries have adjusted the teaching and learning model to solve the problem of education management from the impact of the epidemic. For example, Finland has changed its education management model to be online in the long term. And Singapore has established a Home-Based Learning model, adapted teaching and learning to a digital format, etc.

Due to the pandemic situation of the coronavirus 2019 and advances in information and communication technology are constantly improving. As a result, education has adapted to change. This makes teaching and learning management an online form (Online Learning) has played a role in teaching at the higher education level through Globalization and preventing the spread of the coronavirus disease in 2019

Online teaching is a method of transmitting content, images, and videos using multiple media (Multimedia) together with discussion and exchange of ideas through electronic devices and modern technology for students to have access to learning resources that are diverse and up-to-date. You can learn on your own according to your needs. Online teaching is essential nowadays. Because of learning in the 21st century, learners need to have communication skills. Use of computers and information technology media literacy to foster lifelong learning, including in the current situation, there is a pandemic of Coronavirus Disease 2019-COVID-19, the World Health Organization has announced. It is a public health emergency. As a result, educational institutions cannot manage teaching and learning as usual—one of the measures to control the spread of COVID-196 under troubles. Public health includes social distancing is the practice of social distancing. They are doing various activities among people, causing a trend of

changing lifestyles, work, and many studies. For students to learn as well self continuously. (Kummitha & Kolloju, 2021)

Therefore, from the statement of problem researcher is interested to study an Appropriate form of online teaching and learning process in the situation of the Coronavirus Disease in Chongqing, China. To solve the problem of teaching and study the solution to prepare the measure in the future.

Literature Review

Learning Theory

Learning theory explores how people alter their behaviors and thought processes. This change can be achieved through various modes such as hearing, touching, reading, and technology. The learning mechanisms of children and adults differ, with children primarily learning through classroom interaction while adults lean more on experience. Effective learning requires a conducive psychological atmosphere created by instructors through various teaching styles. Learning theories can be broadly divided into two groups:

Behavioral Theory: This category suggests learning is a correlation between a stimulus and a response. Classical conditional learning theory and action conditional learning theory are two prime examples.

Cognitive Theory: This school of thought posits that learning results from cognitive processes influenced by a person's past experiences and their understanding of stimulating stimuli. Theories in this group, like social intelligence learning theory, focus on mental function more than behavior conditions.

A widely accepted concept in teaching and learning management is Bloom's taxonomy, introduced by Benjamin Bloom (Benjamin Bloom's Taxonomy

of Educational Objectives, 1956). It divides learning behaviors into three domains: cognitive, affective, and psychomotor. The cognitive domain refers to intellectual capacities used in learning activities like problem-solving, reading comprehension, and new inventions. Bloom's taxonomy organizes cognitive behaviors into six levels, from basic to complex: knowledge, comprehension, application, analysis, synthesis, and evaluation. Other notable learning theories include Mayor's theory, which emphasizes clear, observable behavior, conditions to facilitate success, and measurable standards; Bruner's theory, which underlines learning through experience and promotes learner responsibility; and Tyler's theory, which focuses on continuity, sequence, and integration in learning.

Online Teaching Management Theory

Online teaching, leveraging the internet for educational purposes, is now a common practice. It allows for information exchange without the constraints of time and place. Many academics have offered definitions of online teaching, most of which agree that it involves instructional design processes that utilize the internet and World Wide Web resources to create an environment conducive for teaching and learning (Laohacharasang, 2002).

Tools used in online teaching are often classified based on usage patterns. Some common classifications are:

- Publication type, e.g., blogs, Wikipedia.
- Sharing characteristics, e.g., video, music, picture, and link sharing.
- Discussion nature, e.g., online forums.
- Social network characteristics.
- Micro-publishing nature, e.g., micro-blogs.

Aggregation tools for collecting data from various sources for user convenience.

Social media platforms can also be classified based on the form of use, such as tools for exchanging information, social networking tools, online bookmarking services, online sharing tools, blog-type tools, micro blog-type tools, wiki-type tools, and web board type tools.

