THE FACTOR INFLUENCES ON EDUCATION QUALITY OF
ONLINE COURSES OF YAHA SCHOOL OF
BUILT ENVIRONMENT IN HAINAN
PROVINCE, CHINA

BY

YUCHENG JIANG

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Assoc. Prof. Marut Patphol, Ed.D.   Techameth Pianchana, Ph.D.
Examination Committee Chairperson   Member

Nipaporn Sakulwongs, Ed.D.
Member and Advisor

Approved by Graduate School

(Asst.Prof.Plt.Off. Vannee Sooksatra, D.Eng.)
Dean of Graduate School
September 2, 2022

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Yucheng jiang

Researcher

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Abstract

Mixed-methods embedded research design was adopted to the study perceptions towards the factor influences on education quality of online courses of Yaha school of Built Environment in Hainan province, China. The study was Yaha school of built environment in Hainan province, China. In the first academic semester of 2021, the study consisted of freshmen, sophomores, and juniors who participated in a questionnaire survey; in a total 434 students. In addition, 10 students, freshmen through juniors, were asked to volunteer for focus group interviews, for a total of 30 people.

The researcher conducted questionnaire to gather quantitative data and focus group interview was employed to garner qualitative data. The Item Objective Congruence index of all the instruments (+1) indicated that the items were valid. Descriptive statistical analysis of the quantitative data showed that the total students' perception level items were considered as of a high level. The content analysis on qualitative data spelt out the students' perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment and students' expectations and suggestions for quality of online courses.

(Total 173 pages)

Keywords: Online courses, Personal factors, Satisfaction factors, Environmental factors, Education quality

Student's Signature …..................................... Thesis Advisor's Signature ....

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ABBREVIATIONS

Abbreviation	Meaning
IOC	Item Objective Congruence
SD	Standard Deviation

CHAPTER 1

INTRODUCTION

This chapter explains the background and rationale of the study; research objectives; research questions; research hypothesis; scope of the study; conceptual framework of the study; operational definitions; expected outcomes of the study, and limitations of the study.

1.1   BACKGROUND AND RATIONALE OF THE STUDY

The period of change in the future education and learning paradigm has already arrived. Thanks to the rapid growth of technology and the widespread transmission of culture. The Internet has become an inseparable part of people's daily lives, and everything, including education, will be handled on this vital platform in the future (Zhou, Zhang, & Li, 2019). China is speeding up its efforts to create and promote online education in order to stimulate diversity and compatibility in education.

Online education in China got off to a sluggish start in the late twentieth century. The early development of online education was hampered by the external environment, namely the advancement of Internet technology (such as network bandwidth limitations) and the usage of home computers, and households had not yet acquired the habit of obtaining online education (Chen & Bao, 2014). Because of geographical constraints and economic variations, Internet use is not uniformly dispersed, resulting in many families not utilizing the Internet and opting for traditional teaching methods.

However, thanks to technological advances, the network era has silently arrived. In 2000, the "three-part screen" form of online video courseware appeared,

and online education entered the multimedia stage (Chen, 2014). Followed by the

Ministry of Education's approval of 68 colleges and universities as national pilot institutions of modern distance education, allowing the establishment of online education colleges and the issuance of online education diplomas. More than 90% of the whole market for online education in China was accounted for by the overall scale of online education (Chen, Peng, Jing, Wu, & Yang, 2020). This indicates that online courses will be used in schools.

In 2015, the global industry size of online education reached $155.7 billion, and the online education industry achieved a compound annual growth rate of 23%(Zhou & Zhang, 2017). By June 2016, the number of online education users in China had increased to about 118 million, a 7.75 million rise from December 2015, with a growth rate of 7%; the utilization rate of online education was 16.6 percent, a little increase. The number of mobile online education users in China reached approximately 70 million, a 31.8 percent increase from December 2015; the mobile online education utilization rate was 10.6 percent, up 2 percentage points from December 2015 (Zhou & Zhang, 2017).

The amount of China's online education market surpassed 200 billion yuan in 2017, reaching 208.91 billion yuan, a 28.1 percent rise year on year. According to preliminary projections, China's online education business will be worth approximately 267.06 billion yuan in 2018 (Zhang, 2019). According to the data presented above, the Chinese online education market will continue to expand steadily in the future years.

In late 2019, there was a COVID-19 outbreak in Wuhan, China. COVID-19 had quickly spread all over the country. In 2020, the global spread of COVID-19 resulted in the suspension of classes for students from more than 60 countries, disrupting the original teaching plans of schools in these countries and regions (Chen, Peng, Jing, Wu, & Yang, 2020). China, as the first country to detect the virus's spread, has also been infected. The virus's spread has had a significant impact on people from

all areas of life. All entertainment places in China were compelled to close, and schools were ordered to close as well. However, the suspension of courses would have an impact on the curriculum but resuming classes could possibly result in a secondary spread of the pandemic in schools.

In times of severe epidemics, the best way to resolve the conflict between the two is to shift classroom activities from face-to-face to online, which can effectively control crowd gathering. Therefore, the online education model under COVID-19 will be an important way to prevent and control the epidemic and ensure the teaching schedule (Chen et al., 2020). In order to minimize the impact of the epidemic on education and to control the spread of the epidemic, online teaching has become a necessary strategy to restore normal teaching and learning during this special period.

During COVID-19, many universities in China have used online courses to meet the needs of teaching and learning. Network courses, mainly refers to the teaching process through the network, specifically a new teaching mode of real-time, distance learning and operation in which teachers use the conditions of the network and other hardware, combined with the scientific system of the network teaching platform to interact with students, is a necessary supplement to traditional teaching, and at the same time, it reflects the goal of informatization of higher education and coincides with the future development trend of higher education.

Online courses emphasize the use of the Internet as a teaching medium to replace the traditional face-to-face teaching method, allowing course teaching activities to be unconstrained by time, space, location, and other factors, and allowing the majority of learners to fully share famous schools, teachers, courses, and other teaching resources. Students can take the course via the network, online, complete the assignments, and receive the necessary credits via the evaluation.

Online courses feature a wealth of teaching tools and formats that serve as a communication medium for teachers and students while also integrating teaching content and deepening students' learning perceptions (Wu, 2020). A significant

contribution to the advancement and enhancement of university education and teaching standards.

The benefits of online courses can be seen in a variety of ways. To begin, online courses can play the primary function of students, and professors can organize and guide students' learning while also establishing a pleasant classroom atmosphere for students to increase their interest and creative consciousness in discussion and cooperation (Wu, 2020). Second, online courses can help students overcome textbook constraints, broaden their perspectives, and display hierarchical teaching knowledge (Wu, 2020). Furthermore, online classes are not constrained by time or geography, which promotes the development of students' independent learning abilities.

In fact, online courses, like traditional courses, are designed to provide the audience with access to knowledge (Wang & Xiao, 2016). At this time, when Chinese citizens are isolated at home and internet usage is expanding, internet distribution of knowledge resources has become a popular alternative for an increasing number of individuals. The internet's enormous and broad collection of resources is unrivaled by the traditional educational classroom. Online resources contain a wide range of media material, teaching methods, and teaching designs, which can present students with more possibilities.

In a traditional classroom setting, students can only evaluate the content of the teacher's speech through notes or simple recall, which can easily lead to a lack of information or incomplete information (Wang & Xiao, 2016). Students can also repeat the teacher's points at any moment, improving their ability to store knowledge and growing their interest in their learning abilities.

First, unlike traditional courses build the material and classroom based on the teacher's own teaching expertise, the teacher in online courses can alter the course content and teaching speed based on the actual response of students to ensure the online course's efficacy (Wang & Xiao, 2016).

Second, unlike traditional classes, online courses are more open and simple to organize (Wang & Xiao, 2016). The teacher basically delivers the content of online courses through various online platforms, giving students a great deal of freedom to learn so that they can combine their own learning interests, learning background, and knowledge structure to learn effectively, greatly increasing the effectiveness of classroom learning and improving the quality of education.

Furthermore, students who enroll in online courses are not constrained by time or space, making classroom instruction easier to organize. Professors can provide a range of lectures in their online courses, such as lectures, debates, hands-on activities, and so on, so that students can actively participate in the various lecture kinds while retaining active interest and engagement.

Chinese higher education institutions have also promoted the development of online courses, and all higher education institutions have increased their efforts to implement online courses and develop a large number of online courses such as online video open courses, online resource sharing courses, and other public (free) and semi-public (paid) courses on the Internet (Zhou et al., 2019). From 2003 to the present, the Chinese education sector has launched a large number of high-quality online courses, resulting in a large number of high-quality course resources that have played a significant role in promoting the improvement of teaching and learning quality in Chinese higher education.

According to statistics, 10 million online learning spaces for teachers and students have been added since 2003; the "Online Learning Space for All" application has been chosen in 40 regions and over 200 schools; and over 10,000 headmasters and key teachers from primary, secondary, and vocational schools have completed the "Online Learning Space for All" training (Zhou et al., 2019).

Many countries have implemented online courses for their students during covid-19, and the format of online courses became diversified. Text, graphics, sound, video, animation, courseware, and simulation software can all be utilized to provide

online courses. The variety of material types broadens learners' horizons and meets their diverse learning needs." (Du, 2017). The external conditions for students to access or study online courses are extremely well established in the online course learning conditions dimension, and at present time students can only study online courses at home using electronic (Ding talk, VooV, etc.) devices.

Online courses are popular during covid-19 because they do not need students to congregate in a set classroom, which reduces the danger of virus infections. Second, online courses allow students to continue learning at their leisure, and online course materials can be re-used to assist students in consolidating their knowledge and competency.

To prevent the spread of the Covid-19 virus on campus, the Chinese Ministry of Education issued a notice on "using online platforms to suspend classes without stopping school" on January 19, 2020, and institutions across the country responded positively by organizing online learning for students during their home quarantine (Huang et al., 2020). During the outbreak, the Hainan Haikou School of Economics' School of Yaha school of built environment was engaged in online education, based on its experience in mixed teaching, with full online instruction for grades in the theoretical learning phase and postponement of laboratory courses.

During the epidemic, students in different year groups at the Hainan Haikou School of Economics' School of Yaha School of Built Environment had different psychological and living conditions, and their perceptions of the benefits of online courses, as well as their choices of online course platforms and course content, differed (Huang et al., 2020). As a result, the demands of students in different year groups for online courses should be considered, and students should be given with quality online resources and teaching materials resources to improve the online courses for students.

Second, while online learning is flexible and simple to use, students are heavily reliant on hardware devices such as the internet, and the closure of high-risk

locations due to the epidemic has made instructional materials very scarce. Many underserved areas lack access to online education. Learning is being hampered.

Online courses have inherent benefits and restrictions that may support or limit the future progress in education. This study, therefore, will apply a questionnaire survey method in which the respondents give the responses by completing the questionnaire based on their experiences and perceptions towards the factors influencing the quality of online lessons at a university in China.

1.2   RESEARCH OBJECTIVES

The objective of this research was to investigate the factors influencing the education quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic.

1.3   RESEARCH QUESTIONS

What influences would there be on the students 'education quality of the online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic?

1.4   SCOPE OF THE STUDY

1.4.1 Population and sample

The population of this study consisted of 1,452 students in Yaha School of Built Environment at Haikou University in Hainan province, China. From the Freshman to the Junior all participated in responding the questionnaire, with 428 students who were the freshman including 256 males and 172 females, aged 17-18; the Sophomore including 489 students, 278 males and 211 females, aged between 18 and 19; the Junior including 535 students, with 335 males and 200 females, aged between

19-20. Due to the teaching system; however, the senior students are usually on off-campus placements and are not able to participate in the study. Therefore, this study only focused on the first year, the second year and the third-year students. According to Taro Yamane formula calculated to require at least 317 respondents. Taro Yamane's formula is as follows.

$$n = \frac{N}{1 + Ne^2}$$

n - the sample size

N - the population size

e - the acceptable sampling error

* 95% confidence level and p = 0.5 are assumed

In this study; therefore, 434 students participated as the sample group. In addition, 10 students from each year were voluntarily selected for focus group interviews. Therefore, a total of 30 students with mixed genders and learning proficiency were involved in the focus group interviews.

1.4.2 Location of the study

This study was carried out in Yaha School of Built Environment at Haikou University in Hainan province, China. The map of the location is shown on Figure 1.1 below.

Figure 1.1 A map of Haikou City, Hainan Province, indicating the location of the

research

Source: Baidu, 2014

1.4.3 Time of Research

This study was conducted from January to March of 2022 academic year. Altogether 1,452 students at the Yaha School of Built Environment were involved and a questionnaire was distributed to each of them online.

1.4.4 Variables

In this study, independent variables are as follows:

1)Personal Factors including styles of learning and motivation factors.

(1)Styles of learning refer to the personalized learning style of Yaha school of Built Environment learners to consume information, memorize knowledge, think and solve problems.

(2)Motivation factors refer to the Yaha school of Built Environment learners are driven by the desire to learn and actively, actively and autonomously choose to receive and understand information.

2)Satisfaction Factors including classroom interactivity and network self-efficiency.

(1)Classroom interactivity refers to the Yaha school of Built Environment teacher evaluation, encouragement and guidance, learner responses and reactions to the teacher.

(2) Network self-efficiency refers to the Yaha school of Built Environment learners' sense of self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior.

3)Environmental Factors including support services and network resources.

(1) Support services refer to the Yaha school of Built Environment teachers provide comprehensive, timely and convenient learning support services to help learners solve various learning challenges.

(2) Network resources refer to the Yaha school of Built Environment Learners can share quality resources, learners can learn independently and get the most out of teaching resources that meet their learning needs.

4)Dependent variable is as follows:

Education Quality of the online courses at Yaha school of Built Environment.

1.5 CONCEPTUAL FRAMEWORK

In this study, the data were sourced by collecting questionnaire responses on the factors influencing the quality of education of students in online courses at the Haikou School of Economics, Yaha School of Built Environment, Haikou, Hainan Province, China.
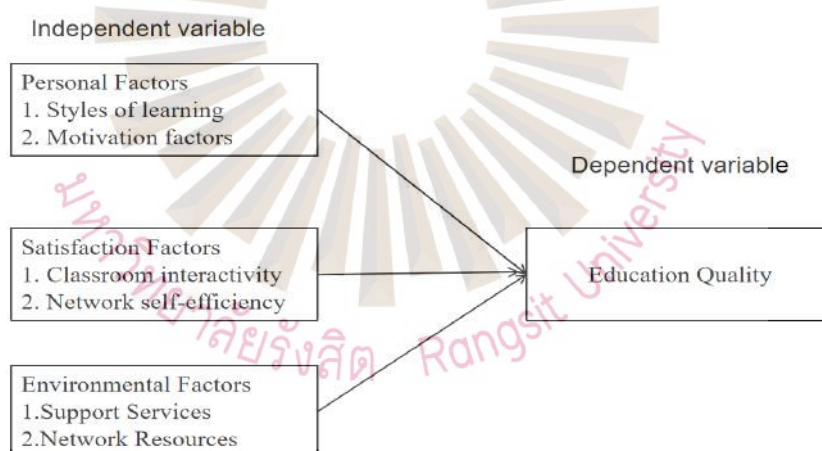
Figure 1.2 conceptual framework

1.6 LIMITATIONS OF THE STUDY

Like other studies on similar disciplines, This study had some limitations. First, this was a small-scale survey study in one of the universities in Haikou, Hainan Province, and the sample size selected was not the representatives of all universities in Hainan Province, China, so the results would not be generalized.

1.7 DEFINITIONS OF KEY TERMS

Online courses refer to the sum of a subject's teaching content and teaching activities expressed through the network, and it is a novel type of course expression under the conditions of the information age. These online courses are conducted for the students at Yaha university in Haikou, Hainan Province.

Factors influencing the education quality refers to the personal factors, satisfaction factors and environmental factors. These will be examined through the 5-Point Likert scale questionnaire that will be distributed to the respondents in the study as well as the responses obtained from the focus group interviews.

Personal factors refer to styles of learning and motivation factors which influence on the education quality of the online courses at Yaha university in Haikou, Hainan Province.

Styles of learning refer to the personalized learning style of Yaha school of Built Environment learners to consume information, memorize knowledge, think and solve problems.

Motivation factors refer to the Yaha school of Built Environment learners are driven by the desire to learn and actively, actively and autonomously choose to receive and understand information.

Satisfaction factors refer to classroom interactivity and network self-efficiency which influence on the education quality of the online courses at Yaha university in Haikou, Hainan Province.

Classroom interactivity refers to the Yaha school of Built Environment teacher evaluation, encouragement and guidance, learner responses and reactions to the teacher.

Network self-efficiency refers to the Yaha school of Built Environment learners' sense of self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior.

Environmental factors refer to support services and network resources which influence on the education quality of the online courses at Yaha university in Haikou, Hainan Province.

Support services refer to the Yaha school of Built Environment teachers provide comprehensive, timely and convenient learning support services to help learners solve various learning challenges.

Network resources refer to the Yaha school of Built Environment Learners can share quality resources, learners can learn independently and get the most out of teaching resources that meet their learning needs.

Education quality refers to the extent to which the level of education that is high and the learning achievements are either satisfactory or unsatisfactory. Ultimately, this is reflected on the quality of the people who are trained.

Yaha School of Built Environment refers to a privately run university in Hainan Province, China.

1.8   SIGNIFICANCE OF THE STUDY

1.8.1 This research was beneficial to students to understand the factors that influence on the quality of online courses and contribute to the reform and development of online university courses.

1.8.2 This research was beneficial in helping universities to provide better online teaching methods to meet the needs of the university students during the COVID-19 pandemic.

This chapter explains the background and rationale of the study; research objectives; research questions; research hypothesis; scope of the study; conceptual framework of the study; operational definitions; expected outcomes of the study, and limitations of the study.

CHAPTER 2

LITERATURE REVIEW

This chapter present the literature related to the study to provide the theoretical information of the study. Such as COVID-19, Online courses, Overview of Hainan Province，Yaha School of Built Environment, Quality of education. The impact of personal factors on online courses, Factors affecting student satisfaction with online courses, The influence of environmental factors on online courses.

2.1 COVID-19 PANDEMIC

The 2019 coronavirus disease epidemic is a global pandemic outbreak of coronavirus disease 2019 (COVID-19), which is caused by the severe acute respiratory illness coronavirus 2. (SARS-CoV-2). The disease was discovered in late 2019 in Wuhan, Hubei Province, People's Republic of China, and quickly spread to various countries worldwide in early 2020, eventually becoming a global pandemic. More than 264 million confirmed cases have been documented worldwide as of 3 December 2021, with more than 5,238,000 deaths[9], making it one of the largest epidemics in human history. Estimates of illness mortality vary greatly around the world, with observed mortality rates ranging from 0.5 percent to 5.0 percent in most nations as of 8 February 2021 and a preliminary corrected global mortality rate of roughly 2.9 percent (Wikipedia, 2021a).

The outbreak in China is effectively under control as of early 2021, although the daily rise estimates are continually shifting. Because of the COVID-19, many aspects of global affairs have been impacted to varying degrees.

2.1.1 Impact of COVID-19 on the economy

The outbreak represents a significant destabilizing danger to the world economy. Markets, according to Agathe Demarais of the Economist Intelligence Unit, will remain turbulent until a clear picture of the probable conclusion emerges. The effects could linger for up to two years. Global equity markets plummeted on February 24 as the number of COVID-19 instances outside of China increased dramatically. As a result, the market economy suffered a considerable decrease.

2.1.2 Impact of COVID-19 on the cultural

The performing arts and cultural heritage industries have also been profoundly affected by the epidemic, with museums, libraries, performance venues and other cultural institutions being closed, exhibitions, events and performances cancelled or postponed to varying degrees around the world by March 2020.

2.1.3 Impact of COVID-19 on the education

The pandemic has had a global impact on education systems, resulting in the near-complete shutdown of schools, universities, and colleges. In an effort to stem the spread of COVID-19, most governments around the world have temporarily closed educational institutions. As of 7 June 2020, roughly 1.725 billion pupils were affected by school closures as a result of covid-19. School closures are presently in place countrywide in 134 countries and locally in 38 nations, affecting about 98.5 percent of pupils globally, according to UNICEF monitoring. There are now 39 schools open in 39 countries (Wikipedia, 2021a).

In response to school closures, the United Nations Educational, Scientific, and Cultural Organization (UNESCO) suggests using remote education programs and open educational resource applications and platforms that schools and teachers can use to reach learners remotely and limit disruptions to education.

2.2   ONLINE COURSES

Online courses are mostly in the form of teaching films that have been published to the Internet as a teaching method, a significant component of teaching materials, and a growing educational model. Online classrooms are a modern teaching platform with essential qualities such as autonomy, sharing, and engagement that enable students to learn at a distance over the internet. Uploading teaching videos to the Internet is not only one way for teaching staff to teach and solve difficulties, but it is also an unavoidable trend to promote the development of education informatization with network technology informatization (Xie, 2020).

With the advancement of modern communication and network technology, most existing network teaching platforms can support various real-time and non-real-time network teaching with video-on-demand, online audio-visual conference, BBs, e-mail, and other main interaction methods, reintegrating teaching and learning in the separated state under the network environment, particularly in distance education (Xu, 2021).

Network course teaching is the use of a network platform to carry out instructional activities. It is a major trend in the advancement of modern technology, and as network technology has advanced rapidly in recent years, network teaching has advanced as well. Many foreign countries, particularly rich countries, have invested significant human and financial resources in network education, with varying degrees of success. There are more than 350 universities and colleges in the United States that offer distance learning through Internet education, essentially covering all majors and disciplines of colleges and universities; the United Kingdom is also a relatively early country to carry out network education, and the University of Liverpool is actively exploring the education market in China. E-learning has become an essential component of the higher education system in OECD countries. The global e-learning market grew by 45 percent between 1995 and 2004, according to OECD research. (Xu, 2021).

The goal of promoting online education in China is inextricably linked to the country's attempts to promote information technology in education. The Ministry of Education issued the "Action Plan for Revitalising Education in the Twenty-First Century" as early as 1998, advocating the rapid development of contemporary distance education in China. In June 2000, the National Conference on Education Informatization advocated building a sophisticated remote education network infrastructure in China within three years. The State Council made the decision to "deepen education reform and comprehensively promote quality education" at the National Education Conference in 2000, in which it was stated that the level of modernization of educational technology and the degree of informatization of education should be vigorously improved, and the state supported the construction of a modern distance education network based on the China Education Research Network and the satellite video system (Yang, 2003).

The State Council forwarded the Ministry of Education's "Action Plan for the Revitalization of Education in the Twenty-First Century" in January 1999, and the China Education Research Network was founded soon after. Currently, the Ministry of Education has recognized 68 pilot universities for distant education. More than 2,000 learning centers have been erected across the country, with over 2 million students enrolled in programs spanning all levels and hundreds of majors. At the same time, many colleges and universities have spent a lot of money to set up campus networks and multimedia classrooms. (Xu, 2021).

Cases of new coronavirus pneumonia infections have arisen one after the other in Wuhan, Hubei Province, since the end of December 2019. Following that, provinces, municipalities, and autonomous regions across the country activated their Level 1 response to major public health emergencies one after the other, while the Ministry of National Education investigated and decided to postpone the start of the spring semester for students in 2020.

To prevent the epidemic from spreading to schools and to ensure the safety and health of teachers and students, primary and secondary schools across the country

have implemented the Ministry of Education's request to implement online education and teaching activities, with the primary goal of preventing and controlling the epidemic. The Ministry of Education has implemented the "no classes, no school" policy by substituting "online courses" for classroom instruction.

Online lessons are currently popular in China, and their popularity is steadily growing. They are no longer limited to traditional classroom learning on campus, but instead take full advantage of the openness of Internet resources and upload teaching resources onto the Internet based on network features, becoming a "sword" to break geographical boundaries and achieve teaching resource sharing. It has evolved into a "weapon" for breaking down geographical barriers and sharing educational resources.

