FORCED E-LEARNING IN EDUCATION MANAGEMENT DURING COVID19: RESILIENCE OF PRE- AND POST-PANDEMIC IN DEVELOPED AND DEVELOPING NATIONS.

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FORCED E-LEARNING IN EDUCATION MANAGEMENT DURING COVID19: RESILIENCE OF PRE- AND POST-PANDEMIC IN DEVELOPED AND DEVELOPING NATIONS.

Thematic Certificate

To

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Abstract

Title: Forced E-Learning in Education Management During Covid19: Resilience of Pre- and Post-Pandemic in Developed and Developing Nations

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This research aimed to understand the education sector's eLearning process and analyze it in terms of developed and developing nations. The response of teachers, students, and academic institutions during the disruption and the post-pandemic determines how people, processes, and institutions converge their collaboration skills to disseminate knowledge for overcoming IT-centric challenges. The results showed teachers' capability, institutional capability, and outlook that have affected the education system to accept eLearning's 'new normal' in virtual classrooms.

Keywords: Covid19, E-Learning, Education, Nations

摘要

题目： COVID19 期间教育管理中的强制电子学习：发达国家和发展中国家大流行前后的复原力分析。

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为了解教育部门的电子学习过程而进行的二次研究，将根据发达国家和发展中国家进行分析。 教师和学生以及学术机构在中断和大流行后的反应，决定了人员、流程和机构如何融合他们的协作技能来传播知识，以克服以 IT 为中心的挑战的效率。 结果表明，教师能力、机构能力和前景影响教育系统重新接受虚拟教室电子学习的“新常态”。

关键词：COVID19、电子学习、教育、国家。

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Chapter 1 Introduction

1.1 Research background

E-learning has been a predominant technology form that has gained momentum in terms of acceptance in the academic world. It is a platform that helps the knowledge creation and dissemination to be propagated in the electronic or digital world, where the process of web-based learning, online or internet-based learning is used. The sudden threat of COVID19 in the beginning of the year 2020, and WHO (World Health Organization) declaring it as a global pandemic has necessitated to follow 'social distancing' norms between humans in order to limit the spread of virus. This research intends to find out the situation that forced e-learning leading to a new form of education management during COVID19.During the global pandemic, with the advantages of technological means, many universities, institutions and non-profit organizations have carried out online teaching, e-learning, held online academic lectures, and opened free educational resources to promote the sharing of high-quality resources. These measures have greatly broken the restrictions of region, time, class, etc., and have exported excellent teachers, educational ideas, and educational concepts to various regions, schools, teachers, parents, and students across the country, making the sharing of high-quality educational resources from an ideal to a reality Reality that pushes online education to the next level (Boca, 2021).

The entire system uses electronic devices at the source and the receiver in the message context, while they are physically distant from each other. The existence of distance education in some countries was limited to books sent to candidate home, while it missed the face-to-face communication that is the usual method of classroom-based teaching system in schools, colleges and universities. The impact on the education sector has been a forced directive from the political heads of the state around the world, that led to 'lockdown' to contain the spread at local, community and city level spread of COVID19. The entire student population that is the demand side of academic sector and the supply side like the schools, high schools, colleges and universities had to forego the face-to-face classroom teaching option (Lockman & Schirmer, 2020)After this large-scale online teaching practice, education administrative departments, schools, and teachers have formed a set of teaching processes, management systems and operation mechanisms that are compatible with e-learning, thus laying the foundation for accepting e-learning and utilizing online educational resources. Parents and students will also greatly open up their educational horizons. The expansion of the educational vision of both teaching and learning will help to run schools and learn in the future, integrate high-quality educational resources in a wider range such as the whole country, and serve the local, the school and its own teaching and learning. Education limited by factors such as administrative regions and other factors has begun to extend to education without border restrictions. In other words, digital expression and dissemination of knowledge content, online, flexible and lifelong teaching will become a new normal. The academic research this year reveals the sudden shift from classroom to technology-based

system, challenges in learning technology, applying technology to different academic subjects, and most importantly meeting the goal of knowledge dissemination. Hodges et al. argue that the emergent learning process is an imposed negative-choice process, and digital structures have been compared to traditional face-to-face teaching (Hodges, Moore, Lockee, Trust & Bond, 2020). Along the way, both supply and demand sides of academia have to contend with a steep learning curve at the level of technology, application, and motivation to continue this year's conference. This study aims to find out the circumstances that have forced e-learning to lead to a new form of educational administration during COVID19.

1.2 Research Problem

(1) Can e-learning be accepted by students?

Witnessing the development of large-scale online teaching, many people optimistically predict that e-learning will usher in new vitality after the epidemic, and will be more widely used, not just a supplement to a teaching method. In fact, whether e-learning can be accepted by students is affected in many ways. As pointed out by some surveys, the reality of the current university is: the lower the level of the university, the more classes there are, and the less students read (Gao, 2020). Different universities have different learning abilities and preferences of students. Just as not every student adapts to and succeeds in school, e-learning is not necessarily suitable for every learner. The factors that affect online teaching are as follows: First, learners' autonomous learning ability, which is the premise of online learning. Students control their own learning content, learning methods, and learning time, and are responsible for their own learning; students set learning goals, determine learning plans, formulate methods and strategies for expected and unexpected learning strategies, and evaluate their own learning (Li, 2021). The acquisition and application of these abilities are closely related to the reform of teaching methods. The second is habit formation. In a sense, to develop a habit is to go against people's own will and human nature, because habits are formed, not innate. This takes time and persistence and is not an easy process. In the specific practice process of e-learning, it is even more difficult that the two factors need to be combined and played together. Especially for adult learners, their earlier school education is indoctrination, and in fact, they have developed a set of knowledge processing methods suitable for them. If they are now required to develop new study habits, it is equivalent to requiring them to build a different knowledge processing system. This is undoubtedly like transforming people, it is not easy.

(2) Can the high-quality resource sharing system be sustainable?

