Study on the transformation of the new normal of education management after COVID-19

ZHANG RUI
6317195473

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER'S DEGREE OF BUSINESS ADMINISTRATION GRADUATE SCHOOL OF BUSINESS SIAM UNIVERSITY

2022

Study on the transformation of the new normal of education management after COVID-19

Thematic Certificate

To

ZHANG RUI

This Independent Study has been Approved as a Partial Fulfillment of the Requirement of International Master of Business Administration in International Business Management

Advisor: .....
(Dr.ZHANG LI)

Date: 18/5/2023

.....
(Associate Professor Dr. Jomphong Mongkhonvanit)
Dean, Graduate School of Business Administration

Date 14/06/2023
Siam University, Bangkok, Thailand

Title: Transformation of the New Normal of Education Management Post COVID-19

By: ZHANG RUI (6317195473)

Degree: Master of Business Administration

Major: International Business Management

Advisor : .....

(Dr. ZHANG LI)

...../8...../.....5...../2023.....

ABSTRACT

Many sectors of government management worldwide, such as the Ministry of Education, have been severely impacted by the COVID-19 pandemic. Under post-COVID-19 pandemic prevention and control, the education management system needs an updated system for the new management mechanism. This paper reflected on education in the new normal of the post-COVID-19 era from the perspective of the educational management system. The impact of the pandemic shows that feedback is valuable when it informs employees' direction to enhance their self-regulation for working. This feedback strategy would help to improve student learning and academic performance. Challenging feedback also leads to reflective thinking and is critical for adult learners in a distance education environment. This paper further explored other education management system issues to address better the digital transformation of Chinese education in the face of this new era in the post-epidemic period.

This study aimed to investigate the impact of the online learning process in education, improve the outcomes of the education system in primary and secondary schools, and explore the relationship between feedback system factors and the online learning process that affects teachers. The results reveal a significant relationship ($p < 0.01$) between work reflectivity and skill development in feedback systems, highlighting the transformative potential of a comprehensive feedback system within the education community. The literature and secondary sources reviewed indicate that education management systems before the COVID-19 era played a vital role in facilitating e-learning and blended learning approaches, thereby reshaping the role of educators. Students and teachers extensively utilized online platforms, relevant applications, and educational software. Search engines also emerged as valuable tools for enhancing academic quality. Consequently, the researcher recommends that educators and learning institutions continue to invest in online systems to support distance learning and cater to the needs of flexible learners.

Keywords: distance education, education management system, covid-19, online learning

ACKNOWLEDGEMENT

In this section, I would like to express my gratitude to Dr. Zhang Li, advisor and Dr. Jomphong Mongkhonvanit, Dean, Graduate School of Business, Siam University, Bangkok, Thailand for them thoughtful and caring supervision by menas of his educational excellence. I am most grateful to them especially for them deep understanding of the Independent Study and his good commumication skills.

.

ZHANG RUI
March 27, 2023

Declaration

I, Zhang Rui, hereby certify that the work embodied in this independent study entitled "The influence of traditional culture on the development of education in China" is result of original research and has not been submitted for a higher degree to any other university or institution.

ZHANG RUI

(ZHANG RUI)

March 27, 2023

CONTENTS

FIGURE CONTENTS

Chapter 1 Introduction

In late December 2019, the first train of neo-crown cases was identified in Wuhan, China. Subsequently, the first case of death from neo-crown was reported on February 2, 2020; on March 11, 2020, the World Health Organization declared this neo-crown as a major outbreak and spread globally; on April 10, 2020, the cumulative number of deaths worldwide due to neo-crown exceeded 100,000; and on May 11, 2020, countries such as Thailand, Iran, Spain, and New Zealand began to lift quarantine restrictions after relaxing quarantine (Sintema, 2020). This government restriction affected all industries in the world, and all industries were affected, including the education industry, which was the first group to face the restriction. Therefore, the emergence of COVID-19 will have a great impact on the global education industry, which is at the same time moving to a new structure and new model. Over time, the epidemic will always pass, however the impact of the epidemic on modern education management will last for years. In order to adapt to the new business and cultural match, the education industry has adopted Internet technologies, for example, to compress the credit hours of relevant subjects and to improve the efficiency of the related delivery. In this way, students will be able to understand some models of e-learning of educational contents of different subjects in the development of teaching and learning to further understand and digest the corresponding knowledge (Sintema, 2020). For example, in the teaching of literature, science and history, the understanding of the relevant literature and history can be driven by the examination of each historical period through the integration of technological inventions of each period.

1.1 Research Background

The epidemic also changed the place and time of learning, with Internet technology becoming central to education and teaching. In the wake of the epidemic, many applications and methods where technology had an advantage were continued and became new business inside and outside the classroom. After research, school delivery has now been challenged and the advent of the Internet has effectively compressed educational inequality (Quilter-Piner & Ambrose, 2020). The new normal after COVID-19 provides the problem of facing inequality. It makes the educational approach has more advantages to face the occurrence of emergency management events such as diseases. Almost every discipline has the resilience to face emergency events. With the approach of the new normal period after COVID-19, many people and many management want to manage the original management events through preplanning and alternatives. Within the constraints of COVID-19, content integration can also be incorporated into the new normal education management system (Sun, Tang & Zuo, 2020).

Online and face-to-face learning each have their own advantages, and for this reason it is important to embrace the new landscape that may emerge in education if the strengths of both can be combined to build on their strengths and avoid their weaknesses. In order to embrace the future of education, teachers, students and institutions must keep pace with the new developments (Zhao & Watterston, 2021). Traditional teachers, for their part, are also under pressure to transform as quickly as possible in order to create a more engaging online environment for their students, while students need to take advantage of the available technology and utilize more learning resources (Nieves, 2021)

The most effective way to do this is through isolation due to the outbreak of COVID-19, a policy that led to the closure of schools, training institutions, and continuing education facilities. Educators are providing quality teaching and learning through various online media, which represents a paradigm shift (Al-Qasemi, El-Garbiah & Haim, 2022). This makes traditional educational management and approaches inadequate for teaching and learning through online learning, distance learning and continuing education have proven effective in combating this unprecedented global epidemic. Therefore, the focus of this study is to explore the changes in the education management system in the new normal after the epidemic (Zhao, 2020). The epidemic has allowed the education system to be well upgraded and innovated, promoting the development of education informatization and educational equity, as well as providing more opportunities and platforms for comprehensive quality and ideological education for students.

Teacher-centered has important role for education institutes because for some courses, the student-centered approach is more effective. Online learning improves students' attitude towards learning because students learn in a comfortable place without having to travel and have another online resource to learn from, but at the same time, it decreases students' motivation. This is because learning online is boring and the way the teacher lectures decreases the effectiveness of the classroom for school students in particular. Online classes add a lot of rationality and extra work for teachers and students. Teachers need to be trained and their on-the-job training.