2.2.1　The advantages of online courses in an information society

Online education, being one of the newest types of teaching, has its own specific qualities when compared to the old classroom mode of teaching. In addition to the Internet's popularity and the advent of the information age over the last decade, online classes have steadily garnered certain distinct advantages in their own right and in the education industry (Xie, 2020).In the context of today's information age, the role of online classes will be able to influence the development of ordinary primary and secondary schools, as well as the entire field of pedagogy in the national education industry, which is promoting the development of national popular education, higher education, and other industries to diversify, informatization, popularization, socialization, and change direction(Xie, 2020).

Online courses are not limited by time, space or people. Unlike traditional classroom learning, which is over and done with, it may be rewound to assist pre-learning and post-lesson revision, making it a useful platform for student learning. Online classes are held in an environment that liberates students from time and space, and unlike traditional classes, its relaxed learning environment allows students to realize their potential, and students can motivate each other to collaborate and

communicate in learning activities and learn to cooperate and communicate (Xie, 2020).

Online courses encourage structural changes in education and teaching. Historically, teaching reform has focused on reforming teaching contents, teaching methods, and teaching methods, but there has been little change of the teaching mode, which is unsuitable for teaching as a system. Many experts and intellectuals have agreed on this topic. It is difficult to promote teaching structure reform within the bounds of concept and system, and concept change is a gradual process; the development of network course teaching can promote this process, so that teachers and students gradually shift from the habit of classroom teaching to accept network teaching; they require psychological preparation, but also information technology literacy preparation (Xu, 2021).

Online courses are better for motivating students to learn. Online classes are assisting in the creation of a wave of learning among students. According to data, the number of users and hours of study in online courses such as MOOC and Eurasia General Studies is fast increasing, and the number of teachers involved in the development of online courses is gradually increasing. Learning via the internet contributes to the democratization of education by encouraging students' abilities to think freely, not rely on teachers, and study critically, making students enthusiastic about learning (Xie, 2020).

Carrying out online course teaching is a way to encourage the gathering of information technology and curricular information, as well as an effective way to promote teaching reform and foster new talents, as well as the full application of educational technology in teaching.

2.3   OVERVIEW OF HAINAN PROVINCE

Hainan Province, abbreviated as Qiong, is the People's Republic of China's only province located fully in the tropics, as well as a maritime and island province,

the largest by sea and the smallest by land in the People's Republic of China, with its capital in Haikou. It has a total population of 1,081,200 people and a big migrant population throughout the winter (Wikipedia, 2021b).

Among them are the Li, Miao, Hui, and other ethnic minorities, which number approximately 1.2 million people. It is predicted that there are currently more than 3.2 million Hainan villagers and their descendants (foreign Chinese) living in the United States, with more than 5 million descendants in the fourth and fifth generations expected. Wenchang's abroad population is considerably larger than the islands. Current Hainanese and their descendants can be found on all five continents, particularly in Thailand, Malaysia, Singapore, Indonesia, Vietnam, the United States, Canada, and Australia (Kang, 2010).

Hainan has a total land area of 35,400,000 square kilometers, of which the island's land area is 33,900,000 square kilometers, accounting for nearly 95 percent of Hainan's total land area. At the first session of the 7th National People's Congress in 1988, a resolution was passed to abolish the administrative region of Hainan in Guangdong Province and to establish Hainan Province and the Hainan Special Economic Zone, making Hainan the People's Republic of China's 30th provincial administrative region and the People's Republic of China's youngest province. The State Council of the People's Republic of China approved the construction of an international tourism island in 2008, and Hainan approved the construction of a free trade port in 2018 (Wikipedia, 2021b).

Hainan Island, which shares the same latitude as Hawaii in the United States, offers 1,528 kilometers of coastline that might be turned into a world-class tourist destination. The island enjoys a good climate all year, with singing and flowers in all seasons, and it is abundant in mineral, flora, and fauna resources, particularly oil and gas deposits. There are more than 1,400 species of trees and shrubs, accounting for 28.6 percent of the country's tree and shrub species, of which more than 800 are timber species of high economic value; more than 2,500 species of medicinal plants, accounting for roughly 30 percent of the country's medicinal plants, including 137

species of plants with anti-cancer effects; 142 species of fruit trees; 89 species of oilseeds; and nearly 200 species of other economically important plants.

Among the wild creatures, 104 reptile species account for 29.5 percent of the total; 76 animal species account for 18.6 percent of the total. The rich biology of Hainan occupies a significant place in China, and biodiversity protection is one of the priorities of Hainan's forestry. There are now 58 plant species under national protection, of which 1 species is Grade I, 19 species are Grade II, and 38 species are Grade III; 133 animal species are protected, of which 14 are Grade I, 87 are Grade II, and 32 are provincial (Kang, 2010).

The province has been able to thoroughly implement the series of important speeches and instructions given by General Secretary Xi Jinping on Hainan's work, successfully coping with the impact of the new crown pneumonia epidemic, building a moderately prosperous society on all fronts, and moving towards a high level of economic and social development under the strong leadership of the Party Central Committee, with Comrade Xi Jinping at its core. The economy and society are progressing toward a higher level of development, setting the groundwork for the thorough building of a free trade zone. Early preparations are beginning to bear fruit. Duty-free shopping on outlying islands has resulted in a huge increase in offshore consumption. The Yangpu Free Trade Port has taken the lead in implementing the "first line" liberalization and "second line" control of the import and export management system, as well as the "China Yangpu Port" ship registration port and other policy consequences, and the bonded jet fuel policy. The "China Yangpu Port" policy is being implemented. Preferential policies on business and personal income taxes, raw and auxiliary materials, transportation vehicles, and yachts, such as "zero tariff," were put in place. The pilot initiative to make foreign exchange payments and receipts easier was promoted. Over 1.19 million market companies were founded, with a monthly average of over 10,000 talents introduced and record growth in new offshore international trade. The first foreign high-level autonomous educational institution was created successfully.

2.3.1 Basic information on education progress in Hainan Province

During the "Twelfth Five-Year Plan" period, the popularity of education in Hainan Province was greatly increased, the equity of education was improved, the conditions of school operation were greatly improved, the quality of education was continuously improved, the structure of education was further optimized, and the overall level of school operation was greatly improved, essentially completing the objectives of the "Twelfth Five-Year Plan." In 2015, the province spent 23.41 billion yuan on education, a 17.0 percent increase over the previous year, with 4,088 schools at all levels, 118,000 full-time instructors, and 1.933 million pupils. There are 1,928 kindergartens, with 320,000 children enrolled; 1,556 primary schools (excluding 976 teaching points), with 773,000 students; 391 junior high schools, with 329,000 students; 105 general high schools, with 172,000 students; 87 secondary schools, with 131,000 students; and 21 institutions of higher learning, with 207,000 students. There are 21 higher education institutions (including three recently approved universities) with a total of 207,000 students (Hainan, 2016).

The major indicators for the growth of education in Hainan Province by 2020 are to attain the country's upper middle level, to essentially create a modern education system, and to essentially modernize education. 15 years of basic education will be universal, preschool education will be almost universal, and the gross enrolment rate in the first three years of school will be 86%. The obligatory education consolidation rate has reached 95%, while the gross enrolment rate at the senior secondary level has surpassed 90%. A modern vocational education system has largely taken shape in the province, with 160,000 students enrolled in secondary vocational schools and 90,000 students enrolled in higher vocational education at the specialist level, accounting for more than half of education at the senior secondary level or higher. The gross enrolment rate in higher education was around 50%, while the share of applied technical skills personnel training was around 80% (Hainan, 2016).

2.3.2 Online Course Education in Hainan Province

Because of the influence of covid-19, the Hainan Provincial Department of Education has launched a campaign in 2021 to promote the usage of online learning spaces. In 2021, the focus of actions will be on popularizing e-learning space applications in basic education, vocational education, higher education, and continuing education. The municipal and county education bureaus will develop and accelerate the implementation plan for the popularization of the application of online learning spaces, and the education bureaus of Haikou and Sanya will take an overall regional approach to promote the application of information technology in the districts under their jurisdiction and develop a sub-annual implementation plan, with no less than one region having the popularization of the application. Activities in 2021 will primarily focus on space building, application deepening, exceptional selection, demonstration, and promotion (Hainan, 2021).

Schools in Hainan Province use online learning spaces to organize a variety of educational and teaching activities, as well as to promote the availability of online learning spaces for all teachers. The e-learning space is utilized to create a ubiquitous learning environment, optimize resource supply, reinvent service models, and encourage resource sharing. Second, the e-learning space is used to understand school dynamics and conduct teaching assessments; optimize the allocation of teaching resources and the supply of intellectual resources, improve resource deployment mechanisms and teacher evaluation mechanisms based on data, etc., promote management operations reorganization and process re-engineering, and realize process-oriented assessment and refined management; and support innovation in education management. It also supports teachers' daily teaching activities such as lesson preparation, lecturing, and learning guidance; organizes and implements teaching activities such as independent, collaborative, and research activities; provides differentiated and personalized teaching and guidance; conducts cross-class, cross-school, and cross-regional teaching activities; uses the e-learning space for school-enterprise collaboration, develops high-quality teaching resources, and innovates. Students are encouraged to use the e-learning area to select learning resources and

services for autonomous study, such as online courses, online tests, and online tutorials, as well as to form interest groups and other groups for collaborative research and communication activities (Hainan, 2021).

Finally, data from the e-learning space is used to evaluate teachers' teaching processes, curriculum construction, and application level, among other things; to record students' learning processes, conduct comprehensive quality assessments of students, and build campus culture; and to educate parents about their children's development and participation in school management. The e-learning space is used to build training communities and conduct training activities in order to improve teachers' professionalism and space application skills, as well as to serve as an example and leader for excellent teachers (Hainan, 2021).

2.4   YAHA SCHOOL OF BUILT ENVIRONMENT

Yaha School of Built Environment is located in Haikou, Hainan Province. Yaha School of Built Environment a joint venture of Haikou University of Economics (HUE) and YAHA Education (YAHA), was founded in 2017 on the foundation of the previous School of Construction and Engineering. The School of Habitat for Humanity currently has about 2,500 students enrolled. It has its own engineering building where instruction, research, and experiments are combined. There are more than 60 different types of special classrooms, including more than 30 multimedia classrooms, computer classrooms, and drawing rooms. Geotechnical laboratories, material laboratories, mechanics laboratories, structural laboratories, and practical training rooms for engineering costing, engineering measurement, engineering drafting software, architectural effect drawing production, and so on have all been built by the college. In addition, it is gradually constructing experimental training rooms for VR, BIM, GIS, 3D printing and digital processing, architectural physics, architectural models, engineering measurement, and drone tilt photography, among other things.

Yaha is committed to supporting higher education reform, bringing applied university skills into play, and inventing teaching methods and training programs to

cultivate highly efficient, highly intelligent, cross-border, and inventive high-end applied talents. The growth of students' comprehensive abilities and flexible development is prioritized, and a broad-based admissions method with five categories is used: urban and rural planning, architecture, civil engineering, engineering costing, and virtual space design (art).

Teachers at the Yaha School of Built Environment employ a variety of instructional approaches to deliver their lessons. Some of them employ rational teaching approaches, such as giving in-depth lectures, layer by layer analysis, interlocking, rigorous reasoning, and structure, as well as using logic to capture students' attention and reason to regulate the teaching process in the classroom. Students learn not only knowledge but also thinking abilities by listening to the teacher. They are also instilled and infected by the teacher's demanding approach to learning.

The other aspect of the teacher's job is to teach with skill. Teachers are skilled and resourceful in their teaching practices, and they have a diverse range of teaching methods and strategies to choose from, which they employ with ease and appropriateness. The overall structure of the classroom is similar to that of a well-planned program, with natural transitions, tight organization, cohesiveness, and order. The ideas are clear when explaining, analyzing, and arguing; when asking questions, discussing, and practicing, they consider the students' actual situation, as well as their psychological characteristics and receptiveness, and have a thorough understanding and reasonable use of teaching methods, with an accurate grasp of the key points and difficulties of knowledge.

Because of the impact of covid-19, the school will discontinue offline teaching in 2021 and transition to exclusively online courses. The school will use the Ding Ding platform for all teaching. Teachers employ blended teaching as the main idea in the Ding Ding platform, integrating teaching interaction, resource management, high-quality course building, teaching achievement presentation, and teaching management assessment in a new generation of online teaching platform. The platform replaces the former method of classroom-based course instruction, and students can effortlessly log

onto the learning platform to study a certain course at any time and from any location using modern online means. Through this platform, teachers supply a multitude of instructional tools to enhance individual and collaborative learning. Students' autonomous learning abilities and instructional efficiency are increased in online course teaching through teacher-led and student-led involvement (Zhang, 2018).

2.5   QUALITY OF EDUCATION

Quality in education is the specification of educational quality throughout a specified time period in order to fulfill set educational goals. However, how each stakeholder understands and interprets its individual connotation differs, making educational excellence an extremely complex subject.

When it comes to educational quality, (Frans van Vught) and others point out that in higher education, "Quality has spread practically everywhere, becoming a priority on the political agenda of higher education. While it is widely acknowledged that institutions must accept responsibility for the quality of their operations, there are numerous interpretations of educational quality." (Green, D.,) a British professor, categorizes people's perspectives on educational excellence into five groups.

The first is unique and exceptional. Oxbridge, for example, provides an educational service that is simply not comparable to that of other universities in general, and it is evident that the education provided by such a few elite universities cannot be used as a standard against which other universities' education may be measured. Second, conformity to predefined criteria and standards. This viewpoint stems from quality control in business production, and because different criteria can be imposed for different types of institutions, all HEIs have the chance to secure the quality they deserve. This improves quality assurance throughout the higher education system; yet, this static definition may lead to an emphasis on outcome assessment at the expense of process control. Third, it must be purpose-fit. The majority of the education community accepts this description; however, the challenge is determining how to define the aim of education. This is due to the difficulty in aligning the

numerous stakeholders in the education system's distinct goals. Fourth, the school's effectiveness in attaining its goals. A high-quality school openly proclaims and truly fulfills its goals. Fifth, how well consumers stated and projected requirements are addressed (Zhou, 2019).

To summarize, we believe that, first and foremost, quality in education is a multidimensional concept that encompasses many aspects of education, such as curriculum and teaching, teachers and students, buildings and facilities, instruments and equipment, and all other educational functions and activities. Second, education quality is a multi-level notion that includes various levels and types of education and training activities, both formal and non-formal, that learners receive throughout their lives. Again, education stakeholders have various expectations of the purpose of education, and as a result, their knowledge and attention on educational quality range significantly. Regardless of the number of possible interpretations of educational quality, the core of measuring educational quality in terms of education and teaching practice is the degree of achievement of the objectives of a specific type of education and a specific level of schooling, and ultimately in the overall development of students (Zhou, 2019).

2.5.1 Quality of Education in Hainan Province

The creation of a quality assurance system for higher education is critical to the healthy and speedy development of higher education, as well as its smooth development. Leaders at all levels in Hainan Province have long placed a high value on the development of a quality assurance system for teaching in colleges and universities, particularly for undergraduate education. The university has insisted on using the "talent development for Qiong" strategy and the "Revitalisation Plan for Higher Education in Central and Western China" as an opportunity to serve the construction of a pilot free trade zone and a free trade port with Chinese characteristics in Hainan, as well as to cultivate high-level talents to meet the needs of economic and social development in Hainan and the country as a whole. The program is intended to

address the demand for high-level talent for Hainan's and the country's economic and social growth (Hainan, 2020).

In recent years, Hainan Province has conscientiously implemented the Ministry of Education's requirements on shifting the strategic focus of higher education development from scale expansion to internal construction and improving educational quality, and put forward the development policy of "moderately expanding the scale of higher education, making efforts to improve higher education conditions, and actively optimizing the structure of higher education." The university will continue to pursue internal development with quality improvement as its primary goal, with the goal of comprehensively improving the quality of Hainan higher education (Hainan, 2020).

A school's lifeline is the quality of its education. Hainan Province has traditionally regarded teaching quality monitoring as a key tool for the government in achieving macromanagement of colleges and universities and regulating their instruction. It has actively improved higher education assessment institutions by establishing the Hainan Higher Education Assessment Centre, continuously improving various assessment index systems and workflows to further enhance assessment effectiveness, thereby clarifying the main responsibility of quality assurance in colleges and universities, improving colleges and universities' internal quality monitoring system, and establishing professional teaching support. For higher education quality, the system will also include a warning system, a bulletin system, and a major problem reporting system (Hainan, 2020).

Evaluation of teaching quality

Hainan Province places a high value on the collection and feedback of teaching information, actively conducts teacher evaluation, student evaluation, and supervisor evaluation of teaching and learning, and uses the evaluation results as the reference basis for teacher merit evaluation and title promotion, in order to promote the development of teaching and learning styles. The Office of Quality Management and Assessment has used a subsystem of the university's academic affairs system to create

indicators for students' evaluation of teaching, which are evaluated based on a variety of factors such as classroom teaching, tutorials and assignments, and teaching effectiveness.

For example, Yaha School of Built Environment 2020 organized all first-year undergraduate students to review all first-year undergraduate professors' course activities, both on and off campus, using the Positive Online Teaching Evaluation System. The participation rate of undergraduate students in the evaluation was 95.5 percent, indicating a high level of student satisfaction with the evaluation of teaching in first-year courses. 15 percent were extremely satisfied (85 or higher), 81 percent were satisfied (84-75 marks), and 4 percent were dissatisfied (74-60).

Satisfaction with Student Learning

Students' satisfaction with learning at the province's public undergraduate colleges and universities has consistently risen over the previous academic year in the 2019-2020 school year. Yaha College values comments from graduates on the quality of teaching and learning at the college. A total of 3,650 valid questionnaires were prepared, distributed, and collected for the learning satisfaction of all undergraduate students, representing 74.8 percent of the overall student body at the College. After aggregating and summarizing the data and breaking them down by item, students' overall satisfaction with their studies is high. Most students are capable of studying seriously, ready to acquire knowledge, hoping for good marks, willing to work hard to improve their overall quality and competitive strength, and keen to establish a firm basis for their future job or entrepreneurship.

Employment in Higher Education

Against the backdrop of a dire overall employment situation, Hainan Province's undergraduate universities have diligently implemented the Central Party Committees, State Council's, and education authorities' decisions and deployments, and have done everything possible to promote graduate employment by constantly

improving policies and measures and strengthening guidance and services. This academic year, the province's undergraduate graduate employment rate remained constant, while the quality of employment continued to rise. The province's undergraduate colleges and universities had an average starting employment rate of 88.46 percent (Hainan, 2020).

Undergraduate colleges and universities have produced outstanding graduates both at home and abroad, including distinguished scientists, senior government officials, university presidents, famous scholars, entrepreneurs, and others who have gone on to play important roles in various fields and positions, earning the university a broad social reputation.

2.5.2 Quality of Education in Yaha School of Built Environment

Yaha School of Built Environment always adheres to the development strategy of "moral education, standard school, scientific research, and quality school," takes the implementation of teaching routines as the grasp, actively conducts teaching research, insists on teaching monitoring and evaluation, strengthens teacher construction, constantly improves management level, vigorously promotes quality education featuring innovative education, and comprehensively improves educational quality.

Consistency in carrying out teaching routines

The essence of teaching routine management is to achieve management goals by implementing general control through a dynamic system with teachers and students at the center. Teachers' routines include the lesson preparation system, the lesson system, the assignment and correction of homework system, the tutorial system, the assessment system, and so on (Li, 2018). The school has also established a Leading Group for Teaching Routine Management and a School Teaching Routine Management System. On this basis, we have carefully studied the theory of teaching routines through headmaster's meetings, teachers' conferences, teaching and research group meetings, and special training sessions, focusing on teachers' awareness of the

importance of implementing teaching routines and the school's monitoring and evaluation of teaching.

We organized teachers to study a series of documents and materials on teaching management, so that we can further clarify what the teaching routine is, what the specific requirements are, why we should seriously implement the teaching routine, and also guide everyone to find their usual teaching deficiencies and what they should do in the future in comparison with the teaching routine and the requirements of quality education, so that the teachers are deeply inspired.

Increasing the effectiveness of all instructional procedures

Teaching routine management has the potential to favorably discipline teachers' teaching behavior while also ensuring the order and quality of teaching work. Teachers must gradually transition from a state of other discipline to a condition of self-discipline, becoming disciplined and self-aware. On weekdays, if they are not firmly needed, monitored, and followed, the quality of instruction will suffer. As a result, when controlling teaching routines, we must adhere to tight rules and strengthen weekday execution (Li, 2018).

As a result, we always require all schools to organize examinations in a unified manner, with single examinations at a single table, rotating teachers to supervise the examinations, marking the papers in a flowing manner with separate questions, single summaries for a single subject, analyzing the papers after the examinations, and allowing students who fail the examinations to retake them after revision. The examinations are graded in a flowing fashion, with individual summaries for each subject and post-examination analysis, and students who fail the examinations are able to examine and repeat them. Teachers are always expected to go to the class to tutor the topic with assignments on the same day, and to focus on the most basic knowledge and abilities that students should acquire, as well as to tutor the advanced students in the lower grades one by one, for "tutoring" as a teaching routine.

Monitoring the instructional process for quality assurance

Monitoring and assessing the process and outcomes of teachers' teaching activity is required for judging and measuring whether and to what degree teachers meet the requirements of teaching routines in the teaching process (Li, 2018). To that purpose, yaha School of Built Environment has created criteria for monitoring and evaluating instructors' teaching work based on the requirements of the teaching work evaluation and inspection in line with the unique circumstances.

The school has developed two monitoring and evaluation teams of three individuals each to look at lessons for young instructors under the age of 40 in order to increase the quality of monitoring and evaluation. Following the monitoring and checking of the content, the group first exchanged ideas and consolidated viewpoints before assigning one member to speak with the teacher.The approach was for the teacher to conduct a personal self-assessment, followed by the monitoring and evaluation team members conducting an assessment and communicating with each instructor about lesson preparation, lessons, assignments, and corrections. Teachers' monitoring of student counselling, for example, takes the form of organizing student seminars or randomly chatting to individual students, and reflecting the situation to teachers in a timely manner, takes the form of organizing student seminars takes the form of organizing student seminars or randomly chatting to individual students, and reflecting the situation to teachers in a timely manner, so that they may readily change their work.

2.6 THE IMPACT OF PERSONAL FACTORS

According to Bandura, behavior, subject (person), and environmental elements are all interrelated and interact with one another. His triadic intersection hypothesis proposes that humans are not determined and controlled solely by internal inclinations or external circumstances, but rather that the three are both independent of and influence each other. In the triadic intersectional determinism, environmental (E) factors include resources, actions, others, and physical conditions; individual (P)

factors include beliefs, attitudes, expectations, and knowledge, among other things; and behavior (B) factors include individual behavior, choices, and verbal expressions, among other things. The three are involved in a dynamic interactive decision-making partnership (Wang, 2018).

Personal circumstances have a variety of effects on online courses. For starters, because of geographical limits and a lack of internet and electrical availability, people in backward and rural places may be unable to participate in online education. The second is that various people will accept varying levels of information. Online education is merely a method of learning knowledge; it cannot improve the learner's ability to receive knowledge. Finally, it is constrained by one's financial situation. Although the majority of online education platforms are free, some features may demand money, and if users have limited financial means, this will influence their choice of online education (Li, 2018). As the primary subject of learning, the student takes the lead in online learning. The learner's ability to learn independently via the Internet, as well as his or her personality traits in online learning, will have an impact on the success of online learning (Wang, 2018).

2.6.1 Styles of learning

The term "learning style" refers to a learner's personalized learning style, which is the way the learner consumes information, remembers knowledge, thinks, and solves issues. It is one of the most significant aspects impacting a learner's performance. It is one of the most essential aspects impacting the effectiveness of learners' learning. With the advancement of the Internet and information technology. With the advancement of the Internet and information technology, particularly the rapid expansion of information-based education, an increasing number of With the advancement of the Internet and information technology, particularly the rapid expansion of information-based education, an increasing number of online learning systems and courses for individual learning are being created. Individual learning classes and online learning platforms are becoming more popular. Online courses are being produced at many levels of education and in various forms of education. Online

courses are rapidly becoming more essential in the teaching and learning processes at all levels of education and in all types of higher education. Online learning tools in a variety of areas are proliferating (Yi, 2017).