The development of e-learning largely depends on the sharing of high-quality resources. But this will be challenged by several aspects: First, the sustainability of resource sharing. So far, the current online teaching has promoted the sharing of high-quality resources. However, can this kind of resource sharing continue in the post-epidemic era? This is worth thinking about. The second is the practical feasibility of high-quality resource sharing. In fact, many of the so-called "high-quality resources" are only in name, but they are not excellent. Real high-quality resources are often limited. For the owners of truly high-quality teachers, methods, concepts, etc., sharing is difficult, which will objectively bring challenges to the sharing of high-quality resources. The third

is the acceptability of high-quality resources. For developing countries or backward students, their backwardness is not congenital, it is because of objective conditions. Such causes are either physical and tangible, or attitude-ideological and intangible (Song, 2021). Even with the supply of high-quality resources, recipients are required to have a shared knowledge or capability base, which, in fact, is not easy to achieve. Fourth, how to meet the needs of different stakeholders. For example, resource builders need to obtain returns on investment, and learners have demands for more types and a wider range of free high-quality resource sharing (Bogdan, Marius, Monica, Mirela& Alexandru, 2021).

(3) How to ensure the quality of teaching

Wu Yan of the Chinese Ministry of Education pointed out that "e-learning integrating 'Internet +' and 'Intelligent +' technologies has become an important development direction of Chinese education and world education." If this is the case, how can the old problem of e-learning, the quality of teaching, be solved? In order to promote the quality assurance of online teaching, online education mainly relies on learning centers to expand the source of students (Kansal, Gautam, Chintalapudi, Jain & Battineni, 2021). Therefore, most of the pilot network education colleges have established teaching points covering the whole country, and some pilot universities have set up hundreds of teaching points across the country. With such a large number of learning centers and scattered locations, how to manage them and how to ensure the quality of students' learning has become a prominent problem in the quality assurance of online education. Some teaching sites have never been inspected and are mainly delivered to the management and operation of the learning center, which has resulted in many educational quality problems and damaged the social reputation of online education. Criticisms such as "buying and selling graduation certificates" essentially reflect the seriousness of the problem of online education quality assurance. Numerous quality assurance frameworks and measures have been proposed by many distance education institutions and researchers. For example, QM in the United States proposes online teaching quality assurance, and the Asian Association of Open Universities proposes teaching quality assurance in distance and open education (Rossini, Amaral & Santos, 2021). If online teaching enters a new normal, how to ensure the quality of teaching is a question it must answer, otherwise online teaching will not last long.

(4) Challenges to teachers' teaching ability

In 2020, the global pandemic has brought difficulties to offline education. Online courses, which were originally only supplemented to courses, have become the main way for students to learn. For example, using mobile computing devices such as smartphones, laptops, and tablets to obtain educational information, A new way of learning about resources and services. In the post-pandemic era, although many courses have resumed offline teaching, some courses have remained online. It can be said that "Internet +" has an irreversible impact on higher education courses (Fang, 2021). In addition, the teaching quality of e-learning is mainly affected by factors such as teachers' teaching ability and teachers' teaching input, among which the most important factors are teachers' teaching ability and teaching methods. Teachers' teaching ability directly affects the cognitive difficulty of learning content, which in turn affects the effect of e-learning.

1.3 Research Objective

At the beginning of 2020, the COVID19 pandemic has changed the teaching status of many universities, middle and primary schools. Based on this realistic background, this paper describes the future development trend of e-learning. Based on the practicality and teaching quality of e-learning, it finds out how teaching subjects and institutions can integrate their collaborative skills to carry out e-learning, so as to improve IT-based learning. Center for the challenge of efficiency. The research objective is to understand resilience of the education sector show amidst challenges during pre- and post-pandemic situation, and identify the differences in the developed and developing nations.

1.4 Scope of the study

The COVID19 is still prevalent and casualties are happening, the research is hence carried out using the secondary research methods in order to compare and contrast the nations, the academic sectors in terms of their response. The validity of the research is dependent on the journals which have been published in the year 2020, using the keywords COVID19, academic learning.

1.5 Research Significance

The sudden shift of the academia in the event of COVID19 pandemic, has resulted into disruption in the learning process and pedagogy, as it has changed the perceived learning process, adopt and adapt transition process in academia which is the only option now. The debate why it is important points to the fact that stresses both the students who are online learners and teachers who are also adopting technology to shift to a digital academic curriculum. The issue is critical as COVID19 as a global pandemic has not subsided yet, hence the increasing importance of students and teaching fraternity finding motivation to use digital platform in an online academic learning environment is pertinent. Even though the challenges are many, the sudden shift and acceptance level of e-learning holds the key to the academic session, its progress and completion of degrees for the year 2020. The research would contribute extensively to many educational institutions, students and academic instructors across nations and demographics, in designing the path for achieving success in adapting to e-learning process. For many it is a crisis stage, that is impacting the quality of education and student satisfaction in the context of digital platform and online learning space.

Theoretical Significance

First of all, e-learning has become the mainstream of the education industry in the current crisis, and the research of this paper will definitely involve relevant theories and stakeholders. Through research on e-learning issues, it can not only promote the enrichment and development of related theories, but also improve the quality of students' e-learning and

make students more actively involved in online learning. Secondly, e-learning plays an important role in teacher education curriculum planning, development of teaching materials and curriculum resources, implementation of teaching and evaluation, and identification of teacher qualifications. It plays an irreplaceable role in teacher education and training. This paper uses literature research method, case analysis method, and interview method as research methods to discuss the problems of students' e-learning before and after the pandemic in developed and developing countries, which can not only optimize the structure of online courses, but also provide technology for teachers to effectively monitor students' learning. Support, but also further build and improve the learning platform to provide theoretical support for the construction and improvement of the teacher education online learning platform.