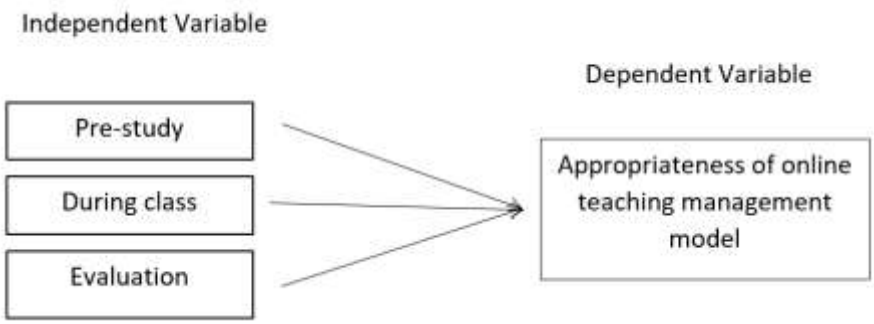
Characteristics of online teaching management

Online teaching management exhibits a multitude of characteristics. According to various researchers, it includes various forms of presentation, communication, and relationship building. Presentation can range from single and dual media presentations to multimedia presentations with text, images, motion pictures, and sound. Communication in online teaching management is essential, with modes ranging from one-way communication, two-way communication, one-to-many communication, and multi-source communication. Relationship building, including information search, website navigation, and human responses to web use, is also crucial.

Different forms of online teaching and learning management include the release, communication, hybrid, and virtual classroom models. The release model features the library, textbook, and interactive instruction models. The communication model promotes interaction through different forms of online communication. The hybrid model is a combination of the release and communication models, providing diverse learning resources. The virtual classroom model is a real-time online teaching model.

Online teaching and learning management consist of essential components such as content, a course management system, modes of communication, and practice or testing exercises. It supports learners by providing access to lesson content at any time, encourages interaction between learners and tutors, supports cooperative learning, and encourages learners to seek knowledge independently. It also provides immediate feedback, enabling learners to understand and improve their abilities. Hence, online teaching management expands opportunities for knowledge seekers by eliminating physical and temporal constraints.

Conceptual Framework



Research Methodology

Population and sample

In this research, the researcher study to the Undergraduate students in Chongqing, China's total population is 20,000 students (Ministry of Education. Ministry of Education, 2020)**.** The sample group used in this study consisted of 400 students there is was determined by calculating the Taro Yamane sample

size (Taro Yamane, 1967) at the reliability level of 95%, and the error was less than 5%.

1. Research Result

Table 1 Demographic of Respondents

Respondents	Frequency	Percentage
Gender		
Male	181	45.2
Female	219	54.8
Total	**400**	**100**
Age		
Under 18 years	124	29.5
19-21 years	61	14.5
21-22 years above	43	10.2
23 years and above	172	45.7
Total	**400**	**100**

Table 1 Presents demographic data from a survey of 400 respondents. Regarding gender, 54.8% (219) identified as Female, and 45.2% (181) as Male. Regarding age, 29.5% (124) were under 18 years old, 14.5% (61) were aged 19-21 years, 10.2% (43) were aged 21-22 years and the remaining 45.7% (172) were aged 23 years and above.

Table 2 One-Way ANOVA Test by Gender

Variance Source	Df.	Sum of Squares	Mean Squares	F	Sig.
Between Groups	0.027	2	0.013	0.510	0.601
Within-Groups	10.977	417	0.026		

Variance Source	Df.	Sum of Squares	Mean Squares	F	Sig.
Total	**11.004**	**419**			

Table 2 represents an Analysis of Variance (ANOVA), a statistical test used to compare the means of more than two groups. It shows the variation between and within groups being compared. The degrees of freedom are 2 for between groups and 417 for within groups, reflecting the amount of data available for calculation. The sum of squares, measuring total data variation, is 0.027 for between groups and 10.977 for within groups. The mean squares, obtained by dividing the sum of squares by respective degrees of freedom, are 0.013 for between groups. The F-statistic, a ratio of mean squares, is 0.510. The p-value (Sig.) is 0.601, greater than 0.05, suggesting no statistically significant differences between the means of the compared groups. In conclusion, the differences of gender are not difference opinion on Appropriate Online Teaching and Learning Process in the Situation of the Coronavirus Disease of Undergraduate Students in Chongqing, China.

