THE EFFECT OF UTILIZING TECHNOLOGY IN THE ONLINE CLASSROOM IN NATIONAL OPEN UNIVERSITY BEIJING, CHINA

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ABSTRACT

The purpose of this research was to study the differences in demographic factors affecting the online classrooms at the National Open University Beijing, Beijing China and to study the relationship of utilizing technology with the online classrooms at the National Open University Beijing. All 385 professors from the National Open University Beijing were selected by the method of systematic random sampling using questionnaires as research tool for the data collection. Data were analyzed by the frequency, percentage, mean and standard deviation, testing through and testing the hypothesis with t-test, F-test and Pearson correlation.

The results showed that:

different demographic factors in terms of gender, age, education level and average monthly income had a statistically significant effect on the online classrooms at the National Open University Beijing at the high level and the utilizing of technology was positively correlated statistically significant with the online classrooms in all aspects.

Keywords: Utilizing Technology; Online Classroom; Classroom Training; Blended learning; e-Learning

1. INTRODUCTION

In the 21st century, lifestyles are getting more and more dependent on technological advancements. It would be advantageous for educators to integrate technology into the learning environment as opposed to ignoring this fact. Huang, Liu, Tlil, Yang and Wang (2020) state that different technology teaching aids and assess their effectiveness in the classroom. To keep a classroom entertaining as kids are exposed to technology at earlier ages, teachers must learn to adjust to the shifts in their students' attention spans and learning

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preferences (Barr, Danziger, Hilliard & Andrade, 2015).

With the development of educational technology, the updating of educational mode and the change of talent demand, the current teaching mode of college mathematics has been challenged severely. In particular, with the new coronavirus (2019-nCoV) outbreak in large areas of the world, forcing offline education to temporarily halt. In the "epidemic" impact, the current teaching situation will push back the teaching philosophy must be further updated (UNESCO, 2020). At the same time, the teaching situation must require the integration of specific curriculum teaching and online teaching, drive the coordinated development of educational resources in the whole society, promote the reform of information teaching to be concrete, deep and universal, and then promote a new round of teaching mode reform to the deep-water area. At this time, a large number of scholars, educators are conducting in-depth thinking and exploration. This paper is aimed at the exploration and practice of online teaching of Advanced Mathematics, and analyzes the new problems in the process of implementing the "Rain Classroom" platform in curriculum teaching. A hybrid teaching model based on "Internet+" big data is put forward in order to improve the teaching quality of new-type compound talents (Huang, Liu & Huang, 2019).

Since the 1970s, China has established radio and television universities in various parts of the country. The use of satellite technology for distance learning to meet the needs of social workers to learn, to obtain diploma (Zhang, 2016). With the development of science and technology, distance education is challenged severely. In 2012, the National Open University was officially established, and the original Radio and Television University has been suspended or transformed into a local Open University. As a result, an open university system with Chinese characteristics has been initially formed. Based on this, 2012 is also known as China's "first year of MOCs". With the further development of science and technology, there are many forms of online courses, such as Micro-Course, MOOC and SPOC (Jacob & Issa, 2017). In order to better regulate the ecology of online education, in April 2018, the Ministry of Education issued the "Action Plan for Education Informatization 2.0", which promotes the rapid development of online education based on the "Internet Education" platform. However, the exploration of online teaching mode for mathematics curriculum has not obtained the universal law, and its teaching effect has not been verified by the teaching practice on a large scale. China first began the "suspension of classes non-stop learning" teaching model, With a new coronavirus outbreak in the world by 2020 (Ma, Fan, Li, Li & Li, 2021). As a result, online education has been carried out in an all-round way in China, which provides the possibility for online teaching practice verification. This study focuses on using technology to teach accountancy for undergraduate' students using blended learning methods, which are live and demand method for the online classroom at National Open University Beijing, China.

2. RESEARCH OBJECTIVE

1.To study the differences in demographic factors affecting the online classroom at National Open University Beijing China.

2. To study the relationship between utilizing technology and the online classroom at the National Open University in Beijing, China.