Practical Significance

It is of great significance to clarify the students' online learning obstacles to improve the learning effect and improve the quality of online learning. On the one hand, it can optimize the online learning environment, improve the functions of the platform, improve the teaching strategies of teachers, and improve the effect of online learning; chemical construction. In addition, it also contributes to the steady improvement of the quality of teacher education. With the development of information technology, the role of e-learning is becoming more and more important, and it has become the mainstream direction of the current education model innovation. The quality of teachers trained will also directly affect the overall level of teachers. Research focusing on e-learning during the pandemic period will help to adjust the structure of online courses and improve the quality of teacher education training, so as to promote the overall steady improvement of teacher education quality. Finally, it provides methods and references for developing countries to improve the quality of online learning of teacher education courses. Teacher education courses are closely related to future teachers and reflect the teaching skills and knowledge base of future teachers. Teachers' colleges and universities in developed countries pay enough attention to e-learning of teacher education courses. Through the research on e-learning, this paper aims to help teachers and students better understand the current situation, clarify future training and development ideas, and improve students' adaptability to the future teaching profession.

1.6 Theoretical Framework

The broad theories that support the above research, is the motivation theories of the students ‘student motivation’ and the academic instructors, who perceive technology as a barrier or enabler, in the online environment. It is evident consumer behavior classifies the early adopters in technology perspective as ‘tech-savvy’ or technology oriented bent of mind. The course structure adapted in the digital context impacts the perception level and hence ability of teacher in knowledge dissemination, in a collaborative learning environment virtually is important. The knowledge management theory from social perspective is pertinent here, as the practice and community, the procedural knowledge ‘know how’ to adopt new technology in life comes to the forefront. The communication theories like ‘actor

network theory' where each individual pass the knowledge from one network to other network forms the basis of knowledge dissemination process. In learning perspective, 'social learning theory' is important as it support the human actions that of observing, modelling, imitating behaviors, attitudes at group context that impacts others in the similar environment.

Chapter 2 Literature Review

2.1 E-Learning

Regarding the concept of e-learning, scholars at home and abroad have interpreted it from different perspectives from their own value orientation and knowledge structure. Some people think that e-learning is that learners collect learning materials through the Internet, obtain learning content, and obtain learning support through interaction with teachers, peers and learning content in the learning process, construct the meaning of learning, and enable teachers and students to be able to learn in the learning process. The process of growing together (Liu & Ye, 2021). Some studies also believe that e-learning refers to a kind of learning using information technology composed of communication technology, computer technology, artificial intelligence technology, network technology, multimedia technology, etc. in an electronic environment. It is composed of online learning resources; online learning environment and An online learning platform constitutes a way of learning in the network. E-learning refers to learning using network resources mainly in an electronic environment composed of communication technology, computer technology, computer technology, artificial intelligence, network technology and multimedia technology (Shi, 2021). This paper defines online learning as: E-learning refers to the learning that learners carry out with the help of computers or mobile devices in the Internet environment. In the era of "Internet + higher education", online learning will gradually become the mainstream learning mode of college students.

2.2 Online Courses

Online courses are a change from the traditional offline teaching mode. Online courses are based on Internet technology, which is not limited by time and space, and can provide diversified and personalized learning methods. It is the course form of online education. and implementation. First, the use of the Internet as a teaching method has become the criterion for judging online education. Second, a course in an online course is a course definition in a broad sense. This kind of course can be a live broadcast course conducted by platforms such as ZOOM for multiple college students, or it can be a recorded and broadcast course completed by individual college students. Scholars have interpreted online courses differently (Ao & Hu, 2021). Online course is a course model with a complete course structure that is not limited by space and time, can accommodate a large number of participants at the same time, and has an open and personalized learning environment. The book "Blue Book of China's Online Education Industry" edited by some scholars defines online courses as "a new form of education that uses network multimedia and multiple interactive tools for systematic learning and interaction". This article defines online courses

as: all online course resources. The online courses involved mainly refer to the online teacher education courses obtained by students through their own purchase and the general teacher education that colleges and universities guide students to learn through live broadcast, recording and broadcasting, and colleges and universities. Online course (Zhou, Huang & Huang, 2021). To sum up, the "online teacher education courses" in this study include two forms: the first is a partially online course under normal circumstances; the second is a fully online course during the special period of the epidemic.

2.3 Student And Motivation

The dominant factor in learning disabilities is the learner's own obstacle factors, of which psychological barriers are the main factor, mainly manifested as poor learning initiative and motivation, and low self-monitoring ability. If there is no interest guidance, students often lack internal Motivation to learn, without external teacher supervision or appropriate rewards, students lack external motivation. Another major psychological obstacle of students is the lack of communication in online learning, which leads to a sense of loneliness. Without organization or group cooperation, students will lack a sense of collective belonging (Chen, Deng, Li, Xu & Zhao, 2021).

The student motivation in classroom teaching has shown to have expressive results, especially when the engagement levels with the teacher is high. The student motivation has the power, readiness-initiation (Ebner et al. 2020), creativity as the core tenets for aiding learning and participation in academics that relates to interests. Halim argued that stress and deadlines force the students to perform, while the engagement factor related to motivation increases only when there is connectedness and understanding of the course(Halim, Hashim, & Yunus,2020) . Students are equally motivated when teachers support their individual needs, such as learning difficulties, which are associated with schools and higher education, where peer pressure can greatly affect student motivation, (Bulić & Blažević, 2020) . Teaching structures, group work, and subject-related projects help stimulate creativity and imagination, which are all aspects of student motivation. Motivation for online courses is related to achievement as well as career building that brings learning to its goals.

2.4 Academic Course Structure

Different countries have different requirements for teacher education courses in terms of curriculum categories and curriculum ratios. Many scholars have discussed about the courses that should be offered in teacher education courses. Frank B. Murray and Andre Porter mentioned that the curriculum structure of teacher education should include five parts: humanistic knowledge, subject expertise, pedagogy-related knowledge, multicultural and international-related knowledge, and what teachers do in educational activities decision knowledge. In "Responsibility, Teacher Professionalism and British Education Reform"

published by Louise Poulson, it is proposed that as part of the British teacher education reform, a responsibility system was introduced to improve teachers' professional level and ensure that the quality of education meets social needs (Luo, 2021) .