Table 3 One-Way ANOVA Test by Age

Variance Source	Df.	Sum of Squares	Mean Squares	F	Sig.
Between Groups	0.019	2	0.009	0.355	0.701
Within-Groups	10.985	417	0.026		
Total	**11.004**	**419**			

Table 3 represents an Analysis of Variance (ANOVA), a statistical test used to compare the means of more than two groups. It shows the variation between and within groups being compared. The degrees of freedom are 2 for between groups and 417 for within groups, reflecting the amount of data available for

calculation. The sum of squares, measuring total data variation, is 0.019 for between groups and 10.985 for within groups. The mean squares, obtained by dividing the sum of squares by respective degrees of freedom, are 0.009 for between groups. The F-statistic, a ratio of mean squares, is 0.355. The p-value (Sig.) is 0.701, greater than 0.05, suggesting no statistically significant differences between the means of the compared groups. In conclusion, the differences of age are not difference opinion on Appropriate Online Teaching and Learning Process in the Situation of the Coronavirus Disease of Undergraduate Students in Chongqing, China.

2. Conclusion

The research analysis of Undergraduate students showed that the majority were females (54.8%), over 35 years of age (45.7%), and enrolled in master's programs (59.3%). Students generally agreed with the online teaching model, with the highest approval for the pre-learning stage. They expressed strong agreement for methods such as teacher surveys on student readiness, determining convenient teaching channels, and providing engaging lesson introductions. Furthermore, they affirmed the need for continuous understanding checks, progressive teaching techniques, and a collaborative learning atmosphere. In evaluations, they supported end-of-semester teaching assessments, tutoring for struggling students, and scheduled understanding checks. Regardless of gender, age, or educational level, the opinions on the online learning process during the COVID-19 pandemic were consistent.

Discussion

This research evaluates the appropriate online learning model for undergraduate students amidst the COVID-19 outbreak. The study found that

students, irrespective of their age, gender, or education level, agreed on the proposed online teaching process model (mean=3.4802). This model was designed based on principles, concepts, and theories in teaching and learning management, and incorporated suggestions for pre-learning, in-course, and evaluation processes. Pre-learning is particularly important, as it includes surveying students' readiness, adjusting teaching content, and setting clear attendance and conclusion expectations. During the course, it's crucial to provide resources, ensure a collaborative online environment, and check for understanding frequently. In the evaluation stage, tests and feedback mechanisms are essential. Comparisons of opinions showed no significant differences based on gender, age, or educational level, suggesting that the proposed model adequately addressed the challenges faced by all students during the sudden shift to online learning caused by the COVID-19 pandemic. This research aligns with several previous studies that have proposed and tested various models for effective online teaching and learning. The research findings indicate that well-designed online learning can be as effective as traditional classroom learning.

Suggestion

The research results offer various recommendations for the application and future research regarding the appropriate online learning process model during the COVID-19 pandemic.

1. Application Suggestions

1.1 Given the generally positive response from students towards the online teaching process model, educators are encouraged to utilize this model.

The goal is to ensure that students' academic achievements in online learning are on par with traditional in-person education.

1.2 The research findings demonstrate that student opinions on the online teaching process model do not significantly differ based on gender, age, or education level. Hence, educators can confidently apply this model across diverse student populations.

1.3 It's also essential for educators to consider the readiness of teachers and the unique context of each school when implementing the online learning management model for increased efficiency.

Further Research Suggestions

2.1 As there may be other suitable online teaching and learning processes, future research should compare different models to determine which one garners the most positive response from students.

2.2 To ensure a comprehensive understanding of the online teaching and learning process, future studies should also gather and analyze the opinions and needs of teachers, school administrators, and other stakeholders in education.

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