1.2 Research Problems

The epidemic has spatially separated the traditional people. The research problems are include adapt online learning throught feedback process for infinite management outcaome. information and communication technology (ICT) is currently a highly sought-after component in all higher education institutions, especially universities and colleges that are attracted to the e-learning and knowledge acquisition method. Rapid advances in technology have made distance education easy and during the Covid-19 pandemic, different names have been used for educational practices in different countries (such as distance education, e-learning and online learning), as enabling

environments e-learning provides students with access to educational materials without being restricted to place or time, and the use of its communication features in the learning process enhances their academic productivity and performance. Distance education includes multiple technologies and Internet-based learning platforms that require computer literacy from both learners and educators. The research should be as followed;

1. How the online learning procedure could oriented educator to school oblective?

2. Could relative feedback factor (work reflective, self-directedness, and skill development) influence to online learning process?

1.3 Objective of the Study

The purpose of this paper is to examine the method for improve the online learning outcome with feedback in primary and seconday school. The study activity is one of an educational facilities to solve problem from uncertainty by pandamic crisis. This bring a plethora of new distance learning methods and effectively replace some of the functions of traditional education. The redesign of cirlicurum is the requirements of educational administrations , and improve the restoration of many practical teaching scenarios. These intelligent learning tools can improve many traditional teaching functions.

1. The core objective is to understand the impact of on online learning process in education and improve the result from education system in the school

2. The goal is to explore the relationship among feedback system factors to online learning process which influence to teacher in primary and secondary school

Currently, there is an increasing trend of learning through digital learning tools and educational experiences learned through pandemic, and at the same time this facilitates lifelong learning for employees of companies with busy work schedules, using fragmented time.

1.4 Scope of the study

This paper focuses on the transformation of the new norm of educational management after the epidemic. This paper follows that feedback is valuable when it informs the employee's direction to enhance their own self-regulation for working. This feedback strategy improves student learning and academic performance. Challenging feedback also leads to reflective thinking and is critical for adult learners in distance education. The study will survey on teacher in Snagdong and Habin by quantitative study and utilize questionnaire as research tool.

The transition from traditional face-to-face learning to online learning can be a completely different experience for learners and educators, and due to the birth of online classes and the lack of better options during the epidemic, it was a choice of necessity.

School systems and teachers "special time and space education" through various online channels, they are now forced to accept a pre-program they were not prepared for. Scholars have discovered a new normal for school administration in the post-19th century period.

1.5 Research Significance

The focus of this important study is to change of educational method and supported system after COVID-19. In the aftermath of the epidemic, there was an increase in disconnections in the education system and among students. The epidemic provided an opportunity for educators to rethink the future of the education system. The epidemic provided an opportunity for the education management system to stand in the new normal and reflect.

This paper will inform future research regarding responses to the COVID-19 crisis in the education sector. Recommendations for future research include planning and implementing strategies, evaluating schools' online learning systems, online platform surveys, project proposals and top-level projects, program development, community assessment, revising curricula, and developing educational materials.

1.6 Theoretical framework

The framework of our study is illustrated below.

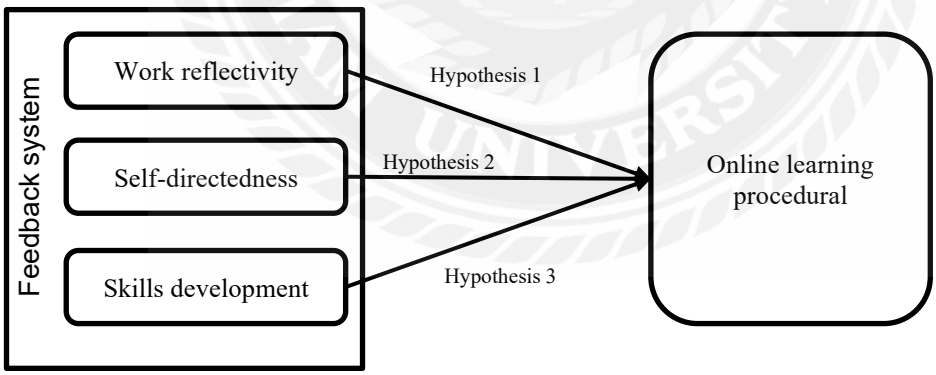

Fig1-1:Framework for feedback system to online learning procedural

Hypothesis 1: Work reflectivity has direct influence to online learning procedural
Hypothesis 2: Self-Directedness has direct influence to online learning procedural
Hypothesis 3: Skills Development has direct influence to online learning procedural

The figure reflects digital teaching methods and approaches in the post-epidemic period. Through various types of technological approaches, various issues related to traditional teaching and learning are accomplished for better online teaching and learning.

1.7 Limitation of Research

The limitations in the research process, which were manifested by, first, our limited or lack of experience in the field of education masnaagemen and organization behavior, which affected the study. The scope of sample collection was also relatively limited due to time and budget constraints. In addition, a quantitative research approach was chosen to answer the research questions in this study. The quantitative research approach limited researchers' access to their primary data and relied on the results of other studies, which did not include the specific areas that researchers prefer to explore. Finally, the existing literature is limited and has limited scope and impact on overall feedback system in teaching and learning.

Chapter 2 Literatures Review

2.1 Covid-19 Impact Education

The epidemic has wreaked havoc on all economies around the world, and according to statistics, about 1.5 billion students, have been affected to a greater or lesser extent. For this reason, it is of concern how to efficiently use online education to complete teaching and learning. In the wake of the epidemic, countless countries have adopted online education to supplement traditional education, and many educational institutions have actively adopted a variety of online class models to meet the learning requirements of their students.The natural isolation of Covid-19 in space and time has allowed for changes in traditional education methods. Facing the end of offline face-to-face instruction has also presented teachers and students with a great challenge (Carolan, 2020). However, the adaptation behind this challenge is also difficult (Marinoni & Mishra, 2020).

However, with the emergence of new modes of instruction, the question of how to ensure an equitable educational environment for every student has become a new issue. Students are at a disadvantage because of their different economic conditions, and students from lower socioeconomic backgrounds are at a relative disadvantage (Creswell, J. W. 2009). Also, the ability of students to sustain productive learning while in online classes is a challenge (Mishra et al., 2020): along with emotions such as boredom and feelings of isolation, students usually manifest themselves usually as distractions. Studies have found that traditional single-course designs highlight one main subject, while learning in an online environment highlights the ability to collaborate and interact socially learn (Carolan, 2020). At the same time, due to the sudden outbreak, it was also extremely evident at the teacher's end and teachers showed discomfort (Dwivedi, 2020). The professionalism and pedagogical efficiency of online delivery are the core issues that plague them (Marinoni, 2020). How to use new technologies and new models to help students cross the digital divide is the key to the problem (Govindarajan & Srivastava, 2020).