3. RESEARCH HYPOTHESIS

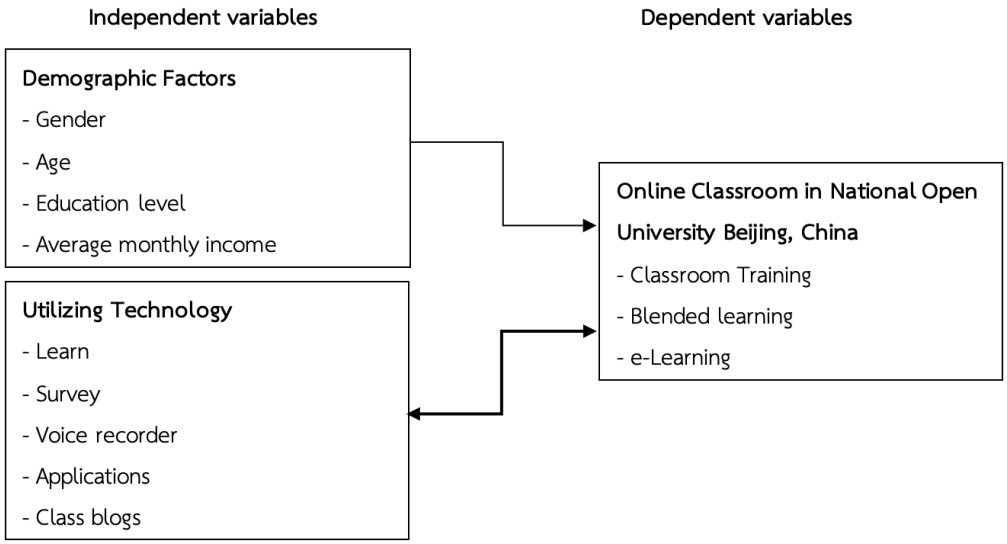
1. Different demographic factors affect the online classroom at National Open University Beijing China.

2. Utilizing technology has a positive relationship with the online classroom at the National Open University in Beijing, China.

4. CONCEPTUAL FRAMEWORK

Figure 1

Conceptual Framework



5. LITERATURE REVIEW

As a psychological term, style was formally introduced by Allport in 1937 when he identified it to be a means of identifying distinctive personality types or types of behaviors. With the further development of some social sciences such as Psychology, Linguistics, and SLA, more and more affective, cognitive and physiological factors are integrated into its category (McAdams, 2015; Holmes, 2013; Ellis, 2015). Therefore, Lee and Kim (2014) refer to it as a consistent and rather enduring tendency or preference within an individual and styles as those general characteristics of intellectual functioning (and personality types as well) that especially pertain to one as an individual that differentiates one from someone else. With the emergence of cognitive psychology, some cognitive psychologists put forward a more specific term --- cognitive style, which refers to an individual way of processing information. It is used for describing or analyzing the research into problem solving and sensory or perceptual abilities. And this research provides some of the first evidence for the distinctive styles. In 1970s, as researchers turned to styles in learning and teaching, the concept of learning style emerged, which, unlike cognitive style, focused on educational situation where style was seen as most useful (Curry, 2012). It was just then that psychologist and linguists began to do some research on

learning styles. Keefe, as a prominent figure at the time, defines them to be “cognitive, affective and physiological traits that are relatively stable indications of how learners perceive, interact with and respond to the learning environment” (Richardson, Abraham & Bond, 2012). But perceive learning styles as stable and pervasive characteristics of an individual, expresses through the interaction of one’s behavior and personality as one approaches a learning task (Curry, 2019). From the above definition, we can see that pervasiveness and consistency seem to be common features. of learning styles. Since 1980s and early 1990s, the research about learning styles has become more mature and systematic; some researchers have incorporated their own unique perspectives or new understandings into the definition of the term. Scarcella redefines it as “cognitive and interactive patterns that affect the way in which students perceive, remember and think” (Mayer, 2018). And Chen and D’Mello (2018) also provides her definition for learning styles, according to her, learning styles are the ways that the students at any age are affected by their (a) immediate environment, (b) own emotionality, (c) sociological needs, (d) physical characteristics and (e) psychological inclinations when concentrating and trying to master and remember new or difficult information or skills. The above definitions are summarized by Kinsella: “Learning styles refer to individual, natural, habitual and preferred ways of absorbing, processing and retaining new information and skills which persist regardless of teaching methods and content area” (Kolb, 2015).