The academic course curriculum has been designed to meet the goals of academic program, where the aspect of rigidity and rigour of the course in terms of knowledge dissemination and learning process links the institution image, teacher/instructor credibility. The course design or the pedagogy is important aspect as the objectives of the course curriculum, application-oriented methodology to meet the student's expectations, their knowledge level as positive outcome is affected (Baber, 2020). However, not all academic institutions have the course design, evaluation method to be flexible to maintain the full time and parttime distinction, distance education in universities. The issue is not applicable at elementary or high school where attendance is compulsory, which shows the significance as to how the academic institution intends to continue the curriculum amidst crisis that has affected students across socio demographics classification (Corlatean, 2020).

Many scholars also attach great importance to the exploration of the value orientation of teacher education curriculum. Cherry Collins analyzes the teacher education curriculum from the perspective of competence, and advocates the cultivation of reflective teachers who are knowledgeable and innovative. Shulman proposed that the curriculum should be knowledge-based, emphasizing the systematisms and integrity of knowledge. Jeff Claus discussed the curriculum setting of teacher education from the perspective of knowledge standard. Ediger Marlow proposed that teacher education courses should focus on the setting of self-cognition courses. Butts R. Freeman advocates for an increase in civic education programs. Carmel M. Diezmann recommends that teacher education courses include courses in educational research methods. "Innovation in Teacher Education: The Social Constructivist Approach" edited by Clive Beck and Clara Kosnik, this book expounds the reform of teacher education from the perspective of social constructivism from the aspects of curriculum and pedagogy.

2.5 Teacher's Credibility

The ability of the teacher to procure the knowledge, and disseminate them to every student is a challenge, as it is the foremost challenge for the learner and instructor continuum. The face-to-face classroom offers the rich content in the traditional form of teaching, where the facilitating behavior to explain in depth, to demonstrate in practical class, encourage them, or display the skill of applicability of a technique in field study has been an important determinant of quality of teaching. The teacher's ability to use the presence in virtual or online classroom, create an environment that is driven for learning, being accountable for each student, shows the emotional and psychological connect which determines the students' confidence in the education system (Elhadary,Elhaty, Mohamed, & Alawna, 2020,).The future teaching profession must face the needs of society, and whether it can meet the actual needs will be the key indicator to measure the success of the teaching profession. Teachers should be well-trained professionally, and should have systematic subject expertise, professional skills, and be able to apply them effectively in the

classroom. The professional quality of college teachers requires not only the basic subject knowledge quality, but also the professional skill quality, psychological quality and unique professional sentiment. At the same time, the future teachers should be digital teachers who can meet the new talent training requirements of the information age. Their abilities are mainly reflected in three aspects: the "technology" of skilled use of information equipment, the "art" of information-based teaching design, and the ability to engage in educational science. The "academic" of research. Teachers should have sufficient information technology application ability, basic theoretical knowledge and skills of information technology, and be able to fully and effectively use information technology teaching equipment to support teaching and work; should have the ability to design information-based teaching, and be able to effectively integrate course content with information technology. Integration; able to make full use of various means for curriculum, teaching resource development and design(Adnan & Anwar, 2020).

2.6 Student's Perception

The student perception about the academic institution and its course depends on the infrastructure, teacher student ratio, teacher reputation, pedagogy, learning methods and its management. The satisfaction as a student primarily depends on the experience of the online learning viz a viz traditional classroom (Adnan & Anwar, 2020), the interaction with the teaching faculty, the knowledge, library facility, that has been predominant drivers of satisfaction (Ana et al. 2020). The positive perception is dependent on the entire time spent and the experiences related with the depth or immersive experience of online teacher interaction, online achievements through responses, success in overcoming technological barriers that contribute to the student's satisfaction levels (Baber, 2020).

2.7 Post Pandemic Perspective

The COVID19 pandemic has resulted in a disruption in the academic process and session which put the academic institutions at risk of functioning and earning revenues amidst lockdown. The first wave in the first quarter of 2020, followed by the second wave sweeping across nations has affected the lives and livelihood (Livingston, Bucher & Rekito,2020). The political directives towards the academic institutions primarily focused on safeguarding citizen's health on priority and maintaining social distancing measures as a law. The normalization process of education sector has led to exploration of possible alternatives that has affected the supply and demand side of the education institutions with higher education taking the lead (Shahzad, Hassan, Aremu, Hussain, & Lodhi, 2020, p.1). The issue has affected the developing and poor nations, the students from lower income background are drastically affected (Karunarathne et al., 2020) that has limited their progress

in the academic session to a halt, where both the teachers and students suffer from the unaffordability and inaccessibility of electronic device (PC, laptop, tablet, smartphone) in their household (Adarkwah, 2020). The socio demographic factors and the purchasing power varies for each student, while this is the only option, the debate of equality in education has been put to test.

Chapter 3 Research Method

The research follows the descriptive philosophy as the phenomenon in the research, requires in-depth past use of the academic theories to explain causes and factors that has relevance. The deductive approach used in the secondary research method helps to understand the issues, as limitations of conducting the primary research for all types of academic institutions, courses, and comparing by nations is not feasible. The use of secondary method involves use of journals that has been published in authentic publications and in 2020.The following are the research methods used in the article:

3.1 Literature analysis method

Literature analysis method refers to the method of collecting and analyzing various existing relevant literature materials, and selecting information from them to achieve a certain investigation and research purpose. This research uses CNKI and Google Scholar as literature retrieval platforms, and conducts searches on the topics of "Global e-Learning", "Online Education in Developed and Developing Countries" and "Online Learning of Teacher Education Courses". By collecting resources such as journals, dissertations, survey data from various websites, and works, the collected literature is sorted, analyzed, and summarized, and a summary is formed to lay the foundation for subsequent research. In this way, we can comprehensively grasp the progress and dynamics of online learning of teacher education courses.