Engineers mainly solve relevant technical problems, and with the help and questions of the professor, the online interactive environment also reflects a great change, which is mainly manifested in the development and configuration of a wide variety of modules to better meet the relevant business (Dwivedi, 2020). The use of multimedia technology to bring scenarios into the teaching is an advantage of online delivery (Dwivedi, 2020). Through this multimodal teaching, educational materials, online interactions, and online games can be effectively integrated with the traditional classroom in a different way. The practicality of such online classes has also achieved some results compared to the traditional classroom, especially in some of the vocational practice courses (Doolan, D. M. & Froelicher, E. S,2009).

2.2 Distance learning to online learning process development

With the rise in the use of online classrooms and video conferencing systems, educational institutions have begun to recognize the importance of digital transformation in the education business. Now is the right time to develop and design digital solutions that will revolutionize the way children are taught. Schools and colleges are realizing that technology may contribute to the effectiveness of new teaching techniques. Study abroad video conferencing solution. International education is currently affected by the crisis because students are unable to study abroad for further education. Postponing courses or studies is not an option. Universities can facilitate the virtual induction and acceptance of students by conducting assessments online. Video conferencing solutions can be integrated into a school or university application or website to allow students from other countries to continue their education. Once overseas travel is approved, they will be able to attend online courses and webinars as well as actual classes.

Learning apps/platforms.COVID-19 has caused schools around the world to close. Due to the expansion of online learning, the education industry has changed dramatically when students join digital platforms for learning. Many educational institutions are transforming into edtech businesses, providing students with learning apps that allow them to access notes, lessons and practice exams. This allows them to continue learning without interruptions. You can create an interactive learning platform for your students to get the most out of their learning in the form of text, PDF, photos, audio and video as an education provider.

This all claimed as distance leaning to attempt to integrate the defining characteristics of distance learning for adjust to transformation after post Covid. There are three main educational models to which distance learning could be equated (Rumble,1986): institution-centred models is compatible with many distance education projects in the formal education sector, especially where the primary focus is on increasing the efficiency and cost effectiveness of the institution as a provider of mass education. In such a model the learner is, to a large degree, a passive recipient of the educational message devised by the materials producers. Directcommunication between learners and materials producers is usually minimal and in many cases non-existen

Person-centred models shown presents the learner as being an independent consumer of the products of the system. Personcentred models emphasize the learning contract concept and agreed with mentors acting as a support mechanism in the learning process. The person-centred approach is more compatible with the philosophy of open learning than is the institutional approach, in that the focus is placed on the individual. The institution still has a role to play, but the needs of the student are placed more centrally

society-centred models are focused on stress the work of the group in identifying problems and relating them to the personal experience of its members before there is any resort to texts and secondary materials. This obviously changes the roles of the distance educator and of the centrally produced materials quite radically. The latter become aids

to the group learning process which can be drawn on where this is felt to be useful, and groups also produce materials for their own use and for inter-group exchange.

2.3 Educational reform with feedback system

The identify five feedback mechanisms, including feedback given by colleagues(peers), summative feedback (grades) on assessments, generic (formative) feedback on assessments, feedback on lecture exercises and feedback on tutorial activities. These mechanisms were embedded in the university course curriculum they investigated. Some of these mechanisms are related to formative and summative feedback. Verification is another type of feedback that confirms whether a thing is right or wrong, and there may be more variables to such a feedback mechanis. Elaborative feedback can address a topic, a response from the learner, particular errors (specific and directive), provide samples for guidance or counsel the learner (general and facilitative). Written feedback strategy sometimes involves the use of codes. McLeod and Mortimer (2012) argue that faculty or teachers use codes in providing feedback and that students must be equally aware of the codes and use the feedback for effective learning. This is critical because if students do not know the types and forms of feedback available, how would they identify and use feedback? They also agreed with other researchers that assessment provided as an end- point measurement (summative) does not lead to effective learning

Educational institutions are also actively embracing technology and interacting with students through online class formats. Relevant learning applications can be easily connected through mobile internet terminals. The content and process of student learning is captured and recorded through other technologies such as cloud technology. Transformation of education informatization is achieved. Example, Smart classrooms. Through digital whiteboard functions, various types of functions similar to traditional blackboards are provided remotely, and collaborative remote processing of board books is possible(Petrie,2020). Online assessments powered by artificial intelligence. A comprehensive data collection and analysis to record and analyze all issues in student and teacher instruction throughout the course and provide methods for online assessment.(Quilter-Pinner, H. & Ambrose, 2020). Artificial intelligence (AI) uses neural networks and deep learning algorithms to refine the compilation of relevant features through the collection and training of various types of features. A question bank system that completes tests and exams on students' learning according to the requirements of teaching.

In addition, the system can categorize some abnormal indicators, for example, through the effect of classes and homework, to find some students' anxiety and tips on the risk of school failure due to the epidemic. Through, by monitoring students' expressions and behaviors, it is also possible to monitor forms of cheating on exams, etc. Thus, the full aspect of digital technologization provides a comprehensive solution for the whole education.

2.4 Digital Transformation in Education with Open learning

Through the internet and big data, part of the application has been able to meet the daily teaching needs of some students and teachers, and to complete related studies. For example.(Jensen, T,2019) Selecting classes through the Internet, Offers a wide range of online learning options. The adoption of technology to track student progress and implement intervention procedures are just a few examples of digital transformation designed to improve the student experience. The Provides faculty with the ability to offer online courses.

The relationship of open learning and management development is in the field of management development. it is helpful to put some order on the various categorizations and see where the role of open learning fits into this framework. The field of management development received considerable attention in the 1980s and, as a result of this, a fairly comprehensive review of management development has already been completed from whose work as defines the essential nature of what management development. That mean practices of management development or, put more succinctly, what is actually done to managers – or in some cases should be done to managers. It should examines specific features of management development, such as demographic issues, and explores management development in context.