Online courses are becoming more widely recognized, particularly in higher education, and learning style theory research is being applied to improve the learning results of online courses. According to research, learners perform better in online courses when the teaching styles and tactics are aligned with their learning styles.

Learners' learning processes are essentially cognitive, and learning styles have thus been established on the basis of cognitive style research. H erbert Thelon proposed the concept of learning styles in 1954, and it has evolved through the years. Scholars in the United States and overseas have examined learning styles from several viewpoints, including the learner's physiology, psychology, and external environment, and have produced various models for defining and assessing learning styles based on this research (Yi, 2017).

The Felder-Silverman Learning Style Model is a classification of learning styles developed by Felder and Silverman. Felder and Silverman defined learning styles as "the various patterns, characteristics, and preferences of learners in acquiring and processing information during learning," and published a corresponding model of learning styles in 1988, categorizing learners into five types: perceptual-imperceptual, visual-auditory, inductive-reasoning, active-contemplative, and sequential-synthetic. Felder et al. updated their previous learning style model in 2002 by replacing the visual-auditory style with a visual-verbal style and removing the inductive-reasoning style, yielding a four-dimensional learning style model.

'Onion Model' by Curry Curry compares learning styles to the layers of an onion, with the outermost being those related to teaching preferences, which are the easiest to observe and most vulnerable to external interference; the second outer layer being those related to social interaction; the middle layer being those related to

information processing; and the nucleus. The core layer is the most stable and is connected with cognitive personality.

According to the Vermunt Model of Learning Styles, learning styles are a synthesis of four characteristics of a learner's outlook: motivation, processing processes, and management strategies. This paradigm is similar to the Felder Learning Style Inventory, but it focuses solely on motivation and management tactics, rather than the many modes of learning.

According to the findings of the investigation, the Felder-Silverman. The learning style model's accuracy in differentiating between learners in an online learning environment is 71. The Felder-Silverman Learning Style Model is one of the most widely used models for investigating the impact of learning styles on online learning outcomes (Yi, 2017).

Online courses are a method of teaching and learning that uses online virtual classrooms. They differ from traditional classrooms in many ways, including spatial and temporal ubiquity, speed and timeliness, repeatability, self-directed learning, personalised learning, rich interactivity and collaboration, socialization, and low cost. When studying online, learners can be more flexible in their time allocation and are not bound by location, resulting in a more relaxed learning atmosphere. As a result, online courses enable learners to exercise greater autonomy, and the enormous amount of online teaching resources can give learners with a richer selection of courses that can better fit the needs of various learners, resulting in customised learning.

Online course skills are concerned with learners' familiarity with the vehicles used for online learning (including hardware and software environments) and encompass both computer operating and network usage skills. The usage of operating systems is the emphasis of computer operation abilities. The acquisition of basic Internet knowledge is one of the network use abilities. Second, there are two dimensions to learners' metacognitive competency in online courses. On the one hand, it is cognition knowledge. On the other side, there is cognition regulation. Learners'

metacognitive competency in online courses is mostly assessed based on how well they understand and govern the learning process and learning tactics.

Uncertainty tolerance is a personality trait shared by online course students. The ability of an individual to adjust to uncertain conditions or ideas is referred to as uncertainty tolerance. Novel scenarios (no familiar clues), complex situations (many clues to ponder), conflicting situations (various elements or clues with distinct patterns), and unstructured conditions are examples of uncertain situations (containing clues that cannot be interpreted) (Wang, 2018).

2.6.2 Motivation factors

Motivation is an internal drive that motivates pupils to study, as well as a desire to motivate and assist them to learn. It is classified as internal or external motivation. Internal motivation encourages learners to continue learning, whereas external motivation discourages learners from continuing to learn once learning objectives have been met. As a result, it is critical to fully activate learners' internal motivation in e-learning so that they are eager to study (Zhou, 2013). When confronted with a large amount of information and an unsupervised situation in an online learning environment, learners can actively, actively, and autonomously choose to accept and understand information driven by their desire to learn. As a result, learning motivation in online learning is critical to the learning efficiency of online courses.

Western psychologists divide motivation into two types: internal and external, based on the source of the trigger from which it develops. Intrinsic motivation is motivated by something internal to the learner, like as the student's interest in the task itself, which is rewarding in and of itself, without the need for external pressures or external prizes or incentives to produce a sense of honor. External motivation, on the other hand, is motivation that originates from something outside of the learner, i.e. motivation driven by external factors outside of the learning activity. Factors that

influence internal motivation are referred to as internal variables, whilst factors that influence outward motivation are referred to as external factors (Asakawa, 2020).

A range of elements influence pupils' learning processes, including both intellectual and non-intellectual aspects. Intelligence is a critical cognitive characteristic that influences student learning, and differences in intelligence have a direct impact on the speed and quality of student learning. While cognitive elements do play a role in determining student learning, they are not the sole ones. Numerous studies have found that non-intellectual elements have a higher impact on students' learning, and motivation is central to the numerous non-intellectual factors.

Motivation governs and regulates students' learning behavior in the same way, and cannot be isolated from its role in instigating, regulating, maintaining, and terminating it. Motivation is an internal process or state of mind that drives individuals to engage in learning activities, sustains evoked learning activities, and directs learning behavior toward specific goals. Students can only be motivated and active if they have a strong desire to learn (Asakawa, 2020).

Teachers and learners are in a relatively separate state in a networked learning environment, and the efficacy of learning is primarily dependent on learners' self-awareness and motivation. Motivation is the internal force that influences students' learning behavior. It can inspire students to develop a strong desire to learn, a high enthusiasm for learning, and drive them to actively adopt a series of learning behaviors in order to receive information and construct knowledge in a meaningful way (Zhao, 2009).

The online course is based on a student-centered, self-directed learning methodology. The learner is both the subject of information processing and the active constructor of knowledge's meaning. When confronted with a significant volume of information in an unsupervised online learning environment, the learners' motivation drives them to actively, positively, and freely pick, accept, and interpret knowledge. As a result, motivation in e-learning is critical to its efficacy.

A strong sense of self-monitoring, self-regulation, and self-control is required for online learning. This skill is not innate; rather, it is constantly cultivated and exercised throughout the learning process. Motivation functions as a "gas station," constantly refueling the pupil (Zhao, 2009). The teacher's teaching methods, instructional strategies, and motivational approaches are all incorporated into online courses. The efficiency of online learning is directly affected by how well planned an online course is in terms of its motivational role. Online courses require a lot of motivation.

Online courses need students to select their own learning materials, media, and technologies, as well as to carry out their learning activities in a largely autonomous manner. Students might easily become confused and disoriented when confronted with a multitude of educational and pedagogical knowledge. Motivation functions as a compass, directing students' learning behavior toward a specific learning goal. Students select meaningful information that interests them from the complicated information available, ignore irrelevant information, and engage in meaningful learning behavior until they attain their learning objectives.

2.7   FACTORS AFFECTING STUDENT SATISFACTION WITH

Online course education is a new and innovative approach of educating. A significant concern of online education is the relationship between learner satisfaction and factors influencing learning satisfaction (Liu & Xu, 2018). According to Chang, Smith, and Levitz, satisfied pupils are more likely to succeed. Satisfaction represents students' perception of the good character of the learning experience and is a key measure of the course's effectiveness and student learning.

Students in higher education, as adults, already have a solid foundation and learning abilities, and they are more familiar with how electronic gadgets work. Almost 80% of learners claimed they can use online learning resources effectively by browsing online or downloading offline. When comparing online and offline learning materials, most respondents believe that online resources are more advantageous, as

they are easier to obtain and more comprehensive than offline resources. Students' learning attitudes and behaviors are significantly related to their level of learning pleasure. Satisfaction with learning can immediately reflect university students' physical and mental experiences when taking online courses, as well as graphically express their self-evaluation. Students' satisfaction with online courses in China is critical for increasing the teaching quality of online courses in China.

Customer satisfaction is a key factor in the American ACSI model for customers to evaluate the quality of a company's products and services. student satisfaction, the quality of a company's products and services Customer satisfaction inspired the notion of learner satisfaction, which is one of the metrics used to assess the quality of course content. Customer satisfaction inspired the concept of learner satisfaction. Learner satisfaction is derived from consumer satisfaction in that learners are free to select an online course option before becoming acquainted with it or forming their own expectations of it. Learners are aware of the course or have formed their own expectations of the course before freely choosing to take it online, and they have a certain view of the course's quality during the course. Learners have a particular perception and comprehension of the course's quality, and thus judge whether there is a certain the learner's contentment with the course will be judged, and the decision to continue learning will be made Learning satisfaction is assessed (Liu & Xu, 2018).

The US customer satisfaction model does not address learners' intent to continue learning, but the model's customer complaints and customer loyalty do. The model's customer complaints and customer loyalty correspond to learners' intent to continue learning, i.e. if they are satisfied with the overall evaluation of the online course and hence opt to continue learning. The paradigm makes no mention of learners' intentions to continue studying. However, the model of customer complaints and customer loyalty corresponds to learners' willingness to continue learning, that is, if they are satisfied with the overall evaluation of the online course and hence prefer to continue studying. According to the findings of this study, the actual situation of online course students and the study is based on genuine learner situations as well as

the more mature American customer satisfaction model. The online course learner happiness model was developed based on the study material, the actual condition of online course learners, and the more mature American customer satisfaction model (Liu & Xu, 2018).

The user's value judgment between pay and cost is referred to as perceived value. The perceived value of an online open course is the user's value judgment between what they pay and what it costs, usually in terms of time, effort, fees, and so on. The perceived value of an online open course is measured in this study by three indicators: the application of knowledge gained, the enhancement of learning ability, and the worth of time and effort expended. The utilization of knowledge learned in an open online course, the enhancement of learning ability, and the worth of time and energy invested are the three indicators used in this study to assess perceived value (Chen & Tan, 2018).

The multi-directional flow of information between teachers, students, and the platform during the teaching and learning process is referred to as teaching interaction. Students' active thinking is stimulated and their initiative is mobilized through instructional interaction, which contributes to the attainment of educational objectives. This study looks at three types of teaching contact: student-student interaction, teacher-student interaction, and platform interaction (Chen & Tan, 2018).

Learning satisfaction is defined as the level of satisfaction felt during and after the online open course learning process, as well as post-learning evaluation and satisfaction. This study, the use of the platform, teaching content, teaching activities, and teaching assessment are all based on the aforementioned conceptual definition. The study took four measurements (Chen & Tan, 2018).

Willingness to continue is described as a desire to continue studying because of pleasure with the learning or to suggest friends and colleagues to the open online course. Collaborative learning (Chen & Tan, 2018).

2.7.1 Network self-efficiency

The self-efficacy scale was designed with four factors in mind: learners' sense of self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior. As a result, online university teaching is perfectly suited to all types of students. Learners' self-regulation is also an essential component in their happiness with online learning (Zhang & Shi, 2019). Self-efficacy has been thought to influence motivation and learning outcomes when it comes to personal beliefs, confidence, and expectations in one's capacity to do specific activities.

From the learner's perspective, the factors that determine satisfaction are primarily the learner's attitude toward computers and the learner's self-efficacy. Online learning strongly relies on the computer network as a support tool. As a result, learners' views regarding computers and the Internet play a crucial role in determining satisfaction (Zhang & Shi, 2019). When pupils are not terrified of the complexity of computing, for example, a more positive attitude toward it increases the chances of successful learning, whereas a negative attitude diminishes learner interest.

Learner interest in online courses is strong before study and drops dramatically after study; while online course pass rates are high, learner satisfaction is often poor. According to the data, learner satisfaction was significantly influenced by the perceived quality and perceived value of the online course, and learner expectations had an indirect impact on learning satisfaction, which in turn influenced learners' willingness to continue using the course, with learner perceived quality of the course having the most significant effect on learning satisfaction (Xu, 2018).Previous study has discovered that online self-efficacy influences learners' motivation, learning processes, and learning outcomes. Students that have high online self-efficacy, for example, are more likely to have good academic achievement and information-seeking skills, as well as positive views toward the Internet learning environment.

High online self-efficacy was found to facilitate skill development in Tsai's survey of postgraduate students, and Liang and Tsai discovered that learners with high

online self-efficacy preferred online learning environments that allowed them to use the Internet to explore issues, demonstrate sources of questions, and articulate knowledge through learning activities. According to Liang and Wu, increased Internet self-efficacy leads to greater motivation for web-based learning (Liu & Hu, 2014).

Rodriguez Robles, for example, investigated predictive models of online learner satisfaction in which network self-efficacy was not a significant predictor, similar to Puzziferro's study of online learners in liberal arts fields. In contrast, in studies involving online learners in education, network self-efficacy was found to be connected to student satisfaction, and student satisfaction was predictable. Due to a lack of study on the importance of self-efficacy based on online learning and the affective results of online self-efficacy, online self-efficacy, like interaction, is a key aspect in student happiness (Liu & Hu, 2014)

Furthermore, one of the characteristics that influence learners' happiness with online learning is self-efficacy. Before engaging in a behavioral task, an individual's beliefs, judgments, or subjective feelings regarding his or her ability to accomplish it are referred to as self-efficacy (Zhang & Shi, 2019).

2.7.2 Classroom interactivity

Since the breakout of covid-19, online courses have been a widely adopted teaching modality in universities, and university student satisfaction with online courses is a crucial indicator and reference for measuring and improving the level of online teaching.

There are various types of learner-teacher interactions, such as teacher evaluation, encouragement and guidance, learner responses and reactions to the teacher, etc. YuKselturk and Yildirim's research suggests that learner-learner interaction decreases during the online learning process, while learner-teacher interaction remains constant throughout the learning process. Some studies suggest that learner-teacher interaction is the most important predictor of online learning

satisfaction. Learner-teacher interaction is the most important factor influencing learner satisfaction (Xu, Zhao, & Liu, 2017).

Learner-learner interactions, according to some research, have a bigger impact on online learning satisfaction than learner-teacher interactions. During the online learning procedure Learners interact with other learners peer-to-peer through multiple communication channels in online learning, which increases learners' interest and emotion in the course, enriches their grasp of the topic, and helps the building of new knowledge systems. As a result, if online learning provides a platform for learner-to-learner contact, learners will be more satisfied with the online course. However, more engagement is not always better, and if online learning necessitates excessive learner-to-learner interaction and collaboration, learner satisfaction with the online learning will suffer (Xu et al., 2017).

Student-content interaction is a one-way process in which the learner interacts with properly produced materials that reflect the course's subject matter or content (Moore, 1989b). Learner-content interaction happens when students self-reflect on the information, knowledge, or concepts they obtained during the course and apply them as lessons learnt. Learners in online learning contexts spend the majority of their time interacting with the online learning content (Xu et al., 2017).Learning-related pre-course materials, for example, enable learners to make initial connections between old and new knowledge for the purpose of prior organizers; systematic online course content enables learners to master what they have learned; and extension materials related to that learning allow learners to extend the depth and breadth of their learning. As a result, the learner's experience with the information has a significant impact on the learner's happiness with online learning.

2.8   THE INFLUENCE OF ENVIRONMENTAL FACTORS

The online education business is expected to grow substantially in the future, thanks to the increasing growth of internet users and the backing of national education policy. Under the umbrella of "Internet+," online education has progressively evolved

into a new mode of instruction that is widely embraced by the public, offering new opportunities for them to learn and boosting their learning effect (Jinghui, 2018).

Universities are shifting their teaching approaches away from traditional classroom-based courses and toward online courses as a result of covid-19. The primary requirement for an online course is the creation of an environment and platform for teaching and learning in a specific network environment, which necessitates the use of contemporary computer and network equipment, as well as a large sum of money. As a result, the Chinese government has boosted its investment in online education at all levels of education management and school administration, as well as strengthened its public relations efforts, expanded its social impact, and attracted support from all sectors of society.

Online course learning necessitates the creation of a gigantic communication platform for teaching interaction, as well as a complete scientific course system and a virtual experimental system, as well as a teaching aid software system. There should also be a large supply of teaching materials on hand, as well as a scientific and competent teaching oversight and management system.

2.8.1 Support services for online learning

Support services for online learning are activities offered by educational institutions and teachers to assist students in resolving various learning challenges. One of the most essential and direct influences on the formation of effective learning behavior and study habits is providing students with comprehensive, timely, and convenient learning support services.

Learners The impression that online learning helps people feel good about learning is what improves their confidence and keeps them learning online. self-assurance to continue learning online Only via frequent and consistent learning behavior will good online learning habits be eventually developed (Wang, 2017).

A smooth network is essentially the responsibility of the learning resources service at the university. The network must be robust, and the network outlet must have guaranteed bandwidth so that several users can access it quickly and reliably. It is also critical to have a diverse set of high-quality learning resources. There are no materials to attract pupils, or learners may not recognize the significance of online learning tools. It is not possible to learn using the internet. Learning resources should be developed and planned, not just piled on top of each other to discourage learners from using them. They should not be built and planned in such a way that discourages learners from using them, hence lowering their confidence in online learning (Wang, 2017).

The challenges that online learners have in online learning are mostly related to learning methods and abilities, difficulty in using web applications and resources, and impediments and frustrations in interpersonal interactions and information transmission. To address these issues, schools and teachers should help children develop self-learning skills, self-discipline, the ability to select learning resources, and the ability to direct the learning process.

One of the current e-learning support services is teacher support, in which teachers' pay attention to online communication with students and provide timely and serious e-learning tutorials and answers to questions; on the other hand, through the hardware and software technology of the e-learning platform to provide communication, control, and feedback services, in which students can easily obtain help and feedback, and facilitate discussion, collaboration, and cooperation.

2.8.2 Network Resources

Network teaching is a product of the development of modern education technology, with openness and interactivity, making teaching with greater autonomy, flexibility and freedom. Network resources have a large amount of information, easy access to resources, can optimize the allocation of resources, stimulate the senses of students and other characteristics, high-quality resources network courses can achieve

the sharing of high-quality resources, so that students can learn independently, to meet the learning needs of teaching resources, from which the maximum benefit (Fan, 2018).

For starters, network resources teaching plays a significant role in promoting the successful use of teaching strategies and methods that reflect the subjective view of education and quality education in topic teaching. Such as cooperative learning, autonomous inquiry, proper teacher engagement, and so on. Second, it can increase learning interest while also increasing learning efficiency. The use of rich network resources in teaching, creating learning situations, combining network resources with book knowledge, combining the learning of theoretical knowledge with students' simulation operations on the network, will enrich the content and form of teaching, stimulate students' interest, and improve learning efficiency, according to the characteristics of higher vocational students. It can, once again, broaden information sources and deliver up-to-date information (Fan, 2018).

With the advancement of network teaching, the network now has a far-reaching impact on learning. The openness of the network environment, the variety of resources, the ease with which resources may be accessed, and other characteristics cause network information resources to evolve into a new type of teaching resource that is widely employed in network education. The development of network education materials might be described as (Chen, Zheng, & Li, 2020).

The content of online teaching resources is presented in multimedia format, which considerably enhances the expressiveness of the teaching content. Simultaneously, the variety of presenting forms allows students to study and understand the same information point from many viewpoints, assisting students in updating and reconstructing their knowledge structure. Students can study online or download learning resources from the Internet at any time and from any location (Chen et al., 2020).

At the moment, there are two basic categories of online teaching resource applications. One form of online teaching resource is for the general public, which may be accessible at any time by all Internet users, and its users are indefinite. The other is the unique academic education materials given by professional education institutions. For example, network colleges' professional courses are exclusively accessible to registered users, who are a defined group of people, and the shareability of teaching resources is rather limited. There is effective access to online education resources for each of these various categories of people. The variety and diversity of online education resources can provide many forms of education, information, and learning methods for persons with varying cultural levels and professional needs. Students can engage in human-computer dialogue through the design of web-based educational courseware, and teachers and students can discuss a topic together and engage in real-time or non-real-time online learning exchanges through various professional forums, chat rooms, and emails, with teachers and students being both users and publishers of information (Chen et al., 2020).

Micro-courses are utilized to produce special teaching resources, and teaching resources are networked. To achieve the sharing of high-quality teaching resources, talent training programs, syllabuses, teaching plans, course profiles, lesson plans, electronic courseware, teaching videos, course assignments, examination papers, experimental standards, test requirements, and so on should be shared online and completely open to students. The networked teaching resources of high-quality courses enable the sharing of high-quality teaching resources, allowing more institutions and social learners to borrow excellent teaching resources, teaching experience, and teaching content and participate in the interactive and independent learning of the courses. Micro-lessons have the qualities of being short in duration, having little information, having a dominant subject, and having a high level of engagement, making them ideal for the resource creation demands of an online learning platform. Students are delighted to accept 5-8 minutes to clarify a knowledge point. Higher education institutions will do a good job of the entire professional curriculum framework in the form of micro-courses, students will learn on their own before class, and the classroom is group discussion, teacher pointers, and question and

answer, which will undoubtedly provide a significant impetus to higher education institutions' teaching reform (Chen et al., 2020).

Second, new information technology tools are being adopted, as is the networking of teaching activities. The incorporation of information-based educational technology into the development of high-quality network resources courses has strongly encouraged the reform of teaching models, the innovation of teaching methods, and the modernization of teaching activities, as well as the reform of traditional teaching ideology, teaching methods, and teaching means, as well as the use of the Internet for teaching. Students' independent learning is achieved through creating online forums, and the center of the classroom is shifted from teachers to students, considerably increasing the effectiveness of classroom teaching and improving teaching quality (Chen et al., 2020).

The use of network-shared teaching tools, such as QQ groups and WeChat buddy circles, to improve teacher-student interaction. The creation of high-quality network courses necessitates not only the sharing of teaching resources online, but also the carrying out of teaching activities such as video lectures, online independent learning, online discussions, online assignment submission, and online tests via the Internet, all of which should be carried out on the basis of the network teaching platform system (Lei, 2018).

2.9   RELATED RESEARCH AND STUDIES

2.9.1 Personal Factors

These researchers collected a number of studies similar to the present study and categorized the individual factors in this part of the study as follows: motivation, learning behavior, perception of learning, college name, recent grades, scholarship status, part-time job status, extracurricular activities, college advancement, higher parental education, and family income.

Ma, Peng, and Lin (2018) researched study on the Improvement of online teaching quality and the deep development of curriculum value. The authors did a descriptive analysis of the sample characteristics of the questionnaire and used logistic regression analysis to establish a model of the factors affecting the learning effectiveness of online courses. The finding of this research shown that the model indicates that the internal factors to impact teaching quality is the learning effect of network learners. It includes motive, perception and behavior of learning. The motive is the most impacting, following is the behavior and the last is the perception.

Lucie, Hana, and Helena (2017) researched factors Describing Students' Perception on Education Quality Standards. Students' questionnaires and focus groups collected the data. Two dimensional and multi-dimensional statistical methods were used to evaluate the results. The finding of this research shown that analyzed students assess the education process quality according to 5 main identified factors, which describe their behavior, thus what is crucial for them when assessing each subject.

Akareem and Hossain (2016, pp. 52-67) researched determinants of education quality: what makes students' perception different. This research used multiple regression analysis. The finding of this research shown that students' scholarship status, extracurricular activities, parents' education, age, previous grades, and the university they attended had a significant effect on the perception of the quality of higher education. Part-time employment status had a moderate effect on students' perceptions.

2.9.2 Satisfaction Factors

This researcher has collected number of researches which were similar to this research, and categorized the factors as below satisfaction factors in this part of research, Network self-efficiency, Classroom interactivity, Campus atmosphere, campus life, teaching effectiveness, effectiveness, teacher-student interaction, responsiveness, empathy, assurance, reliability, tangibility, student-student interaction, student-instructor interaction and student-content interaction.

Liu (2019) researched reflections on online quality management in higher education from a student satisfaction perspective essay. This research used multiple regression analysis. The finding of this research showed that students often have high expectations of the university's management level, professional learning, and logistical support, and their level of interest in their major has a big impact on their satisfaction appraisal of the university.