3.2 Case analysis method

Case analysis is a method of in-depth and specific research on a single or group of research objects. The object of the case study method can be an individual, or it can be an individual group or institution. The former is a case study of one or a few good students or poor students, and the latter is a case study of an advanced class or school. The case analysis method generally conducts a comprehensive and in-depth investigation and analysis of some typical characteristics of the research object, that is, the method of in-depth analysis. In the case analysis method, the accumulation of original data is very important. At the same time, the case analysis method not only stays at the level of case study and understanding, but also needs to understand the causal relationship between e-learning and educational development, and propose some positive educational countermeasures to reform education and teaching methods. It is also possible to form a hypothesis through the study of a certain case, and then generate a new research topic or a teaching reform experiment.

3.3 Interview method

The interview method refers to the basic psychological research method to understand the psychology and behavior of the interviewee through face-to-face conversation between the interviewer and the interviewee. In this study, the most representative student groups were selected for further interviews. In-depth understanding of the problems of online learning of teacher education courses, especially one-to-one communication on the causes of the problems and possible measures from the perspective of students, and collecting valuable first-hand materials. This study selected some college students in Shanghai to conduct interviews, aiming to understand the specific problems existing in the process of e-learning and the main reasons for the problems, and to propose targeted improvement strategies.

Chapter 4 Research Analysis

UNESCO (2020.3.25) reports on these countries and their coping strategies, stating that some 1,524,648,768 students do not have access to formal education in traditional classroom settings in schools, colleges, universities (Chatziralli et al., 2020). The empirical studies analyzed showed mixed responses - as How reported a reference to MOOC as an example model that used computers, internet and software to create an LMS (Learning Management System) for their university (JIC Jubail Institute of Technology), While the Ministry of Education (MOE) of the Kingdom of Saudi Arabia uses 19 TV channels for each subject in the school curriculum (Hoq, 2020). In China, Alibaba Cloud-based Tencent Education is a response to the smartphone app-based epidemic, helping schools and universities move to a digital classroom tutoring environment (Bao, 2020). Schools and colleges in Singapore are already using IT platforms for group or collaborative classrooms, document sharing, online examinations, as Shehzadi et al. report in Urban Schools in Pakistan (Eltayeb, Alharthi, Elmosaad, & Waggiallah, 2020). Schools and colleges in India have started using Google Gmail Meet, Zoom, DIKSHA for CBSE schools, ePathshala for NCERT courses, NROER National Open Education Resource Repository, DTH TV channel SwayamPrabha, which facilitates great progress in schools, colleges and universities Scale AC Shehzadi, 2020). Macha cites the Brazilian Academy of Dentistry, which has been using digital classrooms but emphasizes psychological stressors to forget and learn new technologies (Fawaz & Samaha, 2020). In a comparative study of developing countries, Soni pointed out that the acceptance of new technologies depends on the availability (free of charge) using TAM (Technology Acceptance Model), suggesting that weak infrastructure is a supply and demand side (Soni, 2020). Sharing knowledge and achieving procedural mastery in teaching fraternities (Shenoy Mahendra & Vijay, 2020,) has shown a huge upward learning curve within nursing students and among academic institutions in Nepal (Subedi, Nayaju, Subedi, Shah and Shah, 2020). It is clear that technology is the only driver of activity in the post-pandemic world, and in order to cope with disruption, features such as speed, accessibility, coverage, real-time dissemination of learning processes help bridge the gaps in traditional education systems (Pham & Ho, 2020).

4.1 Country Comparison

Developed countries such as the United Kingdom, the United States, France, Germany, and Japan emphasize the closure of academic institutions, while the monetization of academic institutions in private institutions has led to the exchange of virtual learning systems (Iyer, Aziz,& Ojcius, 2020). In both developing and developed countries, online platforms have bypassed government agreements and adopted an open university approach, offering online courses throughout the year (Al-Balas et al., 2020), distance learning courses (Lassoued, Alhendawi & Bashitialshaaer, 2020). Although institutions have borrowed this

idea from distance learning courses (Sindiani et al., 2020), there are huge differences in the perceived usefulness of digitizing academic courses and the ability to understand the teaching tools of presentation across disciplines and courses. Subjective interpretations of subjects such as mathematics, chemistry, physics, biology, geography need to be demonstrated through software, while the rest of the topics are disseminated through demonstration mode. Time interval determinants of e-learning implementation at the school and higher education institution level affect teaching and students (Almanthari, Maulina & Bruce, 2020). Communication can be attributed to a “fixed-effects model” affecting learning progress and learning difficulty (Adedoyin & Soykan, 2020). The World Bank (2020) compares Afghanistan's use of TV channels, Youtube, Facebook, and Argentina's use (www.educ.ar) to distribute e-books for schools and colleges. Austria uses TV channels (ORF1) and (Eduthek of Govt) combined with Microsoft, Google tools to help all students across all levels. Developed countries such as Finland already use free Zoom, Google, Microsoft platforms as well as streaming services (Adobe Connect) and TV Yleisradio, the National Digital Library Project. France uses Ma Classe a la maison on the website and embeds digital tools to stream all classes.

Bangladesh uses an on-demand Youtube and BTV broadcast for all schools and university students, which is echoed by Bhutan, Bolivia (Ministry of Education website), Brazil has launched "Futura Chanel" on Youtube, Bulgaria uses BNT2 and BNT4 with National Electronics Libraries disseminate videos, e-books (Tsekea & Chigwada, 2020, p. 20). This affects everyone in developing countries like Cambodia, where JICA (Japan International Cooperation Agency) uses satellite dish TV to reach students, as well as Cambodian national TV and Facebook video. Colombia and Costa Rica use TV for teaching programs, offering free internet for students to download e-books and watch videos, while Czech Republic and Georgia (Basilaia & Kvavadze, 2020) use website (LMS) and TV. The Ecuadorian model offers both options for students without and with a connection (device and internet), while the Egyptian MOETE provides an Egyptian knowledge base for all students. El Salvador uses YouTube and parents as self-help guides for schools, and they have a call center of subject experts to answer students' questions. Ethiopia and Fiji have used televisions for schools and universities, all of which are part of the pandemic response by education ministries. At the individual level, the initial difficulty and unacceptable form of IT-based instruction relative to the traditional classroom perspective remains (Verawardina et al., 2020). However, when knowledge is shared within and across organizations, the "how to" knowledge spreads over time, leading to the gradual acceptance of e-learning models (Molchanova, Kovtoniuk & Savych, 2020), in areas such as depression Psychological stressors such as anxiety and anxiety (Yadav, 2020), e-learning imposes on teachers (Fawaz & Samaha, 2020).