2.5 Educational transformation in the campus environment

As the outbreak ended, more and more schools and units gradually recovered, but parents were still uneasy and did not want to send their children to school for fear of getting infected. So parents hope to continue to keep their children healthy and balance their studies through a period of observation and through online classes.(Krishnamurthy, ,2020). Also, school administrators, through, for example, thermal imaging technology, monitor the body temperature in question. It is used to prevent and monitor people with high body temperature and avoid them from entering the school. And through the Internet technology means, the relevant data is reported to the cloud of the Internet for the reference of the administrator.(Kim, H. J,2021) At the same time, schools also monitor students' attendance and other indicators through the contactless attendance system. With just one scan of the face, all the information has been completed. A group of technologists has created a social distance alert system that combines artificial intelligence and computer vision to identify the distance between two or more people and send a message to them or to the appropriate authorities so they can take action. Using current IP or CCTV cameras, it may be feasible to track individuals and determine if there is a certain distance between them. If someone is shown to be not keeping their distance at an educational institution, they could face serious consequences. (Virgillito, A. & Polidoro, F, 2017)This will help you ensure the safety of professors and students at your college. Finally, some schools have also installed cameras that monitor whether all personnel are wearing masks, and the system will alert or alarm those who do not

meet the requirements. Instead, we can enable mask detection technology that uses our current IP or CCTV cameras to find people without masks (Jensen, T,2019).The device uses computer vision and artificial intelligence to determine if each person is wearing a mask. If someone is observed not wearing a mask, the technology sends a notification to the identified individual or to the appropriate authorities. Using mask detection can help you provide a safe atmosphere for students and staff when schools/universities reopen.

Chapter 3 Research Methodology

3.1 Introduction to the study

The study of "to the new normal system of educational management transformation in the post-COVID-19 era" is a quantitative method research. This study is focus on collecting data from questionnaires with stakeholders on senior teachers and principles in primary school and secondary school management to develop their education business. This information is searched by employees through primary or secondary research methods.

3.2 Population and Sample Size

The sample size used in this research was tourists and other stakeholders in Betong District, Yala Province. with the Piyamit Tunnel To be used as a representative of the population for the study. By using the G*Power package, the effect size was 0.31, which was the good standard for determining the minimum sample size when testing. The internationally accepted F-tests. An effect size of 0.1 indicates a small effect size of sample. Althouht mostly favored an effect size of 0.3 but for the specification group the study require only 0.1 to survey in primary data at a statistical significance level of 0.05, a power of test of 0.95 and the model degrees of freedom (df) of calculated from the formula df= NI (NI+1)/2 where NI is 4 observational variables, resulting in a sample size of 205 people.

3.3 Research design

The researcher has created a tool. in order as follows

1. Study information from documents, textbooks and research related to four variables; online larning process, work reflectivity, self-directedness, skills development and perception of service quality as a guideline for creating a questionnaire

2. Bring the revised questionnaire offer to experts to improve it to be accurate before distribution.

3. Bring the modified questionnaire to test the confidence by experimenting (try out) with a non-sample group, which is similar to the real sample of 40 sets in order to bring the results to find the confidence value. Reliability was determined using Cronbach's Alpha Coefficient method. The resulting alpha value indicates the degree of stability of the questionnaire. It will have a value between 0 - 1 and should have a value of not less than 0.6 indicating that there is high confidence. The results of the confidence test are as follows.

Table 1: reliability testing results

No.	Item list	Conbach alpha	result
1	Work reflectivity	.871	Pass
2	Self-Directedness	.883	Pass
3	Skills Development	.937	Pass
4	Online Learning procedural	.884	Pass

3.4 Data Analysis

The researcher used the collected questionnaires to perform as follows:

1. Data validation (editing) The researcher checked the completeness of the questionnaire responses by separating incomplete questionnaires.

2. Encoding (coding) Bring the questionnaire that is already valid and coded as the code has been set in advance.

3. Data processing The coded data were recorded and processed using the statistical package for social sciences (SPSS) program to analyze descriptive data and test statistical hypotheses.

The quantitative data analysis was as follows.

1. Data analysis using descriptive statistics to describe the data characteristics of the samples, namely percentage, mean, and standard deviation.

2. Data analysis using inferential statistics for hypothesis testing. The statistics used are decriptive analysis, pearson correlation, and multiple regression analysis is a test of the correlation of variables and a test of which independent variable influences the dependent variable by stepwise method.

3.5 Evaluating the dataset

After locating the research direction, we usually need to locate the data to ensure the consistency of the research direction and the data (Smith, 2008). Combined with this statement, the advantage of secondary data is that it can effectively enhance the efficiency of retrieval, due to the fact that this data is already encapsulated in the various types of patterns provided according to certain laws and requirements. Therefore, collecting or gathering data from reliable sources for this study and then evaluating the data helps to answer the research questions.

This method allows for an in-depth exploration of the subjective views and attitudes of the interviewees and a high degree of flexibility for topics and questions of interest to the researcher. However, there are limitations to the interview, such as respondents' responses may be influenced by social expectations, cognitive biases or memory errors, and there are also limitations to the interview such as time, space and individual differences.

Chapter 4 Finding and Conclusion

4.1 Introduction

As stated by the World Health Organization, "the virus will continue to exist and will be a persistent threat for the foreseeable future" (Nabarro and Atkinson, 2020). This statement indicates and reminds communities that they must learn to live with the pandemic era unless there is a proper treatment for COVID-19 or a vaccine available to the public and most people are vaccinated (which may take some time).COVID-19 presents many challenges to authorities, the virus spreads quickly and authorities need to reduce the rate of transmission. Many restrictions have been established by governments around the world. In addition, many areas are facing this pandemic, including the education sector, where COVID-19 has changed education worldwide in a very short period of time. This research focuses on the study of “study on the transformation of the new normal of education management after COVID-19 with the effect of learning process to feedback results”. Data analysis and interpretation of data analysis results. The researcher has defined various symbols. used in data analysis. The researcher therefore defined research methodology as quantitative research method and qualitative research method. The process is a quantitative research method using questionnaires to collect data to bring data to support the quantitative research method in order to obtain more quality research results with the following steps:

4.2 Descriptive statistics

Factor of feedback and item of questionnaires, including work reflectivity, self-directedness, skills development, and online learning procedural are using basic statistics is the frequency distribution. The number and percentage were shown as follows:

Table 1: descriptive statistics of work reflctivity

no.	Work reflectivity	Mean	SD.	Level
1	I have enough time to complete my work	4.11	0.77	agree
2	Quality feedback to helps me create my knowledge about outcome thought class	3.99	0.85	agree
3	I use information from feedback for next assignment	4.29	0.71	strongly agree
4	I ask myself questions after thinking about the feedback I receive	4.02	0.84	agree
5	I review or revise the ideas and thoughts I generate about the feedback	4.14	0.73	agree
6	I pay critical attention to the comments I receive for personal development.	4.24	0.73	strongly agree

	Total	4.14	0.56	agree

From Table 1, the results of data analysis on work reflctivity factors related to couse online design in primary and secondary school in Harbin and Shenyang. There were 205 respondents in this study, classified according to the following variables:

The time to complete my work has opinions at the agree level with a mean of 4.11 and a standard deviation of 0.77. The quality feedback has an average of 3.99, a standard deviation of 0.85, with an opinion level of agreeing. The followed by the point that the information from feedback for next assignment has an average of 4.29, a standard deviation of 0.71, with an opinion level in the strongly agree level. The questions after thinking about the feedback I receive has mean of 4.02, a standard deviation of 0.84, with an opinion level of agreeing. The verse of ideas and thoughts I generate about the feedback, there was an average of 4.14, a standard deviation of 0.73, with a level of opinion in the level of agree. Finally, the critical attention to the comments, there was an average of 4.24, a standard deviation of 0.73, with a level of opinion in the level of strongly agree.