Mwiya et al. (2017) researched higher education quality and student satisfaction nexus: evidence from Zambia. This research used multiple regression analysis. The finding of this research shown that service quality performance dimensions (tangibility, reliability, responsiveness, empathy and assurance) are each significantly positively related to overall customer satisfaction which in turn affects behavior intentions.

Liu and Hu (2014) researched a study of factors affecting student satisfaction in online courses. Contemporary Education Theory and Practice. This research Questionnaires were used to conduct the analysis. The finding of this research shown that Interaction, which includes student-student interaction, student-instructor interaction and student-content interaction, is a key factor influencing student satisfaction; online self-efficacy affects students' confidence and preference for learning in online courses; and the ability to self-regulate learning reflects students' self-management skills and contributes to student satisfaction.

2.9.3 Environmental Factors

This researcher has collected number of researches which were similar to this research, and categorized the factors as below environmental factors in this part of research, construct a School Platform, Support services for online learning, network Resources.

Huang (2021) a study on the use of information technology to improve the quality of education in areas with scarce educational resources: the case of Qianxinan

Prefecture, Guizhou Province, China. The finding of this research showed that era of "Internet+" wave, it breaks through the limitation of time and space. Let remote minority mountain schools share the resources of famous schools and teachers, and share advanced educational concepts and teaching methods. Let remote rural schools and teachers get rapid development.

Chen et al. (2020) researched analysis of the impact of online teaching resources on the quality of online education. This research Questionnaires were used to conduct the analysis. The finding of this research showed that students had a high level of agreement that educational resources based on online teaching platforms can facilitate learning. Online educational resources based on web-based teaching platforms help to promote students' independent learning. Students like to use the communication tools provided by the online teaching platform to communicate with teachers and classmates for learning and solving problems in learning. Students like to use the communication tools provided by the online teaching platform to communicate with teachers and classmates and solve problems in learning.

Liu and Shirley (2021) researched without crossing a border: exploring the impact of shifting study abroad online on students' learning and intercultural competence development during the COVID-19 pandemic. This study used a mixed method research approach. The results of this study showed that most students felt they were more "prepared" for online learning at the end of the course. Students appreciated the short lectures and the more interactive activities. Students tended to strongly agree that they could improve their intercultural competence.

In summary, this researcher categorized all the emergent influencing factors into three categories of factors based on the collected literature of similar papers. They are personal factors, satisfaction factors, and environmental factors. These three categories of factors were used as independent variables by this researcher for this study.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter describes the research methods used. It describes the study design, the research instruments, and the reliability and validity of the research instruments. Procedures for data collection and statistical analysis of the data are also provided.

3.1 RESEARCH DESIGN

Mixed methods is a research approach that embeds both qualitative and quantitative data in a study. It provides an alternative to traditional quantitative and qualitative methods (Halcomb & Hickman, 2015). Incorporating mixed methods provides a better, broader, and deeper understanding of complex phenomena and increases confidence, accuracy, and completeness, contributing to overall validity (McKim, 2017). Therefore, the researcher will use mixed methods to conduct the study.

Considering the purpose and objectives of the study, a mixed research approach combining quantitative and qualitative methods was used in this study. Two techniques were used in this study: questionnaires and focus group interviews. The questionnaire was used to collect data to answer most of the research questions, while the focus group interview questions were used to gain insight into their thought processes about the reasons and goals of learning.

This study followed the steps shown in the table below:

Table 3.1 The steps of this study

	Study Steps	Principals	Marks
1	Requesting for approval letter	1 principal	YAHA School of Built Environment
2	Designing questionnaire	-	-
3	Reliability test	3 experts and 30 students	-
4	Assigning questionnaire	1452 students	YAHA School of Built Environment
5	Focus group interview	30 students	YAHA School of Built Environment
6	Data collection		
7	Data analysis		

3.2 THE RESPONDENTS

The population of this study consisted of 1,452 students in Yaha School of Built Environment at Haikou University in Hainan province, China. From the first-year undergraduates to the third-year undergraduates participated in responding to the questionnaire, with 428 students who were the freshman including 256 males and 172 females, aged 17-18; the Sophomore including 489 students, 278 males and 211 females, aged between 18 and 19; the Junior including 535 students, with 335 males and 200 females, aged between 19-20. Due to the teaching system; however, the senior students were usually on off-campus placements and are not able to participate in the study. Therefore, this study only focused on the first year, the second year and the third-year students. By applying Taro Yamane formula, it was found that this study required at least 317 respondents to be involved.

Therefore, this study only focused on the first year, the second year and the third-year students. According to Taro Yamane formula calculated to require at least 317 respondents. Taro Yamane's formula is as follows.

$$n = \frac{N}{1 + Ne^2}$$

n - the sample size

N - the population size

e - the acceptable sampling error

* 95% confidence level and p = 0.5 are assumed

Hence, altogether 434 students participated as the sample group or the respondents in the study. In addition, 10 students from each year were voluntarily selected for focus group interviews. Therefore, a total of 30 students with mixed genders and learning proficiency were involved in the focus group interviews.

3.3   RESEARCH INSTRUMENTS

As described in the previous section, both quantitative and qualitative methods were used in this study. The instruments used for quantitative data collection and qualitative analysis included a 5-point Likert scale questionnaire and a set of focus group interview questions.

The questionnaires and focus group interviews were conducted anonymously to ensure that respondents participating in the study were not subjected to any undue pressure.

3.3.1 Questionnaire

In order to assure that the questionnaire that was used for the study was appropriate to the context of education in China, the questionnaire was adapted from Survey and analysis on online learning of college students by the Chinese researchers, Yin and Lang (2018) (See Appendix C).

In this study, the questionnaire consisted of the following two parts.

The first section included background information about the participant. This is used to collect personal information about the student, such as gender, nationality and ethnic background.

The second part of the questionnaire was for the Analysis of the influences of personal factors, student satisfaction factors and environmental factors on the education quality of online courses during covid-19 at Yaha School of Built Environment at Haikou University in Hainan province, China.

3.3.2 Focus Group Interviews

Following the questionnaire, the researcher conducted focus group interviews with groups of 30 students from three grades at Yaha School of Built Environment at Haikou University in Hainan province, China. The interview questions followed the questions designed by literature theory. The questions included students' family background, the influences of personal factors on online courses, factors affecting student satisfaction with online courses, the influence of environmental factors on online courses to conduct the interviews.

The focus group interview questions consisted of 10 items and students were asked to answer all questions (Referring to Appendix E). The questions were designed and based on Motivation Toward an analysis of the impact of personal factors, student satisfaction and environmental factors on the quality of online courses for freshman to junior students at Yaha School of Built Environment at Haikou University in Hainan province, China, during Covid-19 pandemic.

3.4 VALIDITY AND RELIABILTY OF RESEARCH INSTRUMENT

3.4.1 Validity

According to Singh (2017), the level at which any instrument measures what it presents is known as validity. Validity shows how well an instrument measures the goals of a particular study. Validity and reliability are necessary because they are central to the research (Heale & Twycross, 2015). Therefore, the validity of the research instrument was assessed by three experts. Item Objective Congruence (IOC) was used to assess the correspondence between items and objectives with scores of +1, 0, and -1 as shown below:

+l: The project is clearly matched to the objective or ensures that the following measures meet the stated objective.

0: Uncertain or unclear whether these measures meet the objectives.

-1: The project clearly does not meet the objective, or ensure that the measure is not realistic for the stated objective.

The formula for calculating IOC is $\sum \frac{r}{n}$, 'r' represents the sum of scores of individual experts and "n" represents the number of experts for the validation items. If the value of a test item is between 0.67 and 1.00, it is considered accurate and acceptable. However, if the value is below 0.67, it indicates that the item needs to be reformulated based on the experts' opinions.

The validity of the research instrument was ensured by a detailed review of content coverage, relevance, accuracy, applicability, feedback and recommendations of three experts from China. All items in the questionnaire and focus group interviews were valid, with an average score of +1.

3.4.2 Reliability

Reliability refers to the consistency and stability of test scores, or the degree to which measures are free of error, so that they produce consistent results (Mohamad, Sulaiman, Sern, & Salleh, 2015). The main purpose of reliability testing is to identify legitimate issues and validity of the technique or instrument before implementing the actual study, and the results of reliability testing can inform the possibilities and identify the need for change in the actual study (Hazzi & Maldaon, 2015).

In order to assess the reliability of the questionnaire, the researchers ensured that the reliability test was conducted through another section of 30 students from the Yaha School of Built Environment before conducting the real study. And according to Taro Yamane's formula, about 434 people participated in the questionnaire. The Cronbach's Alpha scale was used to measure the reliability of the items. As shown in Table 3.2

Table 3.2 Cronbach's Alpha Rating Scale

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

Source: as cited in Mohamad et al., 2015

The researcher tested the reliability of questionnaire, the result confirmed whether each of the questionnaire items was acceptable with the rating scare of 0.851.

In addition to tested the reliability, this study also performed the IOC tested. IOC It is to divide these complex systems into cooperation objects, and through future problems, the interior is transparent to the outside, thereby reducing the complexity of the solution, and can flexibly collaborate and expand. In the study, according to the

results of the questionnaire survey of 30 students, the α value was used to calculate the test result of the IOC, the reliability of the questionnaire is confirmed by the test results of the IOC.

3.5   DATA COLLECTION PROCEDURES

Data collection is the process of collecting and measuring data, information, or any variety of interests in a standardized and established manner that allows the researcher to answer or test hypotheses and to evaluate the results of a particular collection. Data collection procedures assist the researcher in collecting data or information for a study in an organized manner.

3.5.1 Questionnaire

The researcher distributed the questionnaire. It was necessary to get an approval document from the principal of Yaha School of Built Environment at Haikou University in Hainan province, China before the procedure begins. (See Appendix B)

The questionnaire was sent to 434 participants and was written in Chinese and English and divided into two parts (see to Appendix C). After the questionnaire was completed, the researcher began data analysis to produce the results.

3.5.2 Focus Group Interviews

In the interview section, 30 volunteers were chosen at random and interviewed in their native Chinese language. The researcher conducted all of the processes himself, and the interview responses were recorded, audio-taped, transcribed, translated, thematically analyzed, and summarized.

3.6   DATA ANALYSIS

The procedure of data analysis adopted descriptive analysis to analyze the responses obtained from the respondents using questionnaire and interviews. On the final step, the researcher adopted T-test to find out the relationship between dependent variable and independent factors to verify the hypothesis.

3.6.1 Statistics Data Analysis

The study adopted statistical data analysis to show the influences on personal factors, student satisfaction factors and environmental factors on the education quality of online courses in the research setting. For Part I and Part II, the researchers collected, analyzed, synthesized, and summarized the questionnaires.

In order to interpret the mean scores of students' responses to each influencing factor, the researcher used the interpretation procedure designed by Degang (2010), as shown in Table 3.3 below.

Table 3.3 Interpretation of Mean Score of Influencing Factors

Scale	Answer	Perception Level	Score Range
5	Strongly agree	Highest	4.05 - 5.00
4	Agree	High	3.05 - 4.49
3	Moderated	Medium	2.05 - 3.49
2	Disagree	Low	1.05 - 2.49
1	Strongly disagree	Lowest	1.00 - 1.49

The methods used for the study were presented in this chapter. It has described the research design, research instruments, the reliability and validity of study instruments, data collection procedures, and statistics data used for data analysis in order to achieve the research objective.

CHAPTER 4

RESULTS OF DATA ANALYSIS

The quantitative and qualitative results of the data collected using the instruments described in Chapter 3 are presented in this chapter. It also provides data analysis and interpretation of questionnaire responses from participants, as well as focus group interviews. The findings are described in accordance with the research objectives, and tables and diagrams are included to provide a more vivid presentation of the findings.

4.1 DATA ANALYSIS OD QUESTIONNAIRE

According to the research objective, the questionnaire was used as a quantitative data collection tool to study the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic. The questionnaire in the study had two parts, the first of which was general student information. The second section of the questionnaire focused on the influences on education quality of Yaha School of Built Environment online courses. In this questionnaire, 434 Yaha School of Built Environment students were interviewed.

4.1.1 Student General Information

The student general information included four parts: genders, age, level of study, subjects.

4.1.1.1 Student Gende

Table 4.1 The number of students' gender

Gender	Male	242
	Female	192
Total		434

Male to female percentage
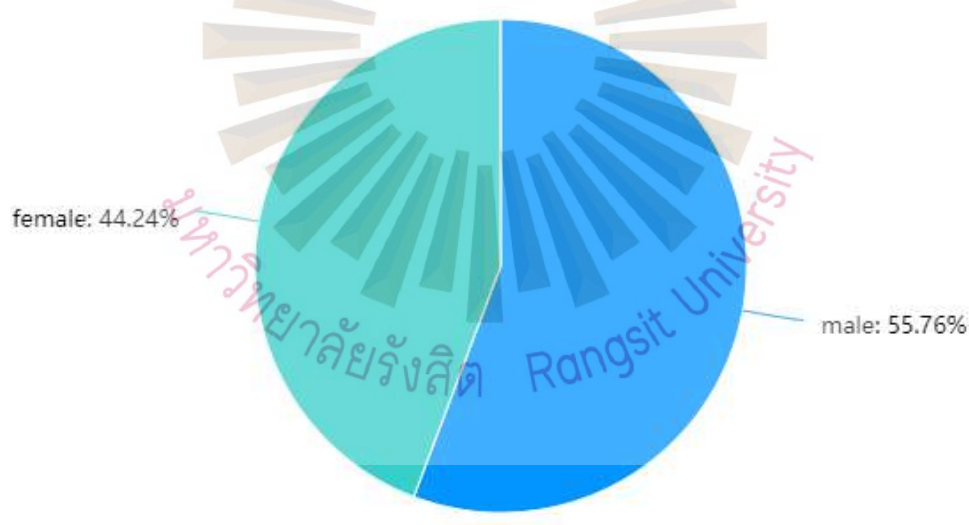
Figure 4.1 The percentage of male and female students

The survey involved 434 students, including 242 male and 192 female students. Male students accounted for 55.76% and female students accounted for 44.24%. According to the results of the survey, the number of male students in the Yaha College of Built Environment is very little different from the number of female students.

4.1.1.2 Students' Age

Table 4.2 Students' Age

	17-18	44
Age	19-20	196
	21-22	194
Total		434
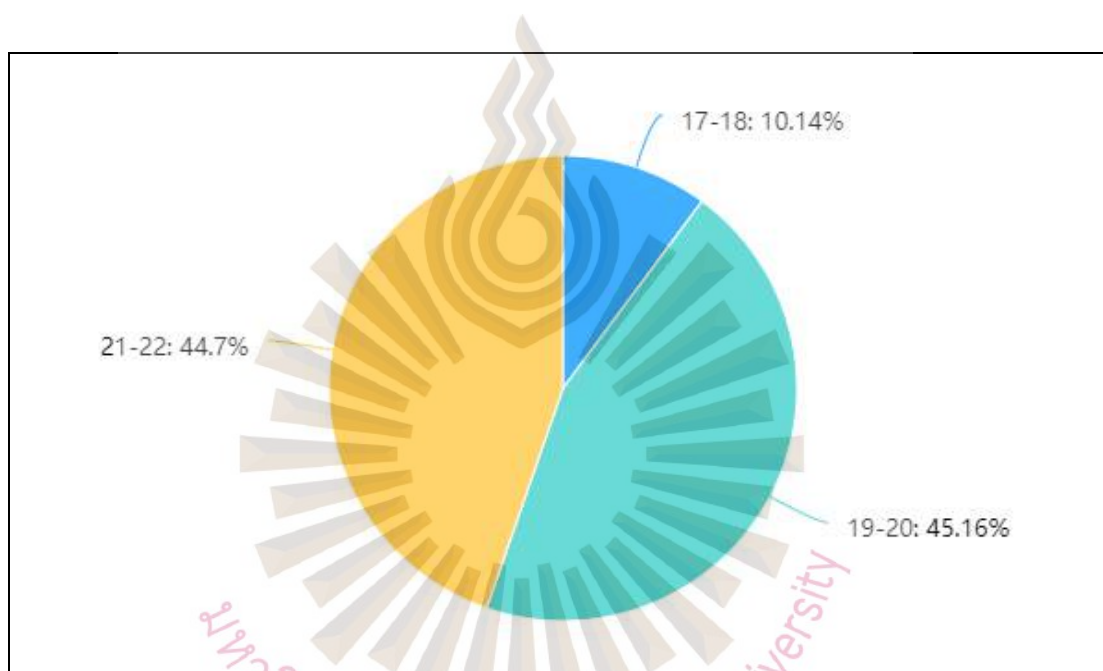
Figure 4.2 The percentage of students age

The survey involved 434 students, consisting of 44 students to 17-18 years old, 196 students to 19-20 years old, 194 students to 21-22 years old. 17-18 year sold students made up 10.14%, 19-20 years old students made up 45.16%, 21-22 years old students made up 44.7%. According to the results, the number of 19-20 years old students and 21-22 years old students Yaha School of Built Environment far exceeds the number of 17-18 years old students. The number of 19-20 years old students very little difference the number of 21-22 years old students.

4.1.1.3 Students' level of study

Table 4.3 Students' level of study

	Freshman	52
Level of Study	Sophomore	204
	Junior	178
Total		434
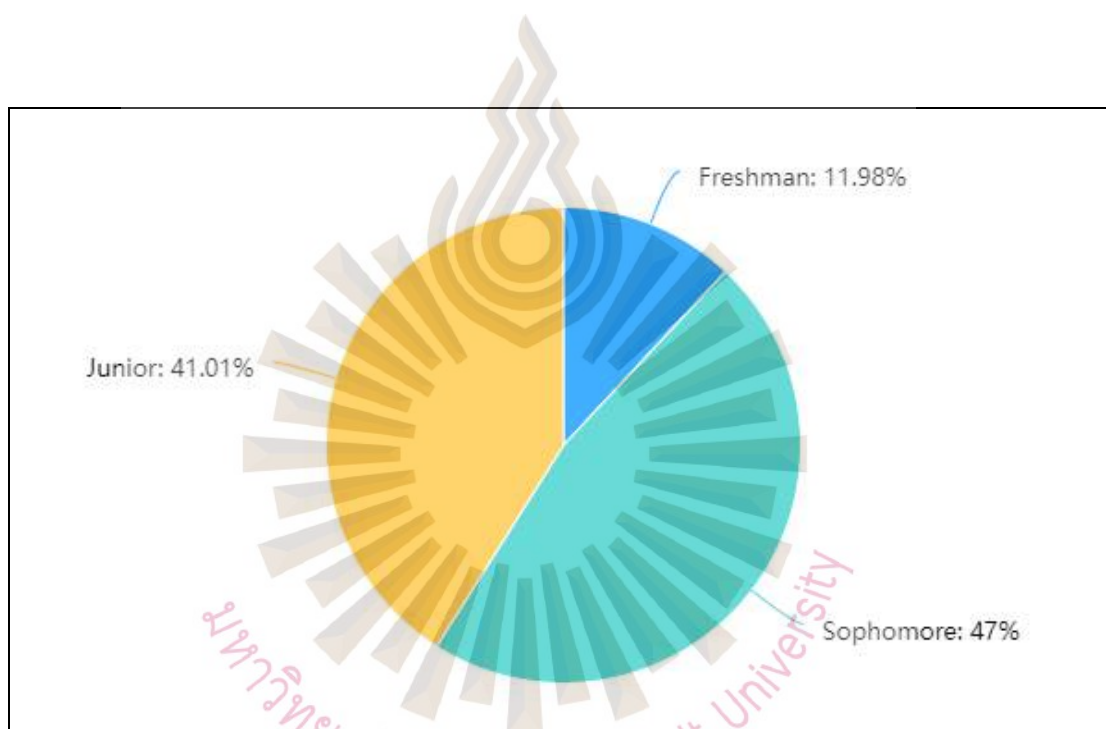
Figure 4.3 The percentage of students' level of study

The survey involved 434 students, including 52 freshmen, 204 sophomores and 178 juniors. Freshmen accounted for 11.98%, sophomores for 47% and juniors for 41.01%. According to the survey results, the Yaha School of Built Environment has the lowest number of freshmen. The number of sophomores is slightly more than the number of juniors.

4.1.2 Perceptions Items

A total of 30 perceptual items were investigated in this questionnaire and collected as one of the study data through an interpretation procedure designed by Degang (2010) with scores ranging from strongly agree to strongly disagree; 5=strongly agree, 4=agree, 3=moderate, 2=disagree, and 1=strongly disagree. This method facilitated data analysis and showed clearer answers to the study objectives.

The questionnaire item for the university student' perceptions towards the questionnaire item for the university student' perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment were divided into four categories: Personal Factors, Satisfaction Factor, Environmental Factor, and Education Quality. The responses for each item were calculated and analyzed separately using descriptive analysis (mean and standard deviation). Also, the mean ($\bar{\bar{x}}$) and standard deviation scores of students' responses to the four categories of items that influence the quality of online courses at the Yaha School of Built Environment and the overall mean and standard deviation scores were analyzed and interpreted according to the interpretation of statistical analysis of the mean scores (see Table 3.2), which indicate high and low levels of respondents.

Table 4.4 shows the mean and standard deviation of each questionnaire item, as well as the level of students' perceptions of the factors affecting the quality of the online courses at the Yaha School of Built Environment.

Table 4.4 Quantitative data and interpretation of questionnaire item for students' perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment.

NO.	Items	Mean	SD	Level of perception
	Personal Factors			
	Styles of Learning			
1	Geographical constraints affect students' access to online courses.	4.17	0.955	High
2	Learners can study at any time and any place.	4.44	0.805	High
3	Learners perform better in online courses when teaching styles and strategies are aligned with their learning styles.	4.48	0.728	High
4	Online courses are flexible in terms of time allocation, a relaxed learning atmosphere and no restrictions on location.	4.44	0.781	High
5	Learners are able to take control of their own learning pace and choose their preferred teaching style in the online course.	4.47	0.688	High
	Motivation Factors			
NO.	Items	Mean	SD	Level of perception

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
      perceptions towards the factors influencing the quality of online courses at
      Yaha School of Built Environment(Cont.).

NO.	Items	Mean	SD	Level of perception
	Motivation Factors			
6	Motivation in online learning is important for learning effectiveness in online courses.	4.41	0.722	High
7	Online courses motivate learners to take up and understand knowledge actively.	4.42	0.761	High
8	Online course learning requires a strong sense of self-monitoring, self-regulation and self-control.	4.40	0.759	High
9	The development of individual interests of online course learners provides ample room to develop and achieve their own development goals.	4.41	0.790	High
	Satisfaction Factors			
	Classroom Interactivity			
10	Satisfaction is the key to measuring the effectiveness of online courses and student learning.	4.37	0.785	

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
perceptions towards the factors influencing the quality of online courses at
Yaha School of Built Environment(Cont.).

Satisfaction Factors

Classroom Interactivity

NO.	Items	Mean	SD	Level of perception
11	In the course of an online course, the teacher, the student and the platform are closely linked to each other.	4.31	0.830	High
12	Learner self-regulation is an important part of online course learning.	4.40	0.742	High
13	One of the factors determining satisfaction is the learner's attitude towards the computer and the learner's sense of self-efficacy.	4.31	0.813	High
14	Learner expectations have an indirect effect on learning satisfaction in online courses.	4.41	0.724	High

Network Self-efficiency

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
perceptions towards the factors influencing the quality of online courses at
Yaha School of Built Environment(Cont.).

NO.	Items	Mean	SD	Level of perception
15	Interactivity between learners and teachers has a significant impact on learning satisfaction in online courses.	4.37	0.761	High
16	Learners use BBS, E-mail and other network tools to ask teachers questions and discuss problems with classmates, which can improve learners' independent learning ability.	4.37	0.736	High
17	The prominence of the content of the online courses and the availability of supplementary materials that expand knowledge are important for learning satisfaction.	4.35	0.781	High
18	Online courses increase learners' self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior.	4.32	0.794	High

Environmental Factors

Support Services

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
perceptions towards the factors influencing the quality of online courses at
Yaha School of Built Environment(Cont.).