4.2 Interview results

Through interviews with 10 college students who have participated in e-learning during the epidemic; among them, the interviewed students cover different countries,

genders, majors and learning levels; therefore, these interviewed students can basically represent the opinions of college students in their own countries. By arranging and summarizing the interview records, the opinions obtained in the interviews are summarized as follows:

Q1: During the e-learning process during the pandemic, will you interact with other classmates or teachers in terms of learning content and emotions?

By sorting out the interview responses, it was found that most of the interviewed students indicated that they would communicate with each other, but there were very few exchanges, and the teachers usually initiated the questioning before the exchange of knowledge content. Also, there is little communication on the emotional side. A small number of interviewed students said that there was no communication. It can be seen that during the epidemic, the interaction between teachers and students and between students during the online learning process of college students was less frequent, the classroom activity was low, and the learning atmosphere was not high. In response to the reasons why students with less exchange of learning content, students from developing countries interviewed said that, influenced by traditional educational ideas, they tended to accept learning content, and did not have the awareness of questioning, questioning, and communication. In terms of emotional communication between teachers and students, the vast majority of students said that they do not want to have too much emotional communication with teachers, but prefer to communicate with friends of the same age.

Q2: During the e-learning process during the pandemic, what aspects of curriculum design (teaching assignments, curriculum design, classroom management and assessment) do you think will affect your learning?

By sorting out the interview answers, it was found that some students said that the teaching task would affect their learning, and they believed that there was a teaching task to be pressured to learn, and the teaching task should not be too difficult, otherwise it would affect the learner's enthusiasm for learning. Most students believe that classroom management should be emphasized because classroom management directly affects online learning. In addition, a small number of students said that the course design is reasonable and there are no obstacles at this level. It can be seen that in the process of e-learning, the lack of effective supervision and management in the classroom is the main obstacle source in the course design process.

Q3: What is your attitude towards online learning during the e-learning process during the pandemic? What is your purpose for participating in online learning?

By arranging the answers to the interviews, it is found that most of the students have positive and supportive opinions on online learning, and believe that online learning can solve the important and effective way to solve the problem of offline group teaching. However, there are also a small number of students who hope to end online learning as soon as possible, and believe that face-to-face offline teaching is more conducive to the understanding and mastery of professional knowledge. When learning more about their

online learning enthusiasm, the vast majority of students said that they were not very motivated in the learning process. For the purpose of participating in online learning, most of the students said that it was mainly because of the learning tasks arranged by the school and lacked their own learning motivation. Some students said that they wanted to avoid losing too much professional knowledge and skills during the epidemic. To sum up, in terms of learning psychology and learning attitude, students expressed support for online learning, but their enthusiasm was low and their learning experience was poor. ; As far as the learning purpose is concerned, the learner's learning purpose is mainly to complete the tasks arranged by the school, and lack of self-learning motivation.

Q4: During the e-learning process during the pandemic, what do you think are the deficiencies in your own abilities that affect learning?

By arranging the answers to the interviews, it was found that most of the students expressed that their ability to learn independently was weak, and they often could not find the effective literature they needed in the process of searching for literature. He also said that the learning content is rarely applied after acquisition, and there is a phenomenon of derailment between theory and practice. In addition, some students said that the concentration of online learning is not high, and the attention is easily distracted, which leads to insufficient cognition and understanding of the important and difficult points of the learning content, and often needs to watch the teaching videos repeatedly. To sum up, in terms of their own abilities, learners mainly have obstacles such as being unable to find effective literature, insufficient knowledge application, low concentration, and easy distraction.

Q5: Based on the actual situation, what do you think can be improved to improve the effect of online learning for the future e-learning courses in colleges and universities?

By sorting out the interview responses, it was found that different students put forward different opinions, most of which were mainly from the perspective of classroom interaction, such as teachers answering questions online, adding more interactive links, strengthening classroom discipline, and so on. In addition, some students, from the perspective of learning resources, suggested that the production of learning resources should be clear, and suggested that short courses of fifteen to twenty minutes could be adopted. Finally, from the perspective of the learning platform, some students proposed to optimize the functions of the learning platform, improve the stability of the learning platform, and reduce delays and errors in the learning process.

4.3 Findings

Research showed IT based classes held for teachers to develop professional study approach, questions on capability, forced them to accept transition to new IT system as a part of education curriculum in medical domain in Malaysia (Azlan et al. 2020) (Ish, Sakthivel, Gupta, Malhotra & Rajeshwari, 2020). Though much of it, depended on the institutional exposure to technology that determined their resilience against COVID19

causing disruption. The developed nations and higher education institutions have adapted faster than that of the rest using mass media (TV), IT (website), internet (Youtube) all of them free. However, cities superseded have against rural areas, which proves the strategic orientation, financial capability and application of knowledge dissemination using collaborative practices. In a socio-technical learning environment, Bahasoan argued about the effectiveness of e-learning even though it has helped to meet current academic demand, even though the psychological stressors to learn a new technology across ages in students has shown parental guidance for online classes.