Table 2: descriptive statistics of self-directedness

no.	Self-Directedness	Mean	SD.	Level
1	Comments on my work lead me to research so that I can do better at the next given opportunity.	4.29	0.71	strongly agree
2	I value comments that help me understand where I went wrong in my answer more than the marks for the work.	4.19	0.75	agree
3	Feedback helps me know what to do as a learner.	4.20	0.71	agree
4	I use personal constructive comments received to improve my learning.	4.14	0.79	agree
5	Appropriate comments on my assignments have transformed the way I learn.	4.17	0.76	agree
6	Positive comments are used to describe the work I do well.	4.15	0.69	agree
	Total	4.19	0.58	agree

From Table 2, the results of data analysis on work reflctivity factors related to couse online design in primary and secondary school in Harbin and Shenyang. There were 205 respondents in this study, classified according to the following variables**;**

The Comments on my work lead me to research so that I can do better at the next given opportunity has opinions at the strongly agree level with a mean of 4.29 and a standard deviation of 0.71. The value comments has an average of 4.19, a standard

deviation of 0.75, with an opinion level of agreeing. The followed by Feedback helps me know what to do as a learner has an average of 4.20, a standard deviation of 0.71, with an opinion level in the strongly agree level. The personal constructive comments received to improve my learning has mean of 4.14, a standard deviation of 0.79, with an opinion level of agreeing. The Appropriate comments on my assignments have transformed the way I learn, there was an average of 4.17, a standard deviation of 0.79, with a level of opinion in the level of agree. Finally, the Positive comments are used to describe the work I do well, there was an average of 4.15, a standard deviation of 0.69, with a level of opinion in the level of agree.

Table 3: descriptive statistics of skills development

no.	skills development	Mean	SD.	Level
1	Online feedbacks received from peers helps develop my collaboration skills	4.21	0.72	strongly agree
2	Online feedbacks received from tutors/lecturers develops my research skills	4.09	0.77	agree
3	Due to appropriate feedback from my tutors, I can now work on multiple tasks.	4.16	0.73	agree
4	My written and oral skills have improved due to effective online feedback between myself, tutors, lecturers, and peers.	4.25	0.70	strongly agree
5	I now appreciate online group work as a result of receiving effective feedback in online learning.	4.23	0.71	strongly agree
6	I have become more analytical in submitting my assignments due to appropriate feedback received online	4.23	0.71	strongly agree
7	I have adopted innovative ways of studying because of appropriate feedback.	4.29	0.73	strongly agree
8	Adopted deedback have enabled me to cope well as a better educator	4.40	0.71	strongly agree
	Total	4.23	0.60	strongly agree

From Table 3, the results of data analysis on skills development factors related to couse online design in primary and secondary school in Harbin and Shenyang. There were 205 respondents in this study, classified according to the following variables**;**

The Comments on my work lead me to research so that I can do better at the next given opportunity Online feedbacks received from peers helps develop my collaboration skills has opinions at the strongly agree level with a mean of 4.21 and a standard deviation of 0.72. The Online feedbacks received from tutors/lecturers

develops my research skills has an average of 4.09, a standard deviation of 0.77, with an opinion level of agreeing. The appropriate feedback from my tutors has an average of 4.16, a standard deviation of 0.73, with an opinion level in the agree level. My written and oral skills have improved due to effective online feedback between myself, tutors, lecturers, and peers has mean of 4.25, a standard deviation of 0.70, with an opinion level of agreeing. The a result of receiving effective feedback in online learning, there was an average of 4.23, a standard deviation of 0.71, with a level of opinion in the level of strongly agree. The assignments due to appropriate feedback received online, there was an average of 4.23, a standard deviation of 0.71, with a level of opinion in the level of sreongly agree. The adopted innovative ways of studying because of appropriate feedback, there was an average of 4.29, a standard deviation of 0.73, with a level of opinion in the level of strongly agree. Finally, Adopted deedback have enabled me to cope well as a better educators - there was an average of 4.40, a standard deviation of 0.71, with a level of opinion in the level of strongly agree

Table 4: descriptive statistics of online learning procedural

no.	online learning procedural	Mean	SD.	Level
1	The syllabus clearly shows that feedback would be provided as part of the course delivery	3.75	0.93	moderate
2	Lesson objectives are explained to me at the beginning of the semester.	4.03	0.79	agree
3	Lesson objectives are explained to me at the beginning of every lecture.	4.19	0.68	agree
4	I know the criteria through which my assignments will be assessed or marked.	4.22	0.66	strongly agree
5	Every topic in the online syllabus is covered by the end of the semester.	4.26	0.73	strongly agree
6	Some of the topics to be covered are too much for one semester	4.32	0.69	strongly agree
7	Topics in the syllabus are relevant for knowledge acquisition in my programme	4.16	0.78	agree
8	I ask questions about topics that are not clear in the syllabus	4.16	0.77	agree
	Total	4.14	0.56	agree

From Table 4, the results of data analysis on online learning procedural factors related to couse online design in primary and secondary school in Harbin and Shenyang. There were 205 respondents in this study, classified according to the following variables**;**

The syllabus clearly shows that feedback would be provided as part of the course

delivery has opinions at the mpoderate level with a mean of 3.75 and a standard deviation of 0.93. The Lesson objectives are explained to me at the beginning of the semester has an average of 4.03, a standard deviation of 0.79, with an opinion level of agreeing. Lesson objectives are explained to me at the beginning of every lecture has an average of 4.19, a standard deviation of 0.68, with an opinion level in the agree level. the criteria through which my assignments will be assessed or marked has mean of 4.22, a standard deviation of 0.66, with an opinion level of strongly agree. The a result of every topic in the online syllabus is covered by the end of the semester, there was an average of 4.26, a standard deviation of 0.73, with a level of opinion in the level of strongly agree. Some of the topics to be covered are too much for one semester, there was an average of 4.32, a standard deviation of 0.73, with a level of opinion in the level of sreongly agree. Topics in the syllabus are relevant for knowledge acquisition in my programme, there was an average of 4.16, a standard deviation of 0.78, with a level of opinion in the level of strongly agree. Finally, questions about topics that are not clear in the syllabus - there was an average of 4.16, a standard deviation of 0.77, with a level of opinion in the level of agree

4.3 Inferential statistics

The statistics used in the analysis of Pearson Product Moment Correlation Coefficient was used at a 99% confidence level. If significant value was less than 0.01, than mean all factor has relationship among each other.