NO.	Items	Mean	SD	Level of perception
19	Support services for online learning can have a significant impact on students' effective learning behaviors and study habits.	4.35	0.792	High
20	Teacher support services for online courses improve students' learning and collaboration skills.	4.33	0.818	High
21	Online courses support services foster good learning behaviors and online learning habits.	4.33	0.820	High
22	The sharing of quality resources in online courses enhances students' ability to learn independently.	4.38	0.751	High
	Network Resources			
23	Online resources for teaching and learning play an important role in facilitating the successful use of teaching strategies and methods.	4.38	0.762	High

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
perceptions towards the factors influencing the quality of online courses at
Yaha School of Built Environment(Cont.).

NO.	Items	Mean	SD	Level of perception
	Network Resources			
24	Rich online course resources increase the openness and interactivity of teaching and learning.	4.39	0.745	High
25	Teachers provide comprehensive, timely and convenient learning support services that can help learners solve various learning challenges.	4.37	0.754	High
26	Rich online course resources can provide learners with a variety of learning facilities and expand their knowledge.	4.39	0.782	High
27	Online course resources allow learners to share answers to difficult questions in teaching and learning.	4.38	0.791	High
	Education Quality			
28	Teachers use game teaching methods to improve students' interest in learning and the quality of education.	4.39	0.770	High

Table 4.4 Quantitative data and interpretation of questionnaire item for students'
perceptions towards the factors influencing the quality of online courses at
Yaha School of Built Environment(Cont.).

NO.	Items	Mean	SD	Level of perception
	Education Quality			
29	The academic level of the teacher has a great impact on the quality of education.	4.42	0.736	High
30	The size of the ratio of online professional courses to online general courses also determines the quality of education.	4.37	0.756	High
	Total	4.38	0.774	High

The questionnaire for the factors influencing the quality of online courses
university students' perceptions towards at Yaha School of Built Environment, Haikou
University of Economics, Haikou city, Hainan province, China during the COVID-19
pandemic after the tests of validity and reliability were done. Table 4.5 above showed
that the total students' perception items was considered as of a high level with mean
($\bar{\bar{x}}$) score of 4.38 and SD 0.774.

By examining the mean scores of all questionnaire items, the results revealed
the high level of students' level of perception items with the mean scores ranging from
4.17 to 4.48. Thirty items were rated in the high level. The low level was rated for item
1 ($\bar{\bar{x}}$) = 4.17, "Geographical constraints affect students' access to online courses."
The high level were rated for item 3 ($\bar{\bar{x}}$) = 4.48, "Learners perform better in online
courses when teaching styles and strategies are aligned with their learning styles."
there was no lowest level item in the questionnaire.

Table 4.5 to 4.8 below demonstrate mean, standard deviation and students' perception interpretation of questionnaire items of the Personal Factors, Satisfaction Factor, Environmental Factors, and Education Quality.

Table 4.5 Quantitative data and interpretation of questionnaire item for students' perceptions towards Yaha School of Built Environment of questionnaire items in Personal Factors.

NO.	Items	Mean	SD	Level of perception
	Personal Factors			
	Styles of Learning			
1	Geographical constraints affect students' access to online courses.	4.17	0.955	High
2	Learners can study at any time and any place.	4.44	0.805	High
3	Learners perform better in online courses when teaching styles and strategies are aligned with their learning styles.	4.48	0.728	High
4	Online courses are flexible in terms of time allocation, a relaxed learning atmosphere and no restrictions on location.	4.44	0.781	High
5	Learners are able to take control of their own learning pace and choose their preferred teaching style in the online course.	4.47	0.688	High

Table 4.5 Quantitative data and interpretation of questionnaire item for students'
perceptions towards Yaha School of Built Environment of questionnaire
items in Personal Factors(Cont.).

NO.	Items	Mean	SD	Level of perception
	Motivation Factors			
6	Motivation in online learning is important for learning effectiveness in online courses.	4.41	0.722	High
7	Online courses motivate learners to take up and understand knowledge actively.	4.42	0.761	High
8	Online course learning requires a strong sense of self-monitoring, self-regulation and self-control.	4.40	0.759	High
9	The development of individual interests of online course learners provides ample room to develop and achieve their own development goals.	4.41	0.790	High
	Total	4.40	0.776	High

According to the questionnaire items in Personal Factors including Items 1, 2, 3, 4, 5, 6, 7, 8, 9, the students' level of perception in this category was regarded of the high level with the total mean ($\bar{x}$) score of 4.40, and SD of 0.776. As mentioned previously, nine items (Item 1 ($\bar{x}$) = 4.17, Item 2 ($\bar{x}$) = 4.44, Item 3 ($\bar{x}$) = 4.48, Item 4 ($\bar{x}$) = 4.44, Item 5 ($\bar{x}$) = 4.47, Item 6 ($\bar{x}$) = 4.41, Item 7 ($\bar{x}$) = 4.42, Item 8 ($\bar{x}$) = 4.40, Item 9 ($\bar{x}$) = 4.41) were rated in the high level. The low level were rated

for item 1 ($\bar{\bar{x}}$) = 4.17, "Geographical constraints affect students' access to online courses." The high level was rated for item 3 ($\bar{\bar{x}}$) = 4.48, "Learners perform better in online courses when teaching styles and strategies are aligned with their learning styles." there was no lowest level item in the questionnaire.

Table 4.6 Quantitative data and interpretation of questionnaire item for students'
perceptions towards at Yaha School of Built Environment of questionnaire
items in Satisfaction Factor.

NO.	Items	Mean	SD	Level of perception
	Satisfaction Factors			
	Classroom Interactivity			
10	Satisfaction is the key to measuring the effectiveness of online courses and student learning.	4.37	0.785	High
11	In the course of an online course, the teacher, the student and the platform are closely linked to each other.	4.31	0.830	High
12	Learner self-regulation is an important part of online course learning.	4.40	0.742	High
13	One of the factors determining satisfaction is the learner's attitude towards the computer and the learner's sense of self-efficacy.	4.31	0.813	High
14	Learner expectations have an indirect effect on learning satisfaction in online courses.	4.41	0.724	High

Table 4.6 Quantitative data and interpretation of questionnaire item for students' perceptions towards at Yaha School of Built Environment of questionnaire items in Satisfaction Factor(Cont.).

NO.	Items	Mean	SD	Level of perception
	Network Self-efficiency			
15	Interactivity between learners and teachers has a significant impact on learning satisfaction in online courses.	4.37	0.761	High
16	Learners use BBS, E-mail and other network tools to ask teachers questions and discuss problems with classmates, which can improve learners' independent learning ability.	4.37	0.736	High
17	The prominence of the content of the online courses and the availability of supplementary materials that expand knowledge are important for learning satisfaction.	4.35	0.781	High
18	Online courses increase learners' self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior.	4.32	0.794	High
	Total	4.36	0.774	High

According to the questionnaire items in Satisfaction Factors including Items 10, 11, 12, 13, 14, 15, 16, 17, 18, the students' level of perception in this category was regarded of the high level with the total mean ($\bar{\bar{x}}$) score of 4.36, and SD of 0.774. As mentioned previously, nine items (Item 10 ($\bar{\bar{x}}$) = 4.37, Item 11 ($\bar{\bar{x}}$) = 4.31, Item 12 ($\bar{\bar{x}}$) = 4.40, Item 13 ($\bar{\bar{x}}$) = 4.31, Item 14 ($\bar{\bar{x}}$) = 4.41, Item 15 ($\bar{\bar{x}}$) = 4.37, Item 16 ($\bar{\bar{x}}$) = 4.37, Item 17 ($\bar{\bar{x}}$) = 4.35, Item 18 ($\bar{\bar{x}}$) = 4.32) were rated in the high level. There was no lowest level item in the questionnaire. Among them, the item 11 and item 13 mean ($\bar{\bar{x}}$) score of 4.31, the item 10, item 15, and item 16 mean (x) score of 4.37.

Table 4.7 Quantitative data and interpretation of questionnaire item for students' perceptions towards at Yaha School of Built Environment of questionnaire items in Environmental Factors.

NO.	Items	Mean	SD	Level of perception
	Environmental Factors			
	Support Services			
19	Support services for online learning can have a significant impact on students' effective learning behaviors and study habits.	4.35	0.792	High
20	Teacher support services for online courses improve students' learning and collaboration skills.	4.33	0.818	High
21	Online courses support services foster good learning behaviors and online learning habits.	4.33	0.820	High
22	The sharing of quality resources in online courses enhances students' ability to learn independently.	4.38	0.751	High
	Network Resources			
23	Online resources for teaching and learning play an important role in facilitating the successful use of teaching strategies and methods.	4.38	0.762	High
24	Rich online course resources increase the openness and interactivity of teaching and learning.	4.39	0.745	High

Table 4.7 Quantitative data and interpretation of questionnaire item for students'
　　　　perceptions towards at Yaha School of Built Environment of questionnaire
　　　　items in Environmental Factors(Cont.).

NO.	Items	Mean	SD	Level of perception
	Network Resources			
25	Teachers provide comprehensive, timely and convenient learning support services that can help learners solve various learning challenges.	4.37	0.754	High
26	Rich online course resources can provide learners with a variety of learning facilities and expand their knowledge.	4.39	0.782	High
27	Online course resources allow learners to share answers to difficult questions in teaching and learning.	4.38	0.791	High
	Total	4.37	0.696	High

According to the questionnaire items in Personal Factors including Items 19, 20, 21, 22, 23, 24, 25, 26, 27, the students' level of perception in this category was regarded of the high level with the total mean ($\bar{x}$) score of 4,37, and SD of 0.696. As mentioned previously, nine items (Item 19 ($\bar{x}$) = 4.35, Item 20 ($\bar{x}$) = 4.33, Item 21 ($\bar{x}$) = 4.33, Item 22 ($\bar{x}$) = 4.38, Item 23 ($\bar{x}$) = 4.38, Item 24 ($\bar{x}$) = 4.39, Item 25 ($\bar{x}$) = 4.37, Item 26 ($\bar{x}$) = 4.39, Item 27 ($\bar{x}$) = 4.38) were rated in the high level. There was no lowest level item in the questionnaire.

Table 4.8 Quantitative data and interpretation of questionnaire item for students' perceptions towards at Yaha School of Built Environment of questionnaire items in Education Quality.

NO.	Items	Mean	SD	Level of perception
	Education Quality			
28	Teachers use game teaching methods to improve students' interest in learning and the quality of education.	4.39	0.770	High
29	The academic level of the teacher has a great impact on the quality of education.	4.42	0.736	High
30	The size of the ratio of online professional courses to online general courses also determines the quality of education.	4.37	0.756	High
	Total	4.33	0.754	High

According to the questionnaire items in Education Quality including Items 28, 29, 30 the students' level of perception in this category was regarded of the high level with the total mean ($\bar{x}$) score of 4,33, and SD of 0.754. As mentioned previously, nine items (Item 28 ($\bar{x}$) = 4.39, Item 29 ($\bar{x}$) = 4.42, Item 30 ($\bar{x}$) = 4.37) were rated in the high level. There was no lowest level item in the questionnaire.

4.2 DATA ANALYSIS OF FOCUS GROUP INTERVIEW

The focus group interview was used as a qualitative data collection tool to study the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic.

The interview section included 10 interview questions, and 30 respondents were interviewed in their native Chinese language. The researcher taped the interview and then transcribed, translated, analyzed, and summarized it. The researcher translated the interviews from Chinese into English without altering the content of the recordings.

The core theme of focus group interviews has been based on ten questions up to this point, and examples of student participants' responses are also shown below. (Referring Appendix F)

1)What do you hope to gain from your online course?
    1.1) Gain more knowledge
      Most of the participants hope to gain more knowledge, also hope to get more opportunities to communicate with teachers. And get good grades. It will be helpful for future work.

I hope to gain more professional knowledge and enrich your knowledge experience. (interviewee 2)

I hope to gain knowledge and some expertise that I can't get from offline courses and that my job will help me later. (interviewee 4)

I hope to gain more knowledge, and secondly, I want to accumulate more learning methods and apply them to my future independent study. (interviewee 12)

I hope to gain more professional knowledge and also want to get more opportunities to communicate with teachers and complete my studies. (interviewee 22)

I hope to gain more expertise and broaden my knowledge, and the online course will also help me exercise my self-control. (interviewee 27)

2)How has the Covid-19 epidemic influenced your learning?

2.1) Interactivity factors

Some participants perceived the impact of Covid-19 on learning as a change in the learning environment. It reduced their learning interaction with their classmates and communication with their teachers, reduced learning efficiency.

Covid-19 has had a big impact on me because I am now a first-year student and the online courses have made me interact less with my classmates. Then the study efficiency has also decreased. (interviewee 4)

The impact of Covid-19 on me is that I have less communication with the teacher, home study will make me lose some of my motivation to learn, and I think it will also affect the teaching schedule. (interviewee 8)

I think the impact on me is that the covid-19 period is an online course, which makes the communication between me and my classmates become less, and I can't communicate and learn with my classmates and teachers face to face. (interviewee 24)

2.2) Academic Program Factors

Some participants perceived the impact of covid-19 on them as an academic course factor, Because some courses are a combination of theoretical courses and practical courses, these courses were cancelled because of covid-19, which had a great impact on their academic performance.

The Covid-19 had a very big impact on my practical courses because the lack of practical courses would have affected my understanding of the course content. (interviewee 6)

The impact of Covid-19 on me is the practical courses, because most of our courses are a combination of practical and theoretical courses, and now most of them are theoretical courses and the lack of practical courses will hinder my understanding of knowledge. (interviewee 10)

I think the impact on me is that the online course can't do some hands-on work, which will have an impact on my learning of the course. (interviewee 23)

2.3) Learning Style Factors

Some participants felt that Covid-19 had an impact on the way they were taught, moving from traditional courses to online courses.

The impact of Covid-19 on me is that the way I learn has changed and the online courses have made me more self-disciplined. (interviewee 11)

The covid-19 has changed my teaching method from traditional classroom to a combination of offline and online classes. During this period, I cannot directly raise my doubts with the teacher, which is not good for my study. (interviewee 21)

The impact of Covid-19 on me was the change of teaching style from offline classes to online classes. (interviewee 26)

2.4) No Impact

Some participants felt that covid-19 had no impact on their learning because the school scheduled online classes during covid-19 and did not fall behind in their learning tasks and progress.

Covid-19 did not have much impact on my studies because our school also arranged online classes during the outbreak so it did not affect me much. (interviewee 7)

Covid-19 didn't affect me much because we were teaching online courses during this period, and the teaching schedule could be kept up, and there was no difference with offline courses. (interviewee 27)

Covid-19 did not affect my study very much because during this period our school arranged online courses and the teaching progress was not blocked. (interviewee 28)

3) Which courses are of interest to you in the course of your online studies? Which courses did you find boring and difficult to learn and not very practical?

3.1)Practical Courses

Most of the participants liked the hands-on courses, which they found to be faster and more efficient in acquiring what they had learned and helpful in their future jobs.

I prefer the practical courses because they are very practical for me to understand and grasp more quickly. (interviewee 8)

I like the practical courses because they not only exercise my hands-on skills, but also allow me to quickly grasp what I have learned. (interviewee 17)

I like the practical courses because they are very practical and help a lot in the future. (interviewee 23)

I like the practical courses because they are more interesting and motivate me to learn. (interviewee 27)

I like the hands-on courses because they are fun to teach in class. (interviewee 29)

3.2) Literature Course

Most of the participants disliked the literature appreciation courses because they found them boring and could not get interested in learning them.

I don't like literature and history courses because they require memorization and I often get confused so I don't like them. (interviewee 9)

I don't like the history courses because the online history courses are boring and uninteresting. (interviewee 13)

I don't like literature courses because they are more text-based and I find them rather boring. (interviewee 17)

I do not like the cultural management course because it is rather boring. (interviewee 20)

I don't like the literature appreciation course because it requires a lot of memorization and is very boring, so I don't like it. (interviewee 23)

4)What impact do you think online course resource sharing has on the quality of education?

4.1)Teaching Diversity

Some participants believe that sharing course resources online has increased the diversity of course instruction, improved their interest in learning, and improved the quality of education.

Because the sharing of educational resources allows students to learn a lot beyond the textbook, it allows them to experience more ways of teaching and improves the quality of education. (interviewee 1)

Sharing online course resources can diversify our curriculum and increase our interest in learning. Thus, the quality of education is improved. (interviewee 7)

Sharing resources allows for more learning, allows students to experience the different teaching styles of each university and learn the best courses from each university, which has a great impact on the quality of education. (interviewee 9)

I think resource sharing can make online courses more comprehensive and diversify teaching methods. (interviewee 19)

4.2)Improvement of Quality Course Resources

Some participants believe that online course resource sharing can improve overall course resources and solve the problem of uneven distribution of quality educational resources.

Sharing resources allows for more learning, allows students to experience the different teaching styles of each university and learn the best courses from each university, which has a great impact on the quality of education. (interviewee 9)

I think it can effectively improve the quality of education in remote areas, so that more remote students can learn a lot of quality teaching content. (interviewee 11)

I think resource sharing solves the problem of lack of good resources in geographic areas and allows students in remote areas to learn more good courses that will help them learn more. (interviewee 16)

Resource sharing can improve our performance, because students can learn the content taught by famous teachers and study the quality courses of other schools. This can effectively improve the quality of education. (interviewee 24)

I believe that resource sharing across spatial distances makes school education open-ended, with abundant educational resources and free learning time. Students learn more comprehensive knowledge and improve the overall quality of education. (interviewee 27)

5)What is your Favorite style of learning and why do you enjoy it?

5.1)Autonomous learning method

Most of the participants prefer the autonomous learning method because it gives them the freedom to control their learning time and methods.

I like the independent study method, because this way of study can freely control the study time and place, more convenient. So I like the independent learning way of learning. (interviewee 1)

I prefer the independent learning approach because I usually bring up the pre-course and review the course after class, and I feel that this effectively improves the quality of my learning. (interviewee 3)

I like the independent study approach because it allows me to make a study plan according to my own situation and also enhances my independent study ability. (interviewee 13)

I like independent learning because students as the main body of learning, students make their own decisions, not dictated by others, not subject to external interference through reading, listening, research, observation, practice and other means so that individuals can get continuous change. (interviewee 27)

5.2)Cooperative Teaching Method

A small number of participants preferred the cooperative teaching method. Because they believe that cooperative learning can exercise teamwork skills and can better accomplish learning tasks.

I like the cooperative teaching method, on the one hand, I have the teacher's supervision and guidance, and on the other hand, I can learn independently, I like this combination. (interviewee 11)

I like the cooperative teaching method because I like to discuss and complete the tasks assigned by the teacher with my classmates. (interviewee 12)

6)Are you satisfied with your present study environment?

6.1)Satisfaction

Almost all participants are satisfied with the learning environment because the current learning atmosphere is good and enhances their motivation to learn.

Very satisfied, Because the teaching atmosphere is now very good. (interviewee 5)

Very satisfied, Because we now have a good learning environment. (interviewee 7)

Satisfaction. Because the teacher's teaching style I like very much, also can motivate the students to learn. (interviewee 15)

Satisfaction. Because the learning atmosphere is good now, especially for group work, group members actively support and cooperate with each other, and are able to communicate effectively and maintain mutual trust among group members. (interviewee 22)

7)What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?

7.1)Rich network resources

Some participants cited the wealth of online course resources as encouraging them to engage in online learning. Because there are many teaching methods in the rich curriculum resources, and it can develop students' personality and improve learning efficiency.

Because the diversity of teaching in online courses attracts me, different teachers have different teaching styles for the same course, which will make it interesting and increase my interest in learning. (interviewee 3)

Because online courses develop students' personalities, it has no space limitations, there are very many great resources, and the cost of teaching is lower. These are the reasons that attracted me. (interviewee 8)

I think it comes from the desire for knowledge. The online courses are rich in resources and diversified in teaching, which enable me to acquire more useful knowledge. (interviewee 22)

7.2)Convenience and Freedom

Most participants felt that it was the convenience and freedom of online courses that motivated them to participate in online learning. Because the place of study for online courses is not fixed, you can freely dispose of your study time and tasks.

Online courses are very convenient for me, and the class location is not fixed, so I have more time for self-study, and the online courses are rich in resources, so it is convenient for me to learn various knowledge. (interviewee 15)

I think this is very convenient because online course instructors can assign teaching tasks directly on each platform and also watch teaching videos repeatedly to reinforce what they have learned. (interviewee 17)

Because online courses are more convenient and resourceful to learn, you can study the teacher's course videos at any time. (interviewee 29)

8)If you experience an inability to concentrate in an online course, what do you think is the main reason?

8.1)External Factors

Some participants attributed external factors to their inability to concentrate in class during the online sessions, The attention will be attracted by some external things, resulting in the inability to concentrate on studying and distracting energy.

I think the main reason is that I will be influenced by my surroundings, such as being interrupted by my family, etc. All will have an impact on my online courses. (interviewee 3)

I think it is an external reason, because there are some external factors that can disturb the learning process. (interviewee 7)

I think it's a little more of an external factor because the online course instructor has limited energy and without classroom constraints, I would get caught up in other things, making it impossible to focus. (interviewee 9)

I think it's the external environmental factors that can make it impossible to focus because of looking at your phone or doing something else. (interviewee 11)

8.2)Motivation factors

Some participants believe that their inability to concentrate in online classes is due to their own lack of self-control, lack of classroom appointment power, etc., so they cannot concentrate in class.

Because online courses do not have offline classroom constraints, teachers cannot do 100% classroom discipline control, so they will be lax. (interviewee 4)

I think it's the fact that I get distracted during the course and get caught up in other things that prevent me from concentrating. (interviewee 12)

I think it's because I'm not focused enough and will want to go to my phone and be attracted to other things, so I can't concentrate. (interviewee 15)

I think it's the lack of self-control that can be influenced by my surroundings and can be more than a little indulgent, so it causes me to be unable to focus. (interviewee 27)

9)Do you like the interaction with the teacher in your online course?

9.1)Like to Interact with the Teachers

Most participants enjoyed interacting with the instructor in the online course. They believe that interacting with the instructor can enhance their communication skills, solve problems in a timely manner, and also increase their interest in learning.

I like to interact with the teacher because interaction with the teacher can effectively solve my problems and shortcomings. (interviewee 7)

I like to interact with the teacher. Because interacting with the teacher can let all my classmates know what I think, and it is a way to show myself and exercise my courage. That's why I like to interact with teachers in online courses. (interviewee 12)

I like interacting with the teacher because it gives me a quick grasp of the knowledge and also hones my communication skills. So I enjoy interacting with the teacher. (interviewee 15)

I like to interact with the teacher. Because it can improve my interest in learning. (interviewee 29)

9.2)Don't Like Interacting with the Teacher.

A small number of participants prefer to interact with the instructor in online courses because they are introverted and reluctant to communicate, and secondly, the equipment can malfunction and affect communication.

I don't like to interact with the teacher because of the imperfection of the equipment, such as my headphones sometimes have sound and sometimes don't have sound. (interviewee 2)

I don't like to interact with teachers because I am introverted and afraid to communicate with them. (interviewee 20)

I don't like to interact with the teacher because online courses are done with the help of electronic devices and it is not very convenient to communicate with the teacher. (interviewee 26)

10)Do you think online courses will become the mainstream way of education in the future?

10.1)Become a Mainstream Approach

Some participants believe that online courses will become the dominant form of education in the future. Because they believe that online courses are more convenient and resourceful, online courses will become more diverse and comprehensive. It is more easily accepted and used by the general public.

I think online courses will become the mainstream education method in the future. Because online courses are more convenient, there is no fixed location, and then resources are abundant. So I think it will become the mainstream education method in the future. (interviewee 2)

I think online courses will become one of the mainstream education methods in the future. Because with the advancement of social technology, online courses will become more diversified, richer and more comprehensive resources. Solve the problem of geographical limitation. (interviewee 10)

I think online courses will become one of the mainstream education methods in the future. Because in the future the Internet will be more developed, and online courses will become better and more easily accepted and used by the public. (interviewee 24)

10.2)Will not Become a Mainstream Approach

Some participants believe that online courses will not become the mainstream education method in the future. They believe that no matter how society develops in the future, traditional teaching is the foundation of education and online courses can

only be used as supplementary courses. Because learning itself still needs regulations and a uniform environment to improve students' learning ability, students also need to have the school environment to discipline themselves.