4.4 Analysis of interview results

1. Lack of awareness of independent thinking and active communication

Compared with the traditional learning mode, learners' autonomous participation in learning interactive activities is particularly important in the online learning process. The interaction factor is one of the most impactful barriers. Combined with the interview results, most students indicated that there was less interaction, especially less emotional communication, which shows that most online learners still have not been able to get rid of the influence of traditional education forms, have difficulty in independent thinking, have a weak awareness of active communication, and tend to Passively accepting knowledge rather than actively exploring knowledge, the acquisition of learning content mainly depends on the unilateral output of the main teacher, which does not meet the essential requirements of online learning. The essential characteristics of online learning determine that online learning must have high independent thinking ability and active communication skills. Only in this way can we better adapt to the online learning mode and improve the effect of online learning.

2. Low learning motivation and lack of collective sense of belonging

Through the principal component analysis in the previous chapter, it is found that the dominant factor in the learning disability is the learner's own obstacle factor, of which the psychological obstacle is the main factor, which is mainly manifested as poor learning initiative and motivation, and low self-monitoring ability. Without the guidance of interest, students often lack internal motivation to learn, and there is no teacher's supervision or appropriate rewards externally, and students lack external motivation. Another major psychological obstacle of students is the lack of communication in online learning, which is prone to loneliness. Without organization or group cooperation, students will lack a sense of collective belonging.

3. Low self-learning ability

Regarding the learners' own abilities, affected by the online learning experience and technical operation level, the autonomous learning ability of online learners is generally not high. Combined with the questionnaire survey, it is shown that most students lack initiative in the process of online learning, and study concentration. Not enough, easily distracted. In addition, in the interview process, some students also said that in the process of learning, due

to the influence of learning ability, they often fail to keep up with the learning progress. The characteristics of online learning determine that online learners must have strong autonomous learning ability. However, in actual situations, most college students are highly dependent on teachers, weak in relevant professional knowledge, and low in autonomous learning ability.

4. Insufficient high-quality learning resources

Based on the interview results, most learners have certain problems in finding and obtaining effective resources. First, there are insufficient high-quality professional learning resources; The data analysis results from the questionnaire also proved that high-quality learning resources are lacking, and learning resources are the basis for online learning activities, and the obstacles on resources directly affect the effect of online learning.

There are certain problems in each obstacle factor. From the perspective of interaction, the interaction of learning content is less, mainly because the learners are affected by the traditional learning mode for a long time and lack the awareness of thinking and asking questions; the low interaction of learning emotions is mainly caused by the lack of students Emotional communication intentions and methods of emotional communication; from the perspective of curriculum design, the lack of effective supervision and management in the classroom is the main source of obstacles in the course design process; from the perspective of resources, one is that there are too few professional learning resources; There are too many low-quality resources; from the platform perspective, the online learning platform is unstable and the interface structure is chaotic; from the technical perspective, the impact of obstacles is weak; from the perspective of learning time and support, learning peripherals The environment will have a certain impact on the effect of online learning; from the perspective of learning attitude and purpose, there are mainly problems such as low enthusiasm and poor learning experience; from the perspective of learning ability, there are mainly problems such as inability to find effective literature, insufficient knowledge application, focus on The degree is not high, and the attention is easily distracted and other obstacles.

Chapter 5 Conclusion And Recommendation

The findings show that knowledge and awareness has created collaborated connectivity to eliminate the barriers impacting the education management system at all education levels. The online virtual platform has created parallel capabilities for teaching instructions of academic institutions to sustain and continue the academic session and connect with students virtually during post pandemic phase. The advantages outweighing the traditional classroom teaching, e-learning has forced both teachers and students to adopt and adapt as exploration and experimentation to suit the convenience factor in continuing education process. Barriers about digital teaching and holding virtual classroom facilitating interaction, online test taking, lectures, conduct quiz has now become an acceptable resilience strategy for majority of academic institutions globally.The COVID19 pandemic has boosted online education, but will e-learning continue its strong growth after the crisis? This paper believes that e-learning will eventually return to its own value, focus on improving the value of education itself, and finally have technological breakthroughs, so that e-learning can truly play an effective role in the future education industry.

The development of large-scale online teaching will undoubtedly improve the informatization level of education and promote the update and iteration of educational information technology and forms. In order to better promote the development of online teaching in developed and developing countries, the following suggestions for promoting e-learning are put forward.

(1) Actively promote the development of e-learning

From a global perspective, if it were not for the cause of the pandemic, e-learning would be mainly used in continuing education, adult education, and not widely used in other types of education. Information technology can make teaching faster, more convenient and more efficient, but no matter how advanced, dazzling and cool it is, it is still in the subordinate position of "assisted teaching". As is the case with technology, so is e-learning. E-learning is considered an option of last resort, a form of education that is inferior to face-to-face education. This is the same as the development requirements and practice of online education. Foreign online teaching practice can provide us with a reference. Online education in the United States has shown a good momentum of development in recent years, which is highlighted in two aspects: one is the full online course (Full Online Course), and the other is the rapid development of the full online professional (Full Online Program). Judging from the fully online course, it has been included in the teaching plan of the students in the school. For example, in the course selection schedule for students, in addition to traditional face-to-face courses, there are also completely online education courses, or courses that combine face-to-face and online learning methods for students to choose from, and there are a lot of them. Harvard University offers 900 online courses and SUNY Alberney offers 192 online courses. That is to say, e-learning courses are not only for non-

school students, but also for school students, becoming a new teaching method. The quality of e-learning is also considered to be the same as the quality of face-to-face education, and the tuition fees are the same as on-campus courses (some universities offer online tuition cheaper than face-to-face education). From the perspective of fully online majors, many colleges and universities have launched fully online majors. For example, Purdue University, known as the World-Class Education Online, recruits students from all over the world with Purdue Global, offers 175 fully online majors, and provides education at the doctoral, master, associate and certificate levels.