Table 5: Pearson Correlation result

		Online Learning Procedural	Work Reflectivity	Self-Directedness	Skills Development
Online Learning Procedural	Pearson Correlation	1	.749**	.675**	.682**
	Sig. (2-tailed)		.000	.000	.000
Work Reflectivity	Pearson Correlation		1	.754**	.691**
	Sig. (2-tailed)			.000	.000
Self-Directedness	Pearson Correlation			1	.842**
	Sig. (2-tailed)				.000
Skills Development	Pearson Correlation				1
	Sig. (2-tailed)				

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows the results of the analysis of the relationship between the university

financial management factors. the sig value is equal to 0.000, which is less than 0.01, that is present a correlation coefficient (r) more than 0.5, indicating that the four variables were related in the same direction.

Hypothesis 1: Work reflectivity has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_0: Work reflectivity has no direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_1: Work reflectivity has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

Hypothesis 2: Self-Directedness has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_0: Self-Directedness has no direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_1: Self-Directedness has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

Hypothesis 3: Skills Development has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_0: Skills Development has no direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

H_1: Skills Development has direct influence to online learning procedural in primary and secondary school in Harbin and Shenyang

Table 6 the analysis of online learning procedural factors related at primary and secondary school in Harbin and Shenyang

Independent variable	B	S.E	β	t	Sig
Constant	.822	0.190		4.368***	.000
Work Reflectivity (X_1)	0.483	0.063	0.518	7.657***	.000
Self-Directedness (X_2)	0.040	0.087	0.042	.45	.647
Skills Development (X_3)	0.270	0.077	0.289	3.515**	.001
	F = 106.105***		Sig = .000		
	R = 0.783		Adjusted R^2 = 0.607		
	R^2 = 0.613		S.E. = 0.352		

Significant at .01, * Significant at.001

From Table 6, it was found that employees who work in primary and secondary school have work reflectivity (X1), self-directedness (X2), and skills development (X3). These variables had a statistically significant influence on the online learning procedural at 0.01, 0.05, and 0.0001, respectively. The online learning procedural factors were 60.07% (R^2) with the error in estimating the online learning procedural was 0.738. The work reflectivity and skills development was positively correlated with online learning procedural.

As for the teachers who applied all technic through online learning, When considering the standardized coefficient (β), the variable most influencing the online learning procedural was skills development (β = 0.518), followed by Skills Development (β = 0.289) with statistical significance at the .01 and .001 levels, the equations can be written as follows:

Y_1 study on the transformation of the new normal of education management after COVID-19 with the effect of learning process to feedback results	= .832 + 0.483 (X_1: work reflectivity) + 0.270 (X_3: skills development)

From the equation it can be explained as follows.

If teachers who applied for distance learning (online learning) have an increased work reflectivity (X_1), there will be an increase in the online learning procedural (Y_1). There was a increase in perceived of skills development (X_3), which can be explained in detail as follows.

1. Without taking into account work reflectivity (X_1) and skills development (X_3). The perceived on online learning procedural (Y_1) was at the level of .832
2. Teacher who use this system have work reflectivity (X_1) increased by 1 unit, perceived online learning procedural (Y_1) increased by 0.482 units.
3. Teacher who use this system have work reflectivity (X_3) increased by 1 unit, perceived online learning procedural (Y_1) increased by 0.270 units.

4.4 Discussion

Despite COVID-19, schooling and education for continuing education learners, on campus focused education continues (taking into account the challenges of online learning). Heat screen entry for school employees, the school door. Learners, teachers and others entering must have their body temperature checked and if it is above 37.3C it is considered dangerous and the individual is advised to return or be taken to hospital. This process takes place every day. This strategy helps school aides work over time. According to Glaser and Solon, "fever screening only works when you have a fever, and we know that many infections in children and young adults seem to be asymptomatic or mild enough that you may not have a fever for days. Even if you are contagious." This statement indicates and raises the fact that schools around the world have some operational success, but in the long run, are focused on closing or conducting online learning processes.

Another strategy that has had some success in keeping the school functioning is advising and instructing students, teachers and other staff at the school to wear masks at all times. Closed-circuit television and other recordings have been helpful in the operation of the school. With the advent of masts, students are expected to share food

among themselves and keep their distance (PTI, 2022). The report and other studies show that this strategy is the most effective of all implied strategies, but still not 100% affected, and in several schools there are still outbreaks and lead to changes in strategies (Kagy, 2021). In order to reduce the effects and impacts of COVID-19, the government took some actions (social distancing), which posed a challenge to the education sector. Educational institutions maintain the teaching services during this time through a massive transition to online learning (Krishnamurthy, 2020). It is not an easy task for stakeholders as academic stakeholders need to change and convert materials and methods quickly to a format suitable for online delivery (Dwivedi et al, 2020). The process of change was difficult, but it was also forced by the situation. At this time, the distance learning process grew rapidly and the global experimental process began (Govindarjan & Srivastave, 2020). Some researchers refer to this as the period of "emergency online education" (Marinoni et al, 2020). Researchers and studies have found that online learning changes the style of learning and teaching and implies many unprecedented challenges especially for learners who need technical assistance, real project-based learning, and other traditional learning elements (Marinoni et al, 2020).

It is noted and highlighted in the literature that the digital transformation of higher education started years ago, but it accelerated in the era of COVID-19, where the technological transformation of education involved profound, changes in teaching strategies, basic competencies and assessment methods (Jensen, 2019). Educational institutions changed their strategies from a "lecture-based learning" system to a "problem-based learning" strategy that engages learners more actively (Marinoni et al, 2020). This move from face-to-face to virtual education has had a significant impact on modifying the way learning outcomes are assessed, but it is still the requirements of students and teachers that need to be reconsidered (Jensen, 2019). The curriculum needs to be adapted, but it needs to meet the basic needs of the learner. A course outlines content, knowledge, honesty, values, ethics, and globalization. This is a major challenge for teachers, as online courses must include and teach elements of values, honesty and knowledge. Therefore, new courses need to respond to these needs and help students develop new competencies for a new era (Zhao & Watterston, 2021). Curricula need to improve students' thinking skills, be creative in their thinking, allow for individualization, need to be unique in design, and give learners the ability to learn the way they do (Zhao, 2018). Creating these categories is not as difficult for teachers as applying them in online instruction. Due to the lack of online, face-to-face elements, some students may not be able to learn effectively.

Technology has solved the problems associated with teaching and learning; online teaching has added more work for teachers. Teachers need to be trained and learn to use different platforms for instruction, such as Zoom, Google Classroom, and other social media. The assessment grading process has changed and online grading helps teachers collect and save data to their cloud storage system. The job training process adds a lot of stress to teachers, and online instruction does have some negative effects on teachers

and increases workload. On the other hand, the nature of assessment can change based on more research as internet access makes it and the different discussions later in this chapter highlight how technology can improve the teaching and learning process (Carolan, 2020).