I don't think online courses will become the mainstream education in the future. Because learning itself still needs regulations and a uniform environment to enhance students' learning ability, and students also need to have the school environment to discipline themselves. Because online courses are more about empowering students to learn on their own. So I think the future will still be based on traditional teaching. (interviewee 13)

I don't think online courses will become the mainstream education in the future. Because no matter how well society develops, education still needs to be chartered and standardized. Teachers need to guide students to learn. (interviewee 18)

I don't think so. No matter how society develops in the future, traditional teaching is the basis of education, and online courses can only be used as supplementary courses. It is unlikely to become the mainstream education in the future. (interviewee 26)

According to the results showed that the total students' level of perception items was considered as of a high level with mean ($\bar{x}$) score of 4.38 and SD 0.774. By looking through each factor, it was found that Personal factors were rated with the highest mean score (=4.40, SD=0.776); the second high was for Environmental factor (=4.37, SD=0.696) and then Satisfaction factor (=4.36, SD=0.774) respectively.

Finally, the teaching of online courses at the Yaha School of Built Environment is very beneficial to students and improves educational quality. However, there are numerous issues with the online courses at Yaha School of Built Environment that must be addressed. All of this establishes the requirements for future online courses at Yaha School of Built Environment, and educators must make appropriate adjustments to the teaching mode in response to these issues.

CHAPTER 5

CONCLUSION, DIACUSSION, AND RECOMMENDATIONS

The conclusion and discussion in this chapter are based on data analysis of university students' perceptions of the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic. The conclusion will mention recommendation for a future study.

5.1 CONCLUSION

The purpose of this study was to study the university students' perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic. The following conclusion was drawn after the analysis of the data collected through mixed methods.

As a result, all research instruments were designed and implemented to achieve the research goal. These research instruments, as well as the study results, including students' questionnaire responses and focus group interviews, were used to validate both quantitative and qualitative data. The findings and results of both quantitative and qualitative data analysis are presented below.

5.1.1 The Results of Questionnaire Data

Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic. This section will summarize finding in response to the objective of the study.

According to the research objective, to study the university students' perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China during the COVID-19 pandemic, A survey of 434 Yaha School of Built Environment students was conducted. The questionnaire in this study had two parts. The first part was student general information, which included three categories: genders, age, and level of study. The second section of the questionnaire was for students' perceptions of factors influencing the quality of online courses at Yaha School of Built Environment. The questionnaire items were divided into four categories: Personal Factors, Satisfaction Factors, Environmental Factors, and Education Quality. A computer program was used to compute the scores of all questionnaire items rated by the students. The results and analysis findings are presented in the following section.

5.1.1.1 The Results of the Student General Information

As mentioned earlier, the student general information included three categories: genders, age, level of study.

There were 434 participants in total, with 52 freshmen, 204 sophomores, and 178 juniors. According to the findings, the number of Yaha School of Built Environment sophomore and junior students was slightly higher than the number of freshman students. This indicated a downward trend in the number of Yaha School of Built Environment students. Of course, in this study, this result was not obvious. If it was necessary to clarify, a more rigorous and comprehensive investigation and study were required.

Of the 434 participants in the survey, consisting of 44 students to 17–18-year-old，196 students to 19–20-year-old, 194 students to 21–22-year-old. According to the results, the number of 19–20-year-old students and 21–22-year-old students Yaha School of Built Environment far exceeds the number of 17–18-year-old

students. The number of 19–20-year-old students very little difference the number of 21–22-year-old students.

Of the 434 participants, it consisted of 242 male and 192 female students. Male students accounted for 55.76% and female students accounted for 44.24%. According to this result, the difference between the number of male students and the number of female students in Yaha School of Built Environment is very small.

5.1.1.2 The Results of the Students' Perceptions

As mentioned earlier, the questionnaire items for student perceptions were divided into four categories. Personal factors, satisfaction factors, environmental factors and quality of education. After calculation and analysis of the computer program, using descriptive analysis (mean and standard deviation), the results showed that the overall level of student perception items was considered high, with a mean ($\bar{x}$) of 4.38 and SD of 0.774. By studying the mean scores of all questionnaire items, the results showed a high level of student perception, with a mean score between 4.17 and 4.48. There were no items in the questionnaire with the lowest level.

By examining the questionnaire items in four categories, those in the personal factor include items 1, 2, 3, 4, 5, 6, 7, 8, and 9, the results show that students have a high level of awareness of this category, with an overall mean score ($\bar{x}$) of 4.40 and an SD of 0.776. items 10, 11, 12, 13, 14, 15, 16, 17, and 18 in the satisfaction factor, the results show that students The results of items 19, 20, 21, 22, 23, 24, 25, 26, and 27 in the environmental factors show that students have a higher level of awareness of this category with an overall mean score ($\bar{x}$) of 4.36 and an SD of 0.774. The questionnaires in the quality of education, including items 28, 29 and 30, the results show that students have a higher level of perception of this category, with an overall mean score ($\bar{x}$) of 4.33 and an SD of 0.754.

The above mean scores ($\bar{x}$) indicate that the overall perceptions of college students about the students of the YAH College of Built Environment are at a high level. Therefore, the results of the questionnaire data analysis answer the research

question that the overall perception of college students of Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China was in a high level.

5.1.2 The Results of Focus Group Interview

In accordance with the objectives of the study, focus group interviews were used as a qualitative data collection tool to examine perceptions of factors that influence the quality of online courses at the Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China. The interview section included 10 interview questions, and 30 respondents were interviewed in their native Chinese language. The researcher taped the interview and then transcribed, translated, analyzed, and summarized it. The researcher translated the interviews from Chinese into English without altering the content of the recordings.

The results of students' focus group interview were summarized and analyzed according to the thematic content as follows.

1) Personal Factors

Most of the participants hope to gain more knowledge, also hope to get more opportunities to communicate with teachers. And get good grades. It will be helpful for future work. Second, most of the participants prefer the autonomous learning method and cooperative teaching method. Because they believe that cooperative learning can exercise teamwork skills and can better accomplish learning tasks, and gives them the freedom to control their learning time and methods.

2) Satisfaction Factor

Most participants enjoyed interacting with the instructor in the online course. They believe that interacting with the instructor can enhance their communication skills, solve problems in a timely manner, and also increase their interest in learning, and them really like the atmosphere of the teacher. Second, most participants felt that it was the convenience and freedom of online courses that

motivated them to participate in online learning. Because the place of study for online courses is not fixed, you can freely dispose of your study time and tasks.

3) Environmental Factor

Some participants cited the wealth of online course resources as encouraging them to engage in online learning. Because there are many teaching methods in the rich curriculum resources, and it can develop students' personality and improve learning efficiency, and them believe that sharing course resources online has increased the diversity of course instruction, improved their interest in learning, and improved the quality of education.

5.2 DISCUSSION

This study revealed university students' perceptions of the factors influencing the quality of online courses at Yaha School of Built Environment based on the findings in this section, Haikou University of Economics, Haikou city, Hainan province, China was in a high level. Personal Factors, Satisfaction Factor, and Environmental Factor three were among these perceptions. Furthermore, participants provided valuable suggestions on the current Yaha School of Built Environment and teachers' teaching methods, which will be of great reference value for future education quality.

5.2.1 The Factors Influencing the Quality of Online Courses

According to the findings in Chapter 4, the total students' level of perception items was considered high, with a mean ($\bar{x}$) score of 4.38 and SD 0.774. Another item that received high marks in the questionnaire survey was "Learners perform better in online courses when teaching styles and strategies are aligned with their learning styles." This item's mean score was 4.48, with a SD of 0.728. This demonstrated that teaching style is an important factor influencing online courses, and students' educational quality of online courses varies due to different teaching styles.

By looking through each factor, it was found that Personal factors were rated with the highest mean score ($\bar{x}$=4.40, SD=0.776); the second high was for Environmental factor ($\bar{x}$=4.37, SD=0.696) and then Satisfaction factor ($\bar{x}$=4.36, SD=0.774) respectively. To simply put, all factors were rated as of a high level and these findings were in line with the studies by Chen et al. (2020) and Liu (2019) which stated that online or web-based education helped enhance students' learning and solve problems in learning since it acted as an effective communication tool and teaching and learning platform. This subsequently led to students' satisfaction in learning.

With the advancement of social science and technology, Online courses feature a wealth of teaching tools and formats that serve as a communication medium for teachers and students while also integrating teaching content and deepening students' learning perceptions. A significant contribution to the advancement and enhancement of university education and teaching standards.

5.2.2 Focus Group Interview

Another finding of this study was to understand the current teaching situation of online courses at Yaha School of Built Environment based on the analysis of the results of focus group interviews, Haikou University of Economics, Haikou city, Hainan province, China. The findings revealed that the teaching at Yaha School of Built Environment was still in its early stages, with many areas that needed to be improved. Some participants, for example, believed that there were significant issues with teachers' current teaching methods. Students were put under a lot of pressure as a result of the teacher's poor teaching methods, which had a negative impact on their learning. They hoped that the teacher would change the teaching method, that they would study in a relaxed and interesting learning environment, and that the learning pressure would be reduced.

Although Yaha School of Built Environment online courses' personnel training mode has achieved great success, it has also explored a talent, training, road with

unique advantages and characteristics in the practice of education. However, the current development situation still has some issues and difficulties.

5.3   RECOMMENDATIONS

Since this study discovered perceptions towards the factors influencing the quality of online courses at Yaha School of Built Environment, Haikou University of Economics, Haikou city, Hainan province, China, and the following suggestions were given to the school administration office of Yaha School of Built Environment, Haikou city, Hainan province, China based on the suggestions given by the participants.

5.3.1 Recommendation for School Administration

1) Administrators must strengthen the requirements for excellent teachers and recruit more high-quality candidates. For example, introducing more outstanding teachers with doctorates and extensive teaching experience.

2) Administrators should improve online course offerings, course scheduling and surveys.

3) Administrators consider diversifying the teaching modes of online courses and adopting more diverse teaching methods to increase students' enthusiasm for learning.

5.3.2 Recommendation for Teacher

1) Teachers should pay more attention to students' learning and feedback, identify problems and shortcomings in teaching on time, and improve teaching methods and techniques based on students' current situations.

2) Teachers should focus more on students' learning after class, increase the number of professional course activities, increase students' interest in online course learning, and deepen students' understanding of online course resources.

3) Teachers must constantly improve their knowledge in order to keep up with the rapid development of online course teaching.

5.3.3 Recommendation for Future Research

Based on the study's findings, the researchers recommend that future research be conducted in the following areas:

1)The research was restricted to the Yaha School of Built Environment in Haikou, Hainan Province, China. Future research could be conducted in other Chinese provinces.

2)The study was limited to the perceptions of Yaha School of Built Environment students about the factors influencing the quality of online courses. Future research can concentrate on other issues, such as current issues in online course teaching, and so on.

3)The scope of the study was limited to Yaha School of Built Environment students' perceptions of the factors influencing the quality of online courses. Future research could concentrate on the advancement and innovation of online course teaching methods.

Finally, this chapter summarized the study findings and discussed Yaha School of Built Environment students' perceptions of the factors influencing the quality of online courses. This chapter also includes recommendations for future research.

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APPENDICES

APPENDIX A

CONFIRMATION LETTER FROM THE EXPERTS
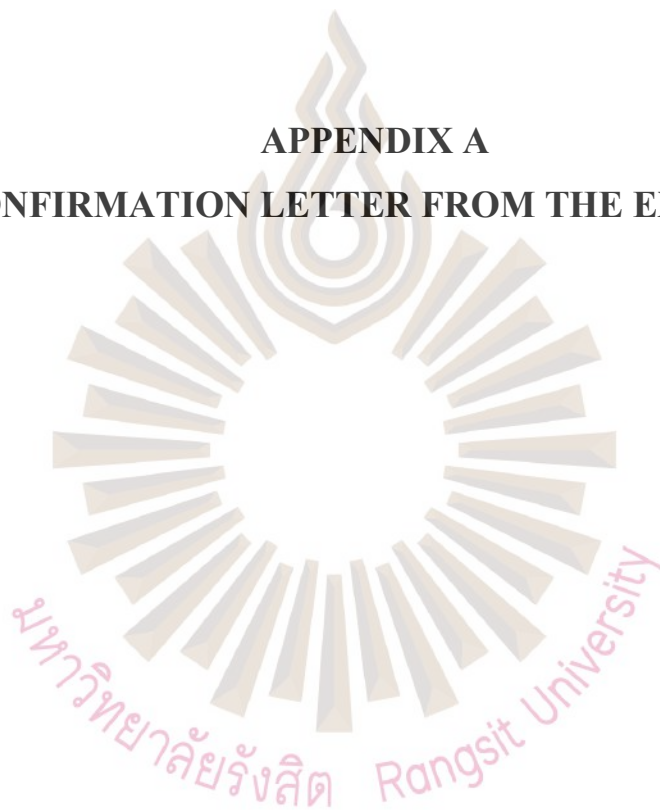
Dear Jiang Yucheng

This is to confirm that I have read all the research instruments that you have developed for your study title " The Factors Influencing the Education of Online Courses at Yaha School of Environment in Hannan Province, China ". These items for questionnaire, and items for focus group interview are all valid and reliable.

I wish you all the best in your research endeavor.

Thank you

DELIN WANG

Teacher of China Engineering Cost Major

Haikou college of Economics
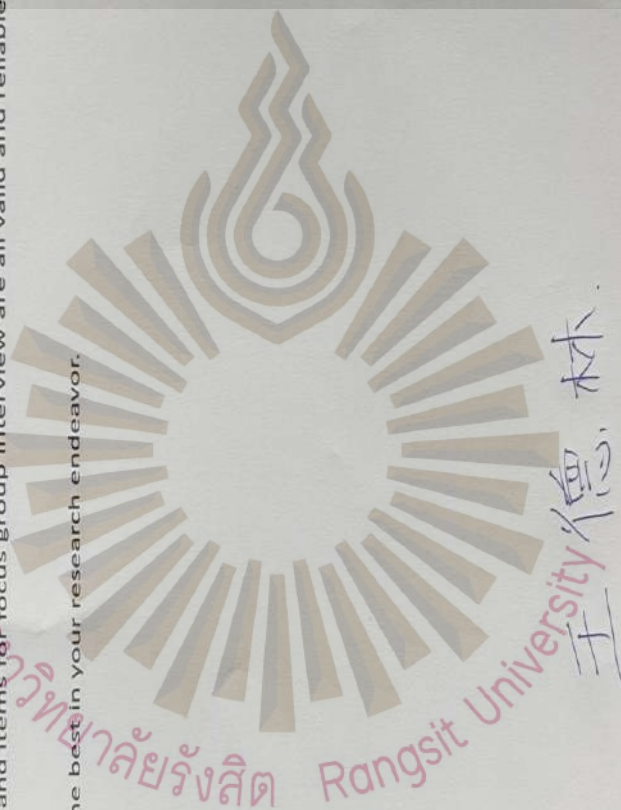
Dear Jiang Yucheng

This is to confirm that I have read all the research instruments that you have developed for your study title " The Factors Influencing the Education of Online Courses at Yaha School of Environment in Hannan Province, China ". These items for questionnaire, and items for focus group interview are all valid and reliable.

I wish you all the best in your research endeavor.

Thank you

CHENGFEI WANG

Teacher of China Journalism Major

Haikou college of Economics

Dear Jiang Yucheng

This is to confirm that I have read all the research instruments that you have developed for your study title " The Factors Influencing the Education of Online Courses at Yaha School of Environment in Hannan Province, China ". These items for questionnaire, and items for focus group interview are all valid and reliable.

I wish you all the best in your research endeavor.

Thank you

SHU CHENG

Teacher of China Urban and Rural Planning Major

Haikou college of Economics

APPENDIX B
LETTER OF APPROVAL
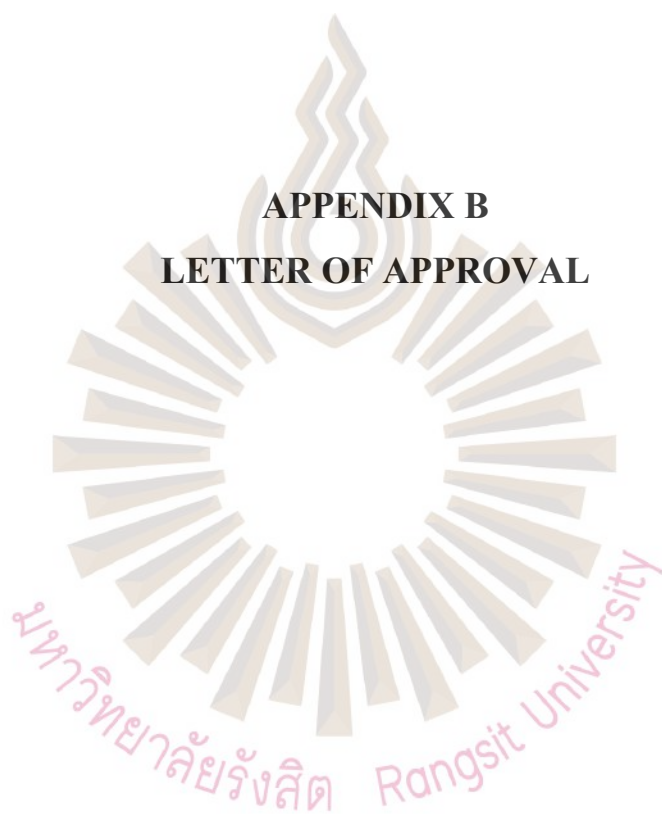
根据 <u>蒋雨呈</u>的申请，我院经商议决定，同意该同学入我院进行<u>中国海南省雅哈建筑环境学院在线课程教育质量影响因素</u>。时间期限为<u>2021</u> 年 <u>4</u> 月至 <u>2022</u> 年 <u>4</u> 月。

雅和人居工程学院

2022 年 4 月 7 日

APPENDIX C

QUESTIONNAIRE

The influences on education quality of online courses of Yaha school of built environment in Hainan province, China

Directions: This questionnaire is divided into 2 parts:

Part I: student general information

Part II: perceptions items

Part I: Student general information

Directions: Please indicate your choice with a tick (√) in the column provided which appears most applicable to you.

Items			
Gender	Male ( )		Female ( )
Age	17-18 ( )	19-20 ( )	21-22 ( )
Level of study	Freshman ( )	Sophomore ( )	Junior ( )

Part II: Influencing factors items

Directions: Please indicate your choice with a tick (√ wangluo) in the column provided which appears most applicable to you.

(5 = Strongly agree, 4 = Agree, 3 = Moderated, 2 = Disagree, 1 = Strongly Disagree)

Perception Items	5	4	3	2	1
Personal Factors					
1. Geographical constraints affect students' access to online courses. 地理上的限制影响了学生对在线课程的获取。					
2.Learners can study at any time and any place. 学习者可以在任何时间、任何地点进行学习。					

3. Learners perform better in online courses when teaching styles and strategies are aligned with their learning styles.

当教学风格和策略与学生的学习风格相一致时，学生

在在线课程中表现得更好。

4. Online courses are flexible in terms of time allocation, a relaxed learning atmosphere and no restrictions on location.

在线课程在时间分配上很灵活，学习氛围轻松，没有

地点限制。

5.Learners are able to take control of their own learning pace and choose their preferred teaching style in the online course.

学习者在网络课程中能自己掌握学习进度且选择喜欢

的教学风格。

6. Motivation in online learning is important for learning effectiveness in online courses.

在线学习的动机对在线课程的学习效果很重要.

7. Online courses motivate learners to take up and understand knowledge actively.

在线课程激励学习者主动接受和理解知识。

8. Online course learning requires a strong sense of self-monitoring, self-regulation and self-control.

在线课程学习需要有强烈的自我监控、自我调节和自

我控制意识能力。

9.The development of individual interests of online course learners provides ample room to develop and achieve their own development goals.

网络课程学习者个人兴趣的发展提供了充足的发展空

间，实现自己的发展目标

Satisfaction Factor

10. Satisfaction is the key to measuring the effectiveness of online courses and student learning.

满意度是衡量在线课程和学生学习效果的关键。

11. In the course of an online course, the teacher, the student and the platform are closely linked to each other.

在在线课程的过程中，教师、学生和平台彼此之间密

切相关。

12. Learner self-regulation is an important part of online course learning.

学习者的自我调节是在线课程学习的一个重要部分。

13. One of the factors determining satisfaction is the learner's attitude towards the computer and the learner's sense of self-efficacy.

决定满意度的因素之一是学习者对计算机的态度和学

习者的自我效能感。

14. Learner expectations have an indirect effect on learning satisfaction in online courses.

学习者的期望对在线课程的学习满意度有间接影响。

15. Interactivity between learners and teachers has a significant impact on learning satisfaction in online courses.

学习者和教师之间的互动性对在线课程的学习满意度

有显著影响。

16.Learners use BBS, E-mail and other network tools to ask teachers questions and discuss problems with classmates, which can improve learners' independent learning ability.

学习者利用 BBS、E-mail 等网络工具向老师提问、与

同学讨论问题，能提高学习者的自主学习能力。

17.The prominence of the content of the online courses and the availability of supplementary materials that expand knowledge are important for learning satisfaction.

网络课程内容的突出和具有能够扩大知识面的补充资

料对学习满意度很重做。

18.Online courses increase learners' self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior.

网络课程能提高学习者的自我效能感、自我努力、对

周围环境的控制感和对自己行为的控制感。

Environmental Factors

19. Support services for online learning can have a significant impact on students' effective learning behaviors and study habits.

在线学习的支持服务可以对学生的有效学习行为和学

习习惯产生重大影响。

20. Teacher support services for online courses improve students' learning and collaboration skills.

教师对在线课程的支持服务提高了学生的学习和协作

能力。

21. Online courses support services foster good learning behaviors and online learning habits.

在线课程支持服务促进良好的学习行为和在线学习习

惯。

22. The sharing of quality resources in online courses enhances students' ability to learn independently.

在线课程中优质资源的共享增强了学生独立学习的能

力。

23. Online resources for teaching and learning play an important role in facilitating the successful use of teaching strategies and methods.

网络资源教学在促进教学策略和方法的成功运用方面

发挥了重要作用。

24. Rich online course resources increase the openness and interactivity of teaching and learning.

丰富的网络课程资源提高了教学的开放性和互动性。

25.Teachers provide comprehensive, timely and convenient learning support services that can help learners solve various learning challenges.

教师提供全面、及时、便捷的学习支持服务，可以帮

助学习者解决各种学习难题。

26.Rich online course resources can provide learners with a variety of learning facilities and expand their knowledge。

丰富的网络课程资源可为学习者提供多种学习的便

利，扩大学习者的知识面。

27.Online course resources allow learners to share answers to difficult questions in teaching and learning.
网络课程资源可以让学习者在教学中难点问题解答实

现共享。

28.Teachers use game teaching methods to improve students' interest in learning and the quality of education.
教师利用游戏教学法来提高学生的学习兴趣和教育质

量。

29.The academic level of the teacher has a great impact on the quality of education.
教师的学术水平对教育质量有很大影响。

30.The size of the ratio of online professional courses to online general courses also determines the quality of education.
网络专业课程和网络普通课程比例的大小也决定着教

育质量的高低。

Suggestions and comments

建议和意见

(Yin, D. & Lang, W. (2018). Teaching quality questionnaire. Retrieved from
https://www.wenjuan.com/topic_detail/55d6bdd0f7405b4c4914b0c9/)

APPENDIX D

IOC FOR QUESTIONNAIRE

The influences on education quality of online courses of Yaha school of built environment in Hainan province, China

+1 if the item clearly matches the objectives or ensures that the measures that follow meet the stated objectives.

0 - If it is unclear or uncertain whether the measures meet the objectives.

-1 if the item does not clearly match the objectives or if the measure fails to meet the stated objectives.