Baticulon et al. (2021) studied the barrier to online learning in the context of medical students in the Philippines. The authors collected data using the electronic survey in mid-2020 from 3670 medical students. Their survey includes various questions ranging from multiple choices on the Likert scale to open- ended questions. The majority of participants own smartphones and laptops or desktop computers. Less than half (41%) of the students were “physically and mentally capable of engaging in online learning”. The barriers identified are adjustment to the online learning style, balance with family responsibilities, and communication issues between learners and instructors. First, since the pandemic came very suddenly, students, faculties, school administrators, and the curriculum were not yet ready to switch the delivery mode. Second, studying at home made it harder for students to balance family responsibilities.

Learning with technology refers to material that is presented with words and pictures so that students can better understand the material if it is presented with words and also pictures rather than with words. According to Puspitarini and Hanif (2019), in general, learning media means teaching and learning tools which can be used to stimulate the skills of learners, thoughts, and feelings, therefore facilitating the learning process. Based on Mohd Shaharanee, Jamil and Mohamad Rodzi (2016), media can be important in active learning such as group discussions or case studies. Examples of media can include a film, song, or newspaper article, even students can make their own media. Media is an important component in the learning system, the communication process will not run optimally in learning without the media.

Practices of blended learning have turned out to be widely accepted in educational networks around the world, furnishing students with all the more fascinating and effective instruction, which is customized to their own needs. Blended Learning was identified as a mix of materials and teaching methods of face-to-face

(F2F) or direct learning in a classroom and online methodologies (e-learning) in formal education. Direct (face-to-face) learning guideline includes collaboration between instructors and students who are in a similar area, whereas communication technologies (ICT) and online methodologies essential to intervene cooperations and the learning knowledge without requiring that instructors and students to be in face-to-face contact. The method of conveyance methodologies using mixed learning has been successful in increase student performances and experiences, with the additional estimation of expanded student availability to programs; Subsequently instead of helping with the increment ratio on getting a good result and diminish instructor costs, it is also possible to apply the mix model in creative approaches.

6. RESEARCH METHODOLOGY

1. Population and sample

The participants of this study were 385 teachers were from National Open University Beijing China People's Republic of China. The sampling method used in this research is non-probability random sampling, specifically employing a convenient random method. The researchers searched for individuals who were willing to participate in the questionnaire from the National Open University of Beijing, China, until the desired sample size was reached.

2. Research Instrumental

Questionnaire on demographic from the participants, which is a questionnaire to choose to answer (Check List) with questions about gender, age, education level. and average monthly income. an opinion of the respondents about the three essential online learning methods which are Learn, Survey, Voice recorder, Applications, Class blogs. The questionnaire was a rating scale by asking the respondents to choose 5 levels of opinion, namely the most, the most, the medium, the least and the least. Opinion of the respondents about the until zing technology for learning Instructions, by asking the respondents to choose 5 levels of opinion, namely the most, the most, the medium, the least and the least. Classroom Training, Blended learning, E-learning using the Interval Scale or an approximation scale. Value (Rating Scale) The nature of the question is a closed-ended scale.

3. Data analysis

The personal factors of the respondents analyze the data by using the frequency (F) and find the percentage (%). Opinion of the respondents about the three essential online learning methods which are Learn, Survey, Voice recorder, Applications, Class blogs. The researcher took the data obtained from the questionnaire and processed it to find the statistical value. The mean (x) and standard deviation (S.D.) were used by using the complete questionnaire to analyze the data. and interpreted from the average obtained by the criteria of Best, (1977). Testing the Hypothesis Assumption 1Opinion of the respondents about the utilizing technology for learning Instructions. In case of statistically significant difference at 0.05 level of significance, the difference between pairs is checked by Significant Difference (SD) and Pearson correlation.