The direct benefit of professional development in fully online education is that it has more powerfully promoted the vigorous development of distance education. For example, Purdue University currently has 29,000 distance education students and 130,000 graduates. International students at the Harvard School of Continuing Education (Harvard Extension) account for 10%. The distance education of the University of Akron is open to students from Argentina, the United Kingdom, Spain, Mexico, Russia, Brazil, Japan and other countries. The factors supported by these distance education include: students' independent study habits, integrity, and convenient video interaction (such as three major video conference systems such as ZOOM and Web Ex). The schools listed above are just examples of the development of online education or distance education in American universities. In fact, online education has become an important support for American colleges and universities to run schools globally, indirectly expanding the global influence and penetration of American education. From an international perspective, online education is likely to be an effective way of international higher continuing education in the future.

If education in developing countries wants to participate in international competition, radiate the international penetration of culture, or serve the construction of learning cities, it is necessary to actively develop e-learning. From this point of view, the task of developing e-learning is urgent, and it can no longer be regarded as a second-class form of education that has to be accepted. The pandemic has boosted the spread of online education, but it has also given international counterparts hands-on experience. Online teaching in many countries has accelerated as a result. Such a world pattern of online education development requires us to further explore, sum up experience, and strive to achieve results in educational ecology, teaching mode, teacher-student interaction, curriculum development, teaching resource construction, management and operation, etc., in order to compete in the online education world market. make efforts.

(2) Promote the sharing of teaching resources and create development prospects

At present, people build a teaching resource library according to the actual teaching needs, and the interface standards of the databases are not unified, so it is difficult to realize the exchange of data and the interoperability of the system, so as to realize the sustainable development of electronic teaching. It is recommended to promote the sharing of teaching resources from the following aspects:

1. Develop a system for resource sharing. In particular, the teaching resources, courses and educational data developed with state or public funding should be open to the whole society with the concept of openness, collaboration and sharing, and be used for

education, teaching and research by members of the whole society, and should not be used by individual universities or colleges. Departments are self-enclosed and become "private property". This is especially relevant in the context of resource sharing and lifelong learning. Lifelong learning involves many learning resources, various categories, and different knowledge levels of learners. It is a big problem to develop corresponding educational and teaching resources. The teaching resources developed by the state every year are complete in categories and high in quality. If they can be opened up, It has strong practical significance for meeting the lifelong learning needs of social members. All kinds of educational and teaching data are often controlled by some departments on the grounds of confidentiality, and it is difficult for educational researchers who need the data to share.

2. Establish a unified planning and management mechanism for teaching resources. Most of the existing educational resource construction is based on the needs of each university or province and city itself, and there is a lack of unified planning and management among universities (or institutions) or between provinces and cities, resulting in serious duplication of teaching resource construction and limited teaching resources. not used effectively. The establishment of a relatively centralized teaching resource unified planning and management mechanism, division of labor and cooperation among various institutions, each with its own focus, can make the limited human, material and financial resources more effectively used, and the course teaching resources can also be better guaranteed.

3. Establish a unified standard for educational data. Including standardizing the classification of teaching resources, unifying the coding, data standards and database systems of various digital teaching resources, realizing the unified standards of educational data between universities and within universities, facilitating the sharing of educational data between departments and institutions, realizing Integration and interoperability of different resources to avoid information silos.

4. Utilize cloud computing technology. Cloud computing technology combines the characteristics of distributed computing and grid computing, which can realize resource scheduling, allocation and management of server resource virtualization, resource virtualization storage, and virtualized network resource use, and build cloud computing-based teaching resource sharing. service system.

(3) Teachers ensure the quality of teaching

1. Improve the level of instructional design. Instructional design is the foundation of course quality. To do a good job in instructional design, the most important thing is to study and study, that is, to carry out learner-centered instructional design based on "how people learn", rather than based on "what technology can do" [28]. Generally speaking, teaching design includes course content analysis, teaching goal design (including professional knowledge, vocational skills and professional quality), teaching process design, and the development and design of question banks, assignments, and examinations. However, from a practical point of view, the design of teaching resources in my country is weak in interactive activities and active teaching, and most resource designs are static (such as memory, understanding), not based on completing a certain activity task It is beneficial to stimulate learners to learn independently. The design of online courses in American colleges

and universities is worthy of our reference. The development of online teaching resources in American colleges and universities, especially those with a large number of online education students, requires teachers to cooperate with instructional designers, rather than teachers to develop courses independently. Research shows that when a group develops a curriculum or when teachers and instructional designers collaborate to develop a curriculum, learners have richer learning activities and more effective learning.

2. Stimulate learners to change from passive learning to active learning, including actively promoting the construction of online learning culture through rewards, appraisals, etc., using the power of culture to drive students' positive learning power and stimulate students' learning motivation; through teacher guidance, Classmate exchanges, online learning guidance, etc., cultivate students' autonomous learning ability and improve learning effectiveness; use a variety of teaching modes to meet the needs of students' autonomous learning and better adapt to individual differences in learners' learning; develop teachers' professional development and transform The role of teachers is to promote the function of teachers from teaching-based to guiding students' learning.

3. Promote the application of knowledge, focusing on: selecting learning content in accordance with social reality, focusing on the practicality of learning content rather than the systematization of knowledge; changing teaching methods, strengthening the connection between teaching theory and practice, and highlighting practical teaching, Improve the quality of practical teaching in order to cultivate students' practical application ability, so that students can really apply what they have learned.

This article explores the different influencing factors of online learning through literature analysis. However, due to the constraints of research samples and environment, the research has the following shortcomings: First, in the stage of literature collation, collection and analysis, due to the lack of own ability and experience , there may be incomplete literature data collected, or there may be one-sided problems in the understanding and expression of literature. Secondly, due to the wide range of subjects in the survey and research, a systematic and effective stratified survey was not conducted but a simple random sampling survey. In addition, the overall sample size selected in this study was not large enough, and the results of data analysis may representation is not strong enough. Therefore, the data and research conclusions do not have certain universality and representativeness. Finally, due to the insufficient knowledge of the author in statistical analysis, the analysis and mining of data may not be professional and in-depth, which leads to the lack of research results.

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