Part I: Student general information

Items	Expert 1	Expert 2	Expert 3	Average	Remarks
Gender	+1	+1	+1	+1	Congruence
Age	+1	+1	+1	+1	Congruence
Level of study	+1	+1	+1	+1	Congruence
Overall average			1		Congruence

Part II: Perceptions items

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
Personal Factors					
1. Geographical constraints affect students' access to online courses. 地理上的限制影响了学生对在线课程的获取。	+1	+1	+1	+1	Congruence
2. Learners can study at any time and any place. 学习者可以在任何时间、任何地点进行学习。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
当教学风格和策略与学生的学习风格相一致时，学生在在线课程中表现得更好。					
4. Online courses are flexible in terms of time allocation, a relaxed learning atmosphere and no restrictions on location. 在线课程在时间分配上很灵活，学习氛围轻松，没有地点限制。	+1	+1	+1	+1	Congruence
5. Learners are able to take control of their own learning pace and choose their preferred teaching style in the online course. 学习者在网络课程中能自己掌握学习进度且选择喜欢的教学风格。	+1	+1	+1	+1	Congruence
6. Motivation in online learning is important for learning effectiveness in online courses. 在线学习的动机对在线课程的学习效果很重要.	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
7. Online courses motivate learners to take up and understand knowledge actively. 在线课程激励学习者主动接受和理解知识。	+1	+1	+1	+1	Congruence
8. Online course learning requires a strong sense of self-monitoring, self-regulation and self-control. 在线课程学习需要有强烈的自我监控、自我调节和自我控制意识能力。	+1	+1	+1	+1	Congruence
9. The development of individual interests of online course learners provides ample room to develop and achieve their own development goals. 网络课程学习者个人兴趣的发展提供了充足的发展空间，实现自己的发展目标	+1	+1	+1	+1	Congruence

	Satisfaction Factor				
Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
10. Satisfaction is the key to measuring the effectiveness of online courses and student learning. 满意度是衡量在线课程和学生学习效果的关键。	+1	+1	+1	+1	Congruence
11. In the course of an online course, the teacher, the student and the platform are closely linked to each other. 在在线课程的过程中，教师、学生和平台彼此之间密切相关。	+1	+1	+1	+1	Congruence
12. Learner self-regulation is an important part of online course learning. 学习者的自我调节是在线课程学习的一个重要部分。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
13. One of the factors determining satisfaction is the learner's attitude towards the computer and the learner's sense of self-efficacy. 决定满意度的因素之一是学习者对计算机的态度和学习者的自我效能感。	+1	+1	+1	+1	Congruence
14. Learner expectations have an indirect effect on learning satisfaction in online courses. 学习者的期望对在线课程的学习满意度有间接影响。	+1	+1	+1	+1	Congruence
15. Interactivity between learners and teachers has a significant impact on learning satisfaction in online courses. 学习者和教师之间的互动性对在线课程的学习满意度有显著影响。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
16. Learners use BBS, E-mail and other network tools to ask teachers questions and discuss problems with classmates, which can improve learners' independent learning ability. 学习者利用 BBS、E-mail 等网络工具向老师提问、与同学讨论问题，能提高学习者的自主学习能力。	+1	+1	+1	+1	Congruence
17. The prominence of the content of the online courses and the availability of supplementary materials that expand knowledge are important for learning satisfaction. 网络课程内容的突出和具有能够扩大知识面的补充资料对学习满意度很重做。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
18. Online courses increase learners' self-efficacy, self-effort, sense of control over their surroundings, and sense of control over their own behavior. 网络课程能提高学习者的自我效能感、自我努力、对周围环境的控制感和对自己行为的控制感。	+1	+1	+1	+1	Congruence
Environmental Factors					
19. Support services for online learning can have a significant impact on students' effective learning behaviors and study habits. 在线学习的支持服务可以对学生的有效学习行为和学习习惯产生重大影响。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
20. Teacher support services for online courses improve students' learning and collaboration skills. 教师对在线课程的支持服务提高了学生的学习和协作能力。	+1	+1	+1	+1	Congruence
21. Online courses support services foster good learning behaviors and online learning habits. 在线课程支持服务促进良好的学习行为和在线学习习惯。	+1	+1	+1	+1	Congruence
22. The sharing of quality resources in online courses enhances students' ability to learn independently. 在线课程中优质资源的共享增强了学生独立学习的能力。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks

	Expert 1	Expert 2	Expert 3	Average	Remarks
23. Online resources for teaching and learning play an important role in facilitating the successful use of teaching strategies and methods. 网络资源教学在促进教学策略和方法的成功运用方面发挥了重要作用。	+1	+1	+1	+1	Congruence
24. Rich online course resources increase the openness and interactivity of teaching and learning. 丰富的网络课程资源提高了教学的开放性和互动性。	+1	+1	+1	+1	Congruence
25. Teachers provide comprehensive, timely and convenient learning support services that can help learners solve various learning challenges. 教师提供全面、及时、便捷的学习支持服务，可以帮助学习者解决各种学习难题。	+1	+1	+1	+1	Congruence
Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks

	Expert 1	Expert 2	Expert 3	Expert 4	Remarks
26. Rich online course resources can provide learners with a variety of learning facilities and expand their knowledge。 丰富的网络课程资源可为学习者提供多种学习的便利，扩大学习者的知识面。	+1	+1	+1	+1	Congruence
27. Online course resources allow learners to share answers to difficult questions in teaching and learning. 网络课程资源可以让学习者在教学中难点问题解答实现共享。	+1	+1	+1	+1	Congruence
28.Teachers use game teaching methods to improve students' interest in learning and the quality of education. 教师利用游戏教学法来提高学生的学习兴趣和教育质量。	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks

29.The academic level of the teacher has a great impact on the quality of education. 教师的学术水平对教育质量 有很大影响。	+1	+1	+1	+1	Congruence
31.The size of the ratio of online professional courses to online general courses also determines the quality of education. 网络专业课程和网络普通课 程比例的大小也决定着教育 质量的高低。	+1	+1	+1	+1	Congruence
Suggestions and comments 建议和意见	+1	+1	+1	+1	Congruence
overall average				1	Congruence

APPENDIX E
FOCUS GROUP INTERVIEW

The influences on education quality of online courses of Yaha school of built environment in Hainan province, China

This interview contains ten items; your answer is neither correct nor incorrect as long as it accurately reflects your situation and serves the purpose of our investigation. Your suggestion will be a valuable resource for future educational endeavors.

1. What do you hope to gain from your online course?

2. How has the Covid-19 epidemic influenced your learning?

3. Which courses are of interest to you in the course of your online studies? Which courses did you find boring and difficult to learn and not very practical?

4. What impact do you think online course resource sharing has on the quality of education?

5. What is your Favorite style of learning and why do you enjoy it?

6. Are you satisfied with your present study environment?

7. What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?

8. If you experience an inability to concentrate in an online course, what do you think is the main reason?

9. Do you like the interaction with the teacher in your online course?

10. Do you think online courses will become the mainstream way of education in the future?

APPENDIX F
IOC FOR FOCUS GROUP INTERVIEW

The influences on education quality of online courses of Yaha school of built environment in Hainan province, China

+1 if the item clearly matches the objectives or ensures that the measures that follow meet the stated objectives.

0 - If it is unclear or uncertain whether the measures meet the objectives.

-1 if the item does not clearly match the objectives or if the measure fails to meet the stated objectives.

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
1. What do you hope to gain from your online course?	+1	+1	+1	+1	Congruence
2. How has the Covid-19 epidemic influenced your learning?	+1	+1	+1	+1	Congruence
3. Which courses are of interest to you in the course of your online studies? Which courses did you find boring and difficult to learn and not very practical?	+1	+1	+1	+1	Congruence
4. Do you review the points you have learned on your own after the online course?	+1	+1	+1	+1	Congruence
5. What is your Favorite style of learning and why do you enjoy it?	+1	+1	+1	+1	Congruence
6. Are you satisfied with your present study environment?	+1	+1	+1	+1	Congruence

Perception Items	Expert 1	Expert 2	Expert 3	Average	Remarks
7. What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?	+1	+1	+1	+1	Congruence
8. If you experience an inability to concentrate in an online course, what do you think is the main reason?	+1	+1	+1	+1	Congruence
9. Do you like the interaction with the teacher in your online course?	+1	+1	+1	+1	Congruence
10. Do you think online courses will become the mainstream way of education in the future?	+1	+1	+1	+1	Congruence
Suggestions and comments	+1	+1	+1	+1	Congruence
overall average			1		Congruence

APPENDIX G

IOC FOR FOCUS GROUP INTERVIEW
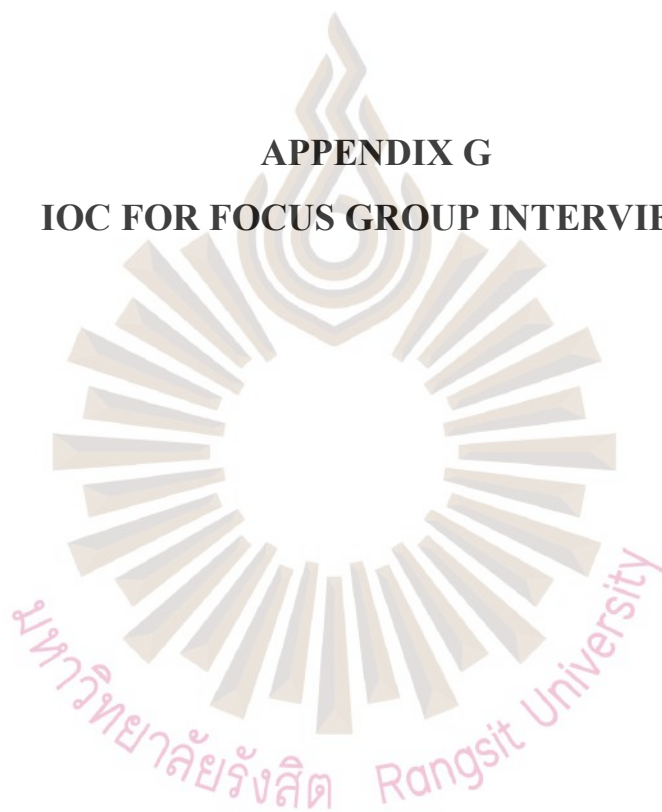
Question 1. What do you hope to gain from your online course?

Student 1	I hope to gain more knowledge as well as more expertise.
Student 2	I hope to gain more professional knowledge and enrich your knowledge experience.
Student 3	I hope to gain more knowledge to enrich myself and to get better grades.
Student 4	I hope to gain knowledge and some expertise that I can't get from offline courses and that my job will help me later.
Student 5	I hope to gain more knowledge and that it will help me a lot in the future.
Student 6	I hope to gain more knowledge from the online course to help me in my future work and life.
Student 7	I hope to gain some knowledge that I could not learn in the classroom, and I hope that this knowledge will help me in my future work.
Student 8	I hope to gain more expertise and get better grades.
Student 9	I hope to improve my learning efficiency, and secondly the online course can enrich my course knowledge.
Student 10	I hope to gain more professional knowledge and language logic skills that will help me in my future work。
Student 11	I hope to gain more expertise that can help me in my future work.
Student 12	I hope to gain more knowledge, and secondly, I want to accumulate more learning methods and apply them to my future independent study.
Student 13	I hope like to gain more knowledge and courses related to career guidance.
Student 14	I hope to gain more knowledge to improve my academic level.
Student 15	I hope to gain more knowledge to enrich my life and still be able to graduate.
Student 16	I hope to gain more knowledge to improve myself, and I want to get

Question 1. What do you hope to gain from your online course?

	good grades.
Student 17	I would like to gain more expertise as well as some other knowledge.
Student 18	I hope to get a good grade and gain knowledge that will help me in my future work.
Student 19	I hope to gain the knowledge I need and achieve the appropriate grades.
Student 20	I hope to get more knowledge data, and professional trends.
Student 21	Of course, learning the knowledge taught by teachers is the most important, and online classes can also greatly exercise my learning ability
Student 22	I hope to gain more professional knowledge and also want to get more opportunities to communicate with teachers and complete my studies.
Student 23	I hope to gain more expertise and some knowledge that I can't learn in the classroom.
Student 24	I hope to gain more knowledge and get good grades.
Student 25	I hope to gain more and richer knowledge that will help me in my future work.
Student 26	I hope to gain an understanding of my expertise and a deeper study of my field.
Student 27	I hope to gain more expertise and broaden my knowledge, and the online course will also help me exercise my self-control.
Student 28	I hope to have access to the latest educational resources as well as successfully complete my studies.
Student 29	I hope to gain more knowledge and interaction.
Student 30	I hope to gain more expertise and get good grades.

Question 2. How has the Covid-19 epidemic influenced your learning?

Student 1	Not being able to attend school during Covid-19 will affect your academic situation.
Student 2	Covid-19 affects my study very much and makes my study less efficient.
Student 3	Covid-19 affected me a lot because I was taking online courses during the epidemic, and some of the lab courses would have been harder.
Student 4	Covid-19 has had a big impact on me because I am now a first-year student and the online courses have made me interact less with my classmates. Then the study efficiency has also decreased.
Student 5	Covid-19 had a big impact on our practical courses because some of them were theoretical courses combined with practical courses, and because of the epidemic, the practical courses were can celled, which made some of them very limiting for us.
Student 6	The Covid-19 had a very big impact on my practical courses because the lack of practical courses would have affected my understanding of the course content.
Student 7	Covid-19 did not have much impact on my studies because our school also arranged online classes during the outbreak so it did not affect me much.
Student 8	The impact of Covid-19 on me is that I have less communication with the teacher, home study will make me lose some of my motivation to learn, and I think it will also affect the teaching schedule.
Student 9	On the good side, because of the epidemic, the course became online, I can be free from time and geographical restrictions and have more freedom in time. On the bad side, because the online course made the relationship between me and my classmates not very good.
Student 10	The impact of Covid-19 on me is the practical courses, because most

Question 2. How has the Covid-19 epidemic influenced your learning?

	of our courses are a combination of practical and theoretical courses, and now most of them are theoretical courses and the lack of practical courses will hinder my understanding of knowledge.
Student 11	The impact of Covid-19 on me is that the way I learn has changed and the online courses have made me more self-disciplined.
Student 12	Covid-19 had a great impact on my study because now it's all online courses, which made my relationship with my classmates weaker, my communication with the teachers less, and I don't experience the learning atmosphere on campus anymore.
Student 13	The impact of Covid-19 on me was that it reduced my communication with my classmates.
Student 14	The impact of Covid-19 on me is that some practical courses will not be completed on time, which will have an impact on my studies and will make me lack partial knowledge of professional knowledge.
Student 15	Covid-19 had quite an impact on me because it made my relationship with my classmates weaker, took longer to solve problems, and I couldn't experience the atmosphere that a college campus brings.
Student 16	I think the impact on me is that the relationship with my classmates has become weaker because covid-19 allowed us to move from campus courses to online courses, the teachers' teaching methods have become diversified, and the teaching resources have increased.
Student 17	I think it had a big impact on me because the online course reduced the communication between me and my classmates and also affected the cooperative learning between me and my classmates.
Student 18	I think the impact on me was not experiencing the learning atmosphere on campus, not being able to go to the library to check out books, and not being able to interact with my classmates face to face.
Student 19	I think the impact on me is that I can't participate in some offline

Question 2. How has the Covid-19 epidemic influenced your learning?

	teaching activities, which reduces my interaction with my classmates and teachers.
Student 20	I don't think it affected me because I was also doing online courses during Covid-19 and it didn't delay my study.
Student 21	The covid-19 has changed my teaching method from traditional classroom to a combination of offline and online classes. During this period, I cannot directly raise my doubts with the teacher, which is not good for my study
Student 22	I think the impact on me is that it has reduced my interaction with my classmates and the atmosphere of a face-to-face classroom.
Student 23	I think the impact on me is that the online course can't do some hands-on work, which will have an impact on my learning of the course.
Student 24	I think the impact on me is that the covid-19 period is an online course, which makes the communication between me and my classmates become less, and I can't communicate and learn with my classmates and teachers face to face.
Student 25	I think the impact on me is that online courses phase in at a faster pace than traditional courses because instructors sometimes post course content and course assignments to the platform in advance for students to complete.
Student 26	The impact of Covid-19 on me was the change of teaching style from offline classes to online classes.
Student 27	Covid-19 didn't affect me much because we were teaching online courses during this period, and the teaching schedule could be kept up, and there was no difference with offline courses.
Student 28	Covid-19 did not affect my study very much because during this period our school arranged online courses and the teaching progress was not blocked.
Student 29	Covid-19 has had a great impact on me because my own self-control

Question 2. How has the Covid-19 epidemic influenced your learning?

Student 30	is weak and online courses can cause me to study inattentively and not be able to study properly. The impact of Covid-19 on me is that I can't communicate face-to-face with my teachers, less communication with my classmates, and I feel very lonely.

Question 3. Which courses are of interest to you in the courses of your online studies? Which courses did you find boring and difficult to learn and not very practical?

Student 1	I like to take professional courses because they will help me in my future job. I don't like history subjects, I find it boring.
Student 2	I am more interested in science subjects because these courses can exercise my brain and discuss with each other and make progress together with my classmates, and then I dislike language courses more because they require face-to-face communication and a learning environment for me, and now this environment is affected, so I don't like them.
Student 3	I prefer language courses, such as psychology courses, where you can learn a lot of interesting things. And it is very practical. I don't like operational courses, because because of the epidemic these courses can only become theoretical courses and I find it boring and difficult to learn.
Student 4	Most of the courses were interesting and practical for me. However, some of the practical courses were affected by the epidemic so they became boring and difficult to learn.
Student 5	I like the psychology course the most because it allows me to find out and understand some of my strengths and weaknesses, and I can understand myself better. I don't like the biology course because it is too difficult for me, so I don't like it.
Student 6	I like psychology more because this course makes me learn more some psychological know how and more interested. The course I don't like is chemistry, because I have a poor foundation in chemistry, which is difficult for me.
Student 7	I prefer plant subjects because I like plants more, so these courses are not my major courses but I still study these knowledge seriously because I like plants very much so I am willing to learn about it, and the practicality of these courses is also very strong, there is no course I don't like.

Question 3. Which courses are of interest to you in the courses of your online studies? Which courses did you find boring and difficult to learn and not very practical?

Student 8	I prefer the practical courses because they are very practical for me to understand and grasp more quickly. The course I don't like is the poetry appreciation course, because it is too difficult for me.
Student 9	I prefer design courses because I like to draw so I like some design courses, it's very practical. I don't like literature and history courses because they require memorization and I often get confused so I don't like them。
Student 10	I prefer cultural appreciation classes because they allow me to learn about the history and culture of each country and are practical. Courses that are boring and difficult to learn are not available at the moment.
Student 11	I have enjoyed all of the courses in my major because taking them has given me a deeper understanding of many aspects of my major and they are very practical. There is no course that I do not like.
Student 12	I like practical classes because in these classes, the instructor shares many useful examples and videos to inspire me more and increase my interest in learning. There is no course that I don't like.
Student 13	I like the professional courses because they will be relevant to my future work, and it is practical and can help me in my future work. I don't like the history courses because the online history courses are boring and uninteresting.
Student 14	I prefer language courses because I like to learn about the cultures of different places. I do not like advanced math courses because I am not very logical.
Student 15	I like all my courses quite a lot because the courses I take are very practical and will help me a lot in my future work.
Student 16	I like the advanced math courses because being able to answer the right questions gives me a sense of accomplishment and improves

Question 3. Which courses are of interest to you in the courses of your online studies? Which courses did you find boring and difficult to learn and not very practical?

	my ability to learn independently. There is no course I don't like because all the courses I take are useful to me.
Student 17	I like the practical courses because they not only exercise my hands-on skills, but also allow me to quickly grasp what I have learned. I don't like literature courses because they are more text-based and I find them rather boring.
Student 18	I like language courses because I can learn more about cultural differences from these courses. I do not like biology courses because this course is difficult for me to understand, so I do not like it.
Student 19	I like workshop-style courses because they are very hands-on and I can practice all aspects of my skills and learn a lot. I don't like very theoretical courses because they can make me unable to concentrate.
Student 20	I like the data analysis course because it is very practical and can analyze the current socio-economic situation through a lot of data. I do not like the cultural management course because it is rather boring.
Student 21	Online physical education is the most ridiculous thing for me, and it's also a huge disadvantage for classes that require lab equipment. But online classes are more interesting for literature classes.
Student 22	I like design courses because I like to draw, so I chose the counting major, and I think it is very practical. I don't like the language course because it has more text descriptions and I find it boring, so I don't like it.
Student 23	I like the practical courses because they are very practical and help a lot in the future. I don't like the literature appreciation course because it requires a lot of memorization and is very boring, so I don't like it.
Student 24	I like the language courses because they allow me to learn more about history and culture. There is no course that I don't like because

Question 3. Which courses are of interest to you in the courses of your online studies? Which courses did you find boring and difficult to learn and not very practical?

	the courses I take can help me.
Student 25	I like the Chemistry course because because I can do experiments in this course and it will improve my interest in learning. I don't like the history course because this course needs to memorize some knowledge points, which I think is rather boring.
Student 26	For me the courses I have taken have been very helpful and I like them all. And the courses I have taken are very practical and can help me in my future work.
Student 27	I like the practical courses because they are more interesting and motivate me to learn. I don't like ancient Chinese courses because they require rote memorization and have no interest in learning.
Student 28	I like courses that are interactive because it increases my motivation to learn. I don't like theoretical courses because it's a boring course in itself, so I don't like it.
Student 29	I like the hands-on courses because they are fun to teach in class and don't distract me. There are no courses I don't like because all of them help me with my studies.
Student 30	I like all the courses because they are helpful for my studies and very practical. I don't have a class I don't like.

Question 4. What impact do you think online course resource sharing has on the quality of education?

Student 1	Because the sharing of educational resources allows students to learn a lot beyond the textbook, it allows them to experience more ways of teaching and improves the quality of education.
Student 2	The sharing of resources in online courses allows students to learn more, (e.g., they can learn from courses shared by other schools), share teacher resources and learning styles, curriculum resources, etc. all have a significant impact on improving the quality of education.
Student 3	Online course resource sharing can address some of the gaps and shortcomings in education. Because each school has its own education system, resource sharing can fill these shortcomings and greatly improve the quality of education.
Student 4	The sharing of online course resources has a significant impact on the quality of education because it allows students to learn more and different things. Learning more ways of teaching and learning. This will increase students' interest in learning and the quality of education will improve as well.
Student 5	Online course resource sharing can improve students' interest in learning and add some knowledge that they lack. This is important for education and the quality of education has improved.
Student 6	Online course resource sharing can enrich our teaching knowledge, and we can also participate in different professional courses to discuss knowledge with other students, which makes education knowledge more comprehensive and improves the quality of education.
Student 7	Sharing online course resources can diversify our curriculum and increase our interest in learning. Thus, the quality of education is improved.

Question 4. What impact do you think online course resource sharing has on the quality of education?

Student 8	Online course sharing makes the most of teaching resources as well as maximizing shared resources. Online courses are less costly, have a richer curriculum approach, and increase student interest in learning. It has a great impact on the quality of education.
Student 9	Sharing resources allows for more learning, allows students to experience the different teaching styles of each university and learn the best courses from each university, which has a great impact on the quality of education.
Student 10	Because resource sharing enables students to learn more useful knowledge, reduces the gap between good schools and ordinary schools, integrates resources, and effectively improves the quality of education.
Student 11	I think it can effectively improve the quality of education in remote areas, so that more remote students can learn a lot of quality teaching content.
Student 12	The sharing of course resources makes it easier for students to learn knowledge. You can search for the knowledge you want in various networks, and you can also watch the fine courses of many famous teachers, which solves the problem of uneven distribution of teachers, which makes the quality of education greatly improved.
Student 13	Online course resource sharing solves the problem of uneven distribution of teachers' level and allows students to learn a lot of learning methods, but because of the wide range of teaching resources, it will add some troubles to students.
Student 14	I think the sharing of resources will bring a lot of help to more students, solve the problem of lack of resources, and greatly improve the total quality of education.
Student 15	I think online course resource sharing allows students to learn more useful knowledge, to share good resources from various schools, and to watch more teachers' course videos.