Authorities around the world emphasize the distance learning process and encourage educational institutions to teach online. This has shifted physical, face-to-face instruction to virtual classrooms with LMS and Google platforms for virtual instruction. This shifts instruction from student-centered to teacher-centered (Murphy et al, 2011). Since in the virtual classroom, the teacher needs to control the learning and assign work to the learners. Therefore, this is a major change in teaching methods and students' critical thinking skills are tapped to a limited extent (Hu, 2021).

The online learning process helps in learning but also adds many challenges as students are limited in exploring the socioeconomic context of privilege. Students also have different attention spans when taking classes online, and several recent studies have demonstrated this limitation (Al-Qasemi, El-Garbiah & Haim, 2022). Another limitation found in recent studies is that students feel bored, have a sense of isolation, lack time to learn, and have a low desire to learn and self-organize during long periods of time compared to face-to-face courses (Carolan, 2020). The results of the study suggest that online courses do have problems, but the learning process continues. The central challenge of the online classroom is that not all students have an Internet connection. Virtual classrooms pose many difficulties in terms of connectivity. a study by Kim (2021) examined the current state of education in light of the COVID-19 pandemic and identified a number of identity issues. First, the existing connectivity limits the learning process for some students. The use of online educational tools is still uncommon compared to traditional learning, and online education lacks the capability of a learning platform similar to traditional learning. Online education can affect the quality of education (Kim, 2021). Secondly, the rapid changes in teaching methods but also lead to their confinement, confinement and distance learning result in high levels of stress, tension, distress and anxiety. Finally, unnecessary bureaucracy, contradictory orders, lack of support for telework and lack of technological means are often mentioned as key problems in society. Therefore, the study identified the number of modern challenges faced by the education sector during COVID-19 (Dwivedi, 2020).

According to Vial (2019), digital transformation is the process that aims to improve entities by triggering significant changes in their properties through the combination of information, computing, communication and connectivity technologies." , is becoming a part of our lives. Before the breakthrough of COVID-19, the education industry avoided digital learning. because of the need for technology investment. However, digital transformation is only an option for digital transformation and with the breakthrough of COVID-19, this platform became the main mode of operation for teaching and learning(Zhao & Watterston, 2021). To encounter the challenges of digital learning, several different tools have been implicit in the education industry. The core is to ensure that learning continues to occur and to improve online learning.

Chapter 5 Conclusion and Recommendation

5.1 Conclusion

The COVID-19 outbreak has created a lot of uncertainty around the world. Authorities around the world have experienced restrictions on other important factors for hospitals, doctors and nurses to treat patients(Dwivedi, 2020). To address this issue, authorities have enacted many new regulations, most notably confinement, social distance, and the wearing of masks. Social distance provided a temporary solution for schools. As the authorities allow the school to operate, but the school needs to take some measures. First, the temperature at the entrance needs to be checked and certain actions need to be taken if an individual has a temperature. Second, students need to maintain a social distance, during study time, break time and during their time at school. Third, individuals at school are required to wear a mask. Finally, people's behavior was recorded and a person who did not allow a ruler was told to allow it. This process does help and schools continue to proceed, but there is a limit to the number of emergencies that can be operated outside or inside the school. Authorities in different countries lock down schools to reduce the spread. Therefore, in this day and age, the best solution is to teach online.

As embargoes occur to reduce the spread, industries, including the education industry, must change their traditional operations to new operational processes. Technology is being adopted. Educational presentations are already adopting the technology and digital transformation that is taking place. Digital transformation is not new to the education industry, several different schools have adopted it, but during COVID-19. Digital transformation is happening at a rapid pace. In addition, the effectiveness of digital transformation depends on several elements. Many schools have adopted it, but the lack of technology resources has affected the operations of some schools. To better deliver education and enable the transformation of digital learning, there are several tools that can influence this process. As mentioned in the framework in Chapter 1. The transformation of the new normal education depends on elements such as virtual reality, augmented reality, artificial intelligence, Zoom/Google video conferencing, automation and cloud computing. Therefore, in this study, the research identified the elements mentioned as well as the factors present in the framework. The study developed research questions/objectives, so the researchers needed to collect data to provide answers to these questions.

Most of the studies have similar research methods offered. The researchers in this study chose a qualitative research approach as a snapshot of the study to explore a deeper understanding of the research. The study was aware of time and budget constraints. The researchers used secondary research methods to collect data. The sources of the secondary research were academic journals, magazines, and scholarly sources.

The report concludes that despite the challenges posed by COVID 19, the education industry has found solutions to ensure that education continues and students do not miss out. The students are finding things in online learning that they could not find in traditional learning, such as creativity. Since sharing notes and electronic records online is faster and more efficient, students are now using supplemental online learning platforms to supplement their learning. Considering that schooling is designed to mold young people into successful young adults, it is imperative that this critical aspect of education is not overlooked when teaching online. A second option is to focus on collaborative learning experiences and optimize the online classroom as a workshop for children to interact. Creating such an immersive online environment, of course, requires both the use of technology and great teaching talent. A broad and diverse group of faculty and students lack the necessary skills to teach or learn at a distance. Lack of access to digital devices, the Internet, and adequate bandwidth illustrates the continuing challenges of the digital divide. Many colleges and universities lack comprehensive online programs, appropriate instructional design and technical staff, appropriate curriculum approaches, and/or well-structured student support systems.

5.2 Recommendation

The COVID-19 outbreak has created a lot of uncertainty around the world. Authorities around the world have experienced restrictions on other important factors for hospitals, doctors and nurses to treat patients (Dwivedi, 2020). To address this issue, authorities have enacted many new regulations, most notably confinement, social distance, and the wearing of masks. Social distance provided a temporary solution for schools.

1. The new educational models that may drive growth, revenue, and better system is what digital transformation requires. Ensure that innovative integrated to education models can improved for the education process that may revolutionize and improve the overall experience for students and educators

2. The design of learning process to information technology concept, educators must first choose where technology should be integrated into the instructional workflow. When it comes to digital transformation, thinking about what needs to be transformed may help you get started. Personalized learning, branding, online learning and classroom expansion are just a few examples. It is crucial to work with stakeholders to identify the digital areas of educational institutions in line with the requirements of changing educational institutions.

3.The reengineer of challenging tasks facing educators in the pandamic crisis is increase online system that have advantages to the traditional classroom. Considering that schooling is designed to mold young people into successful young adults, it is imperative that this critical aspect of education is not overlooked when teaching online.