7. RESULT

1. The results of the general data analysis of the respondents were mostly female (70.1%), aged 31-40 years (39.5%), had a bachelor's degree (82.1%) and average monthly income. More than 10,000 yuan (27.8%),

Table 1

show detailed results for each variable

Variables	$\bar{X}$	SD	Opinion level
Utilizing Technology	3.73	0.15	High
Learn	4.08	0.23	High
Survey	3.82	0.29	High
Voice recorder	3.59	0.32	High
Applications	3.72	0.23	High
Class blogs	3.45	0.23	High
Online Classroom	3.76	0.19	High
Classroom Training	3.32	0.30	Moderate
Blended learning	4.02	0.30	High
e-Learning	3.95	0.25	High

2. Hypothesis test results

Table 2

shows the test of hypothesis 1.

Teachers' self-confidence	Gender (t-test)	Age (F-test)	Education level (t-test)	Average monthly income (F-test)
Classroom Training	3.574***	14.274***	-8.399***	5.621***
	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)
Blended learning	2.139***	15.279***	-9.519***	7.673***
	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)
e-Learning	2.000*	16.200***	-9.524***	7.763***
	(Sig. = 0.05)	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)
Overall	2.521**	15.390***	-9.245***	7.105***
	(Sig. = 0.01)	(Sig. = 0.00)	(Sig. = 0.00)	(Sig. = 0.00)

* Statistically significant at the .05 level

** Statistically significant at the .01 level

*** Statistically significant at the .001 level

Table 2 found that the demographic factors were different in terms of gender, age, education level. And the average monthly income affects the online classroom at National Open University Beijing China, both in overall and in each aspect. statistically significant at the .00 level

Table 3

shows the results of the hypothesis test 2.

Utilizing Technology	Classroom Training	Blended learning	e-Learning
Learn	0.919***	0.952***	0.946***
Survey	0.775***	0.740***	0.740***
Voice recorder	0.938***	0.963***	0.957***
Applications	0.619***	0.739***	0.744***
Class blogs	0.978***	0.893***	0.886***

*** Statistically significant at the .05 level**

**** Statistically significant at the .01 level.**

***** Statistically significant at the .001 level**

From Table 3, it was found that all aspects of utilizing technology were positively correlated with the online classroom at National Open University Beijing China. with a statistically significant .00 correlation at a very high to very high level (r = 0.619-0.978).

8. DISCUSSION

1. The results of the research according to the first objective found that the demographic factors were different in terms of gender, age, educational level. And the average monthly income affects the online classroom at National Open University Beijing China, both in overall and in each aspect. statistically significant at the .00 level due to technology makes it easier for students to find information quickly and accurately. Instead of personal tutors, students can get one-on-one help through educational videos – anytime, anyplace, and anywhere. Alam (2022) states that technology has made education easy and today we have multiple options to clear our doubts. Easy access to the internet and other helping apps has made education easy as well as interesting. These gadgets also save time and energy. Any device which is helpful in educating self is a student-friendly technology.

2. The results of research according to objective number 2 found that all aspects of utilizing technology were positively correlated with the online classroom at National Open University Beijing China in all aspects. with a statistical significance of .00, with a very high correlation. due to methods can help make the learning process much more appealing and engaging for both teachers. Berry (2019) states that the advantage of technology in distance learning is that students can watch lectures before coming to class and engage in more interactive activities in the class.

9. SUGGESTION

1. Implications of the Study

1. The study suggests the using technology helps students learning anytime.
2. The study suggests that different types of technology platform will improve teaching and learning.

2. Recommendations for Future Research

1. The future research will how to create the online learning materials for students.
2. The future research will be promote using technology in the classroom.
3. Integrating technology into the online class through collaboration to increase student motivation

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