Question 4. What impact do you think online course resource sharing has on the quality of education?

Student 16	I think resource sharing solves the problem of lack of good resources in geographic areas and allows students in remote areas to learn more good courses that will help them learn more.
Student 17	I believe that resource sharing can expand the educational delivery and enrich the curriculum resources.
Student 18	The sharing of resources allows more students to learn different knowledge and enrich our experience, as well as to watch the courses of some famous teachers from key schools, which can improve the quality of education.
Student 19	I think resource sharing can make online courses more comprehensive and diversify teaching methods.
Student 20	I believe that resource sharing can improve the quality of education, which can allow students to learn in an equal space and reduce the difference of educational resources.
Student 21	This is actually more convenient for students to learn by themselves, which is beneficial from this point of view.
Student 22	I think resource sharing has improved the overall quality of education because it allows more students to learn many master classes and solves the problem of lack of resources.
Student 23	Resource sharing increases student learning of a larger, more comprehensive curriculum. It has a significant impact on the quality of education.
Student 24	Resource sharing can improve our performance, because students can learn the content taught by famous teachers and study the quality courses of other schools. This can effectively improve the quality of education.
Student 25	Resource sharing plus participation in the workforce, people who do not have the opportunity to go to school have the opportunity to learn more, which can improve the quality of people's education, and also improve the quality of education.

Question 4. What impact do you think online course resource sharing has on the quality of education?

Student 26	The sharing of resources will increase healthy competition among universities, thus promoting the quality of teaching and education.
Student 27	I believe that resource sharing across spatial distances makes school education open-ended, with abundant educational resources and free learning time. Students learn more comprehensive knowledge and improve the overall quality of education.
Student 28	Resource sharing can integrate the latest resources from various sources, which is a great improvement to the quality of education.
Student 29	Resource sharing can enrich students' knowledge and enable them to learn the curriculum of teachers in other schools. It improves the overall quality of education.
Student 30	Online course resource sharing has an impact on the quality of education because it allows students to learn more about teaching and learning methods. This will increase students' interest in learning and the quality of education will also improve.

Question 5. What is your favorite style of learning and why do you enjoy it?

Student 1	I like the independent study method, because this way of study can freely control the study time and place, more convenient. So I like the independent learning way of learning.
Student 2	I like the face-to-face teaching method because it allows better communication and mutual learning, and it is also more interesting.
Student 3	I prefer the independent learning approach because I usually bring up the pre-course and review the course after class, and I feel that this effectively improves the quality of my learning.
Student 4	I like the game-based teaching style because it makes the class more interesting and holds my attention.
Student 5	I like the face-to-face teaching style because it improves the effectiveness of my learning by solving problems I encounter in a timely manner.
Student 6	I like the face-to-face teaching method because the teacher can solve the problem in a targeted way, and can also answer my confusion in a timely manner, and can communicate effectively with the teacher.
Student 7	The way I like the most is the workshop learning style, because the workshop learning style is very practical, which can make the theory and practice combined and help a lot in the future.
Student 8	I prefer the online teaching method because I can use electronic devices to make the class more interesting and to make the course content easier.
Student 9	I prefer the game teaching method because it can increase my interest in learning and make me take the initiative to learn the knowledge.
Student 10	I like the diversified teaching style because diversified teaching can improve my interest in learning.

Question 5. What is your favorite style of learning and why do you enjoy it?

Student 11	I like the cooperative teaching method, on the one hand, I have the teacher's supervision and guidance, and on the other hand, I can learn independently, I like this combination.
Student 12	I like the cooperative teaching method because I like to discuss and complete the tasks assigned by the teacher with my classmates.
Student 13	I like the independent study approach because it allows me to make a study plan according to my own situation and also enhances my independent study ability.
Student 14	I like entertainment because it enhances students' interest in learning and makes the course itself interesting and easy to understand.
Student 15	I like the interactive learning style because I think the interactive learning with the teacher can make me grasp the key knowledge quickly, and the interaction with my classmates can check my shortcomings and fill in my shortcomings, so I like this learning style.
Student 16	I like the one-on-one learning style because it allows me to target problems and develop a learning plan and goals that meet my own.
Student 17	I like the independent study method because I can arrange my study time and study plan freely.
Student 18	I like to study independently. Because this way of study can exercise my self-discipline and I can allocate my own study time.
Student 19	I like to study independently because I can grasp the progress of my own study.
Student 20	I like to combine online and offline. This is because online courses can be saved for repeated study, while offline courses can have some teaching activities to increase students' interest in learning.
Student 21	I like to discuss learning with my teammates the most, because I know that in the future I will be at the forefront of technology, when we all need a learning team.

Question 5. What is your favorite style of learning and why do you enjoy it?

Student 22	I like the inquiry learning method because this way can independently and independently discover problems, investigate, collect and process information, express and communicate and other exploration activities, acquire knowledge and skills, and develop the spirit of exploration and creative ability.
Student 23	I like the online learning method because it allows me to allocate my time freely and the resources are abundant and diverse.
Student 24	I like the knowledge blocking learning method, because the knowledge blocking, on the one hand, can be easily recalled, when you need to extract only once, rather than from many places piecemeal; on the other hand, the use of efficiency will be higher, more easily to stimulate new ideas.
Student 25	I like the independent study method because I can plan my study schedule freely and I am more motivated to study.
Student 26	I like to study on my own, then pre-study, then listen to the teacher, and then review at the end. This way you can grasp the knowledge in a comprehensive way.
Student 27	I like independent learning because students as the main body of learning, students make their own decisions, not dictated by others, not subject to external interference through reading, listening, research, observation, practice and other means so that individuals can get continuous change.
Student 28	I like online video learning because it is lively, repeatable, open-ended, and exercises active thinking.
Student 29	I like to study with my classmates because I can make up for my shortcomings and learn from other students' good points.
Student 30	I like the way of independent study, because I can arrange my study time and plan freely, and can control the study progress, which is very helpful to my study.

Question 6. Are you satisfied with your present study environment?

Student 1	Satisfaction. Even now it is an online course, the atmosphere of learning is very good.
Student 2	Satisfied, Because now are online courses can be studied at home, you can also listen to a course repeatedly, think it's good.
Student 3	Satisfaction.
Student 4	Satisfaction.
Student 5	Very satisfied, Because the teaching atmosphere is now very good.
Student 6	Satisfied. Because the online courses are now convenient and the time is very free.
Student 7	Very satisfied, Because we now have a good learning environment.
Student 8	Satisfaction.
Student 9	Satisfaction. Because the learning method is more convenient.
Student 10	I am not satisfied. Because I have poor self-control. Because of the epidemic offline courses are converted into online courses, and the online course teacher cannot monitor every student, so the online course will affect my learning efficiency.
Student 11	Satisfaction.
Student 12	Satisfaction. Because the learning atmosphere is good now.
Student 13	Satisfaction.
Student 14	Satisfaction.
Student 15	Satisfaction. Because the teacher's teaching style I like very much, also can motivate the students to learn.
Student 16	Satisfaction.
Student 17	Satisfaction.
Student 18	Satisfaction. It's convenient because the online course does not require going to school.
Student 19	Satisfaction. Because the study environment is quiet, it allows me to relax.

Question 6. Are you satisfied with your present study environment?

Student 20   Satisfaction.

Student 21   I am very satisfied with the current learning environment.

Student 22   Satisfaction. Because the learning atmosphere is good now, especially for group work, group members actively support and cooperate with each other, and are able to communicate effectively and maintain mutual trust among group members.

Student 23   Satisfaction.

Student 24   Satisfaction.

Student 25   Satisfaction. Because the students are very motivated and the learning atmosphere is good.

Student 26   Satisfaction. Because of the diversified teaching methods of the online course, it improves the students' interest in learning.

Student 27   Satisfaction. Because the teaching atmosphere is better.

Student 28   Satisfaction.

Student 29   Satisfaction.

Student 30   Satisfaction.

Question 7. What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?

Student 1	Because the online course is more convenient to complete all the tasks assigned by the teacher. The time and place is also convenient.
Student 2	Because the time of the online course is more free, it can also reduce a lot of unnecessary troubles in this special period.
Student 3	Because the diversity of teaching in online courses attracts me, different teachers have different teaching styles for the same course, which will make it interesting and increase my interest in learning.
Student 4	Because online courses are the safest and most convenient as far as the moment is concerned.
Student 5	Online courses can enrich my teaching content and methods and increase my interest in teaching. Because online courses can make up for a lot of my other knowledge.
Student 6	Because the online course is not limited by geography, the time is free, and the teaching resources are abundant and the teaching methods are diverse. All these are very attractive to me.
Student 7	I think it was the convenience of the online courses and the abundance of resources that attracted me.
Student 8	Because online courses develop students' personalities, it has no space limitations, there are very many great resources, and the cost of teaching is lower. These are the reasons that attracted me.
Student 9	Because the online course time is free and there is no space limitation. Abundant resources. Can experience different teaching styles.
Student 10	I think online courses are more convenient and free.
Student 11	I think it is the convenience and resourcefulness of online courses that attracts me.
Student 12	I think the main thing is to finish my studies, and secondly because of the convenience and rich teaching resources of the online courses, the knowledge of which will help me a lot later in life.

Question 7. What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?

Student 13	I think it is the freedom of the learning environment of the online course and the time is also free. Reduce come a lot of ties.
Student 14	The convenience of the online courses has reduced a lot of hassle for me and has given me more comprehensive help in my studies.
Student 15	Online courses are very convenient for me, and the class location is not fixed, so I have more time for self-study, and the online courses are rich in resources, so it is convenient for me to learn various knowledge.
Student 16	I think it's the online courses that are more convenient and have more resources, so you can study at home.
Student 17	I think this is very convenient because online course instructors can assign teaching tasks directly on each platform and also watch teaching videos repeatedly to reinforce what they have learned.
Student 18	Because online courses promote the diversity of teachers' teaching and increase students' interest in learning.
Student 19	I think the online course allows me to keep up with the instructor because the online course allows me to review and repeat what I don't understand.
Student 20	Because the online course is more convenient, it saves me a lot of time, and the online course is kind of real-time.
Student 21	It's mainly the pressure that pushes me to study, because it's easy to get stuck in online learning.
Student 22	I think it comes from the desire for knowledge. The online courses are rich in resources and diversified in teaching, which enable me to acquire more useful knowledge.
Student 23	Because the online course created a new learning environment in which I could get a bigger boost, I could go and watch videos of famous teachers' courses from famous schools, which helped me a lot.

Question 7. What do you believe encourages you to participate in online learning as opposed to traditional classroom instruction?

Student 24	I think the online course is very convenient and there are many teaching resources. It can check and fill in the gaps for our teaching content.
Student 25	Because online courses are relatively intuitive, the instructors' teaching methods are diverse, and it is relatively easy for us to learn.
Student 26	I think the main thing is that the online courses can be recorded so that you can review what you have learned over and over again.
Student 27	I think it is for better completion of my studies, and secondly, there are more teaching methods in online courses, so I can choose the way I like to study.
Student 28	I think online courses are free, with no geographical restrictions and free time at my disposal.
Student 29	Because online courses are more convenient and resourceful to learn, you can study the teacher's course videos at any time.
Student 30	I think online courses are more convenient and have more resources. You can learn more courses from famous teachers, and you can also learn more of my other courses.

Question 8. If you experience an inability to concentrate in an online course, what do you think is the main reason?

Student 1	Because I have little self-discipline, I am easily distracted by what is going on around me.
Student 2	I think the reason is the lack of concentration, because it is online teaching, the teacher is not around so there is no classroom discipline, it will be attracted to other things led to the inability to focus.
Student 3	I think the main reason is that I will be influenced by my surroundings, such as being interrupted by my family, etc. All will have an impact on my online courses.
Student 4	Because online courses do not have offline classroom constraints, teachers cannot do 100% classroom discipline control, so they will be lax.
Student 5	Because the external environment will have an impact on me, followed by the difficulty of the course content will have an impact on me.
Student 6	Because the course content is difficult to understand.
Student 7	I think it is an external reason, because there are some external factors that can disturb the learning process.
Student 8	I think it's the difficult course content that makes it easy to be drawn to other things, resulting in a lack of concentration in class.
Student 9	I think it's a little more of an external factor because the online course instructor has limited energy and without classroom constraints, I would get caught up in other things, making it impossible to focus.
Student 10	I think the main reason is that their own self-control is relatively poor, will be influenced by the external environment.
Student 11	I think it's the external environmental factors that can make it impossible to focus because of looking at your phone or doing something else.

Question 8. If you experience an inability to concentrate in an online course, what do you think is the main reason?

Student 12	I think it's the fact that I get distracted during the course and get caught up in other things that prevent me from concentrating.
Student 13	I think it was because the teacher's lessons were not engaging enough to focus my attention.
Student 14	I think it is the environmental factor, because online courses do not have classroom constraints, which can make me carry something and be attracted to other things and unable to focus.
Student 15	I think it's because I'm not focused enough and will want to go to my phone and be attracted to other things, so I can't concentrate.
Student 16	I think it was the lack of understanding of the course, and I lost interest in learning when I thought the course was difficult, which led to my inability to concentrate.
Student 17	I think it is the temptation of other electronic devices, for example, I can't help but look at my phone during online courses, and I can't concentrate.
Student 18	I think the main reason is that self-control is not strong and you will be attracted to other things, so you can't concentrate.
Student 19	I think it is because the course is boring and can be affected by other electronic devices, so I can't concentrate.
Student 20	I think I am attracted to other electronic devices, so I can't concentrate.
Student 21	I think the main reason is that the learning atmosphere is relatively poor, and sometimes there are news interruptions.
Student 22	I think the main reason is that there is no sense of classroom atmosphere, no sense of atmosphere with classmates.
Student 23	I think the main reason is that there is no classroom atmosphere and one is easily distracted in class at home, which makes it impossible for me to concentrate.

Question 8. If you experience an inability to concentrate in an online course, what do you think is the main reason?

Student 24	I think the main reason is that without the environment to set the scene, I am unable to concentrate and easily distracted to do other things.
Student 25	I think the main reason is that I have little self-discipline and can be influenced by the people around me causing me to be unable to concentrate.
Student 26	I think it is the lack of supervision from the teacher and my own lack of self-discipline that causes my inability to concentrate.
Student 27	I think it's the lack of self-control that can be influenced by my surroundings and can be more than a little indulgent, so it causes me to be unable to focus.
Student 28	I think the main reason was that I would get distracted during the course, so it caused me to be unable to concentrate.
Student 29	I think it is the lack of self-control and secondly because the content of the teacher's course is boring. So it would make me unable to concentrate.
Student 30	I think the main reason is that there is no sense of classroom atmosphere, and it will be affected by external factors, such as mobile phones.

Question 9. Do you like the interaction with the teacher in your online course?

Student 1	I like to interact with the teachers. Like to interact a little more with the younger teachers.
Student 2	I don't like to interact with the teacher because of the imperfection of the equipment, such as my headphones sometimes have sound and sometimes don't have sound.
Student 3	I don't like to interact with teachers because of my own introverted personality.
Student 4	I like to interact with my teachers because I can't even talk to them face to face because of the epidemic, and if I don't interact with them more, I can't deepen their impression of me. So this is the main reason why I like to interact with teachers.
Student 5	I didn't like interacting with the teacher very much because I was afraid I would get the answers wrong and delay the teacher's progress.
Student 6	I don't like to interact with the teacher. Because sometimes too many students answer the teacher can not notice me, and secondly, some courses are difficult to understand, so I do not like to interact with the teacher online course.
Student 7	I like to interact with the teacher because interaction with the teacher can effectively solve my problems and shortcomings.
Student 8	I will look at it based on the course, if it's a course I like, I interact more with the teacher, if it's a course I don't like, I don't interact with the teacher.
Student 9	I like to interact with teachers, and prefer to interact with teachers who are humorous.
Student 10	I rarely interact with teachers because I am more afraid to interact with them.
Student 11	I like to interact with the teacher. Because interacting with the teacher solves my problems and improves my communication skills.

Question 9. Do you like the interaction with the teacher in your online course?

Student 12	I like to interact with the teacher. Because interacting with the teacher can let all my classmates know what I think, and it is a way to show myself and exercise my courage. That's why I like to interact with teachers in online courses.
Student 13	I like to interact with the teacher. Because online courses and teacher interaction will enhance my self-confidence.
Student 14	I like to interact with the teacher because the teacher's class is interesting and I like to communicate more with the teacher.
Student 15	I like interacting with the teacher because it gives me a quick grasp of the knowledge and also hones my communication skills. So I enjoy interacting with the teacher.
Student 16	I like to interact with the teacher, which can practice my communication skills and help me a lot in my study.
Student 17	I like the interaction with the teacher. Because it can increase the communication between me and the teacher.
Student 18	I don't like to interact with the teacher. Because the online course makes me feel that there is no learning atmosphere and I can't learn.
Student 19	I like interacting with the teacher because I don't get nervous interacting with the teacher in online classes and I can work on my communication skills.
Student 20	I don't like to interact with teachers because I am introverted and afraid to communicate with them.
Student 21	I don't like it very much, because often both parties don't understand each other very well.
Student 22	I like to interact with the teacher. Because interacting with the teacher makes you grasp what you have learned faster and remember it more firmly.
Student 23	I don't like interacting with the teacher because the electronic devices occasionally have problems, so it causes me to interact with the teacher less or not at all.

Question 9. Do you like the interaction with the teacher in your online course?

Student 24	I like to interact with the teacher. Because it improves my concentration and I can do better in what I am learning.
Student 25	I like to interact with the teacher because it improves my concentration.
Student 26	I don't like to interact with the teacher because online courses are done with the help of electronic devices and it is not very convenient to communicate with the teacher.
Student 27	I like to interact with the teacher. Because I can solve the problems that I don't understand in time.
Student 28	I don't like interacting with the teacher. Because there are many students answering questions in the online course, the teacher may not notice myself, and after a long time, I do not like to interact with the teacher.
Student 29	I like to interact with the teacher. Because it can improve my interest in learning.
Student 30	I like to interact with the teacher. Because working with teachers will improve my communication skills, it will help me a lot in learning.

Question 10. Do you think online courses will become the mainstream way of education in the future?

Student 1	I don't think online courses will become the mainstream education method in the future. Because some areas in China are not up to the requirements of online courses yet, and there are not enough online facilities. It is also easier to get closer to students and communicate better with them in traditional classes than in online courses.
Student 2	I think online courses will become the mainstream education method in the future. Because online courses are more convenient, there is no fixed location, and then resources are abundant. So I think it will become the mainstream education method in the future.
Student 3	I think online courses will become the mainstream education method in the future. Because online courses can share resources, you can watch them over and over again, you can watch online course videos of famous teachers from various schools, and I think these are the advantages that online courses bring. So I think online courses will become one of the mainstream ways of education in the future.
Student 4	I think online courses will become the mainstream education method in the future, Because with the progress of society, the Internet is becoming more and more developed, and everyone likes to learn in a convenient way, so I think online courses will become the mainstream education method in the future.
Student 5	I think online courses will become the mainstream education method in the futurel. Become the mainstream education method in the future, Because online courses are more resourceful and interesting than offline courses. So I think it will.
Student 6	I don't think online courses will become the mainstream education method in the future, Because online courses over time will make the relationship between students weaker, communication less, and the connection between teachers and students not as strong.

Question 10. Do you think online courses will become the mainstream way of education in the future?

Student 7	I don't think online courses will become the mainstream education method in the future, Because if it's all online courses in the future, this will reduce the communication and familiarity between teachers and students, and students and students. So I don't think online courses will become the mainstream education method in the future.
Student 8	I don't think online courses will become the mainstream education method in the future, Because online courses can alienate the students from the teacher and the teacher can't play a good role in guiding them.
Student 9	I don't think online courses will become the mainstream education method in the future, Because China has a large population base, uneven network 10.distribution and geographical limitations, and secondly because Chinese education has been traditional teaching, some parents may not understand or receive online courses. So I think online courses may not become the mainstream education method.
Student 10	I think online courses will become one of the mainstream education methods in the future. Because with the advancement of social technology, online courses will become more diversified, richer and more comprehensive resources. Solve the problem of geographical limitation.
Student 11	I think online courses will become the mainstream education method in the future, because as society progresses, online courses will become more perfect and will be liked and supported by more people because it is convenient and convenient for more people to get knowledge.

Question 10. Do you think online courses will become the mainstream way of education in the future?

Student 12	I think online courses will become the mainstream education in the future. Because online courses can share resources, students can easily get more effective resources, and it also solves the problem of uneven distribution of quality resources. So I think online courses will become the mainstream education method in the future.
Student 13	I don't think online courses will become the mainstream education in the future. Because learning itself still needs regulations and a uniform environment to enhance students' learning ability, and students also need to have the school environment to discipline themselves. Because online courses are more about empowering students to learn on their own. So I think the future will still be based on traditional teaching.
Student 14	I think online courses will become the mainstream education in the future. Because online courses are the safest and most effective way to learn in the Covid-19 environment.
Student 15	I think online courses will become the mainstream education in the future. Because online courses have more resources, no fixed teaching location and no geographical restrictions.
Student 16	I think online courses will become the mainstream education in the future. Because in the future, online courses will not only face students in schools, but also facilitate many people who work to learn.
Student 17	I don't think online courses will become the mainstream education method in the future. I think the future will still be based on classroom teaching, because students are in need of teachers as guides and schools can discipline students for their lack of self-discipline.

Question 10. Do you think online courses will become the mainstream way of education in the future?

Student 18	I don't think online courses will become the mainstream education in the future. Because no matter how well society develops, education still needs to be chartered and standardized. Teachers need to guide students to learn.
Student 19	I don't think online courses will become the mainstream education method in the future. I think face-to-face classes are the best way to communicate and share teaching and learning.
Student 20	I think online courses will become the mainstream education method in the future, because in the future online courses will be better, face a wider range of groups, and online courses are less expensive. So I think online courses will become the mainstream education method in the future.
Student 21	I don't think so. For now, the advantages of traditional classrooms are still very large. If it wants to become mainstream, it must overcome the problem of low quality of teaching. I think it is more likely that the combination of online classrooms and traditional classrooms will become mainstream.
Student 22	I think online courses will become the mainstream education in the future. In the era of big data, online courses can effectively improve the quality of education and make up for the shortcomings of education.
Student 23	I think online courses will become one of the mainstream education methods in the future. Because the future society is the era of big data, and online courses will become more perfect and standardized, both in terms of electronic equipment and teaching resources. So I think online courses will become the mainstream education method in the future.
Student 24	I think online courses will become one of the mainstream education methods in the future. Because in the future the Internet will be

Question 10. Do you think online courses will become the mainstream way of education in the future?

Student 24	more developed, and online courses will become better and more easily accepted and used by the public.
Student 25	I don't think so, because I think traditional teaching is more suitable for students, and online courses can be used as a supplementary teaching method to traditional courses, and the combination of the two formats may work better.
Student 26	I don't think so. No matter how society develops in the future, traditional teaching is the basis of education, and online courses can only be used as supplementary courses. It is unlikely to become the mainstream education in the future.
Student 27	I think online courses will become one of the mainstream education methods in the future. Because the future society is definitely the era of information and big data, and online courses are a form of connecting with the information age, followed by the high popularity of electronic devices, and more students will choose online courses. So I think online courses will become the mainstream education method in the future.
Student 28	I think online courses will become the mainstream education method in the future.
Student 29	I think online courses will become one of the mainstream education methods in the future. Because the future is definitely the information age, everyone to the convenience of the main, online course learning cost is low, learning time is free, will be more people accept and adopt.
Student 30	I think online courses will become the mainstream education method in the future. Because online courses are convenient, have many resources and are very safe, they will be accepted and used by more people.

BIOGRAPHY

Name	Yucheng Jiang
Date of birth	August 21, 1993
Place of birth	Yunnan, China
Education background	Kunming College of Yunnan University
	Bachelor of Water Resource and Hydropower Engineering, 2017
	Rangsit University, Thailand
	Master of Education in Curriculum and Instruction, 2022
Address	Yunnan, China
Email Address	405852073@qq.com