As the authorities allow the school to operate, but the school needs to take some measures. First, the temperature at the entrance needs to be checked and certain actions need to be taken if an individual has a temperature. Second, students need to maintain a social distance, during study time, break time and during their time at school. Third, individuals at school are required to wear a mask. Finally, people's behavior was recorded and a person who did not allow a ruler was told to allow it. This process does help and schools continue to proceed, but there is a limit to the number of emergencies that can be operated outside or inside the school. Authorities in different countries lock down schools to reduce the spread. Therefore, in this day and age, the best solution is to teach online.

To better deliver education and enable the transformation of digital learning, there are several tools that can influence this process. As mentioned in the framework in Chapter 1. The transformation of the new normal education depends on elements such as virtual reality, augmented reality, artificial intelligence etc. Therefore, in this study, the research identified the elements mentioned as well as the factors present in the framework. The study developed research questions/objectives, so the researchers needed to collect data to provide answers to these questions. Most of the studies have similar research methods offered. The researchers in this study chose a qualitative research approach as a snapshot of the study to explore a deeper understanding of the research. The study was aware of time and budget constraints. The researchers used secondary research methods to collect data. The sources of the secondary research were academic journals, magazines, and scholarly sources. The data collected suggests that schools have changed to support learning in the pandemic era, where the virus is here to stay and the community needs to adapt to it (Nabarro & Atkinson, 2020). Authorities allow schools to perform certain needed operations on campus. Students must follow this ruler. In addition, the way of learning has changed, the online platform teaching is teacher-centered and knowledge exchange is one dimensional. The report concludes that despite the challenges posed by COVID 19, the education industry has found solutions to ensure that education continues and students do not miss out.

5.3 Future Research and limitation of study

Research related to the COVID 19 period is limited and there are many opportunities and areas to investigate. Future research can utilize the framework and findings of this study for further research. Future studies could conduct primary research to collect first-hand data and conduct in-depth analysis. Future researchers can add more factors and conduct research in different areas. This study has limitations in time and space. It is based on literature research and information collected from various books, articles, magazines, newspapers, and other Internet sources related to the transformation of the new normal of the educational management system in the post-epidemic era. After

entering the new normal, the education management system has completely changed the way education is taught.

1. A related study conducted in specific area reported a lack of understanding regarding feedback by both learners and instructors in primary and secondary education.

2. The advent of online or blended learning discussions, tools such as a chatroom,forum or video meeting are enabled. These tools can facilitate a rich feedback experience for lecturers and learners which some school have different ability to support all of education equipment.

3. The participants in a school could not have the same level to demonstrated the tool for teaching in standard level which the study must indicated that selecting the right tools in online study lesson and receive quick feedback that enhanced student–lecturer participation.

References

Al-Qasemi, A.; El-Garbiah, B.; Dor-Haim, P. Teachers' technological competence and success in online teaching during the COVID-19 crisis: The moderating role of resistance to change. *Int. J. Educ. Manag.* 2022, 36, 1–13.

Andrews, L., Higgins, A., Andrews, M. W. & Lalor, J.G. (2012). Classic Grounded Theory to Analyze Secondary Data: Reality and Reflection. *Grounded Theory Review*, 11(1): 12-26.

Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research,* 5(4), 10. https://doi.org/10.29333/pr/7937

Carolan, C., Davies, C. L., Crookes, P., McGhee, S. & Rox-Burgh, M. (2020).COVID 19: Disruptive influences and transformative opportunities in undergraduate nurse education. *nurse Educ Pract,* 46:102807. doi: 10.1016/j.nepr. 102807

Creswell, J. W. (2009). Research design. Qualitative, quantitative, and mixed methods approaches (3rd ed.).Thousand Oaks, CA: Sa*ge.*

Cojocariu, V.M., Lazar, I., Nedeff, V. and Lazar, G. (2014), "SWOT analysis of e-learning educational services from the perspective of their beneficiaries", Procedia-Social and Behavioral Sciences, 116, 1999-2003.

Doolan, D. M. & Froelicher, E. S. (2009). Using existing datasets to answer new research questions.Amethodological review. *Research and theory in nursing practice. an International Journal,* 23(3), 203-215.

Dwivedi, Y., Hughes, L., Coombs, C., Constantiou, I., Duan, Y. & Edwards, J. (2020).The impact of the COVID-19 pandemic on information management research and practice. *Transforming education, work, and life. int.J. Inf.Manag*, 55:102211. doi: 10.1016/j.ijinfomgt.2020.102211

Eldokhny, A. & Drwish, M. A. (2021). The effectiveness of augmented reality in online distance learning during the COVID-19 pandemic. *international Journal of Emerging Technologies in Learning,* 16(9), 198-218.

Glaser, A. & Olivia, S. (2020). Experts get warm fuzzies when schools spend big on temperature-checking technology. It won't work. *Retrived from.* https://www.nbcnews.com/tech/tech-news/schools-spend-big-temperature-check-tech-experts-warn-they-won-n1240246 Accessed April 26, 2022.

Govindarajan, V., & Srivastava, A. (2020). What the shift to virtual learning means for the future of higher education. *Harvard Business Review.* https://hbr.org/2020/03/what-the-shift-to-virtuallearning-could-mean-for-the-future-of-higher-ed (accessed April 27, 2020).

Hu, H. Y. (2021). The impact of the COVID-19 pandemic on the online learning behavior of college students in Taiwan. Retrived from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8438103/

Jensen, T. (2019). Higher education in the digital age. The state of transformation around the world. *International Association of Universities (IAU).* Retrived from https://www.iau-aiu.net/IMG/pdf/technology_ report_2019.pdf

Johnston, M. P. (2014). Secondary Data Analysis : A Method of which the Time Has Come. *Qualitatve and Quantative Methods in Libraryes (QQML),* 3(April), 619–626.

Kagy, L. (2021). *Schools face massive system failure during a pandemic. How do we fix it?* Retrived from. https://www.edweek.org/leadership/opinion-schools-faced-a-massive-systems-failure-during-the-pandemic-how-do-we-fix-it/2021/08 Accessed April 26, 2022.

Kim, H. J. (2021). Digital transformation of education brought about by COVID-19 pandemic. *Journal of Korean Computer and Information Society.* 26(6) 183-193.

Krishnamurthy, S. (2020). The future of business education: a review in the shadow of the Covid-19 pandemic. *Journal of Business Research.* Vol. 117, 1-5.

Marinoni, G., Van't Land, H., & Jensen, T. (2020).The impact of Covid19 on higher education around the world. *IAU Global Survey Report.* Retrived from. https://www.iauaiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf

McLeod, G.W. and Mortimer, R.J.G. (2012), "Evaluating feedback mechanisms in the school of earth and environment", *Planet*, 26(1), 36-41.

Mishra, L., Gupta, T. & Shree, A. (2020). Online teaching and learning in higher education during the COVID-19 pandemic lockdown. *int.J. Educ. Res,* 1, 100012. doi: 10.1016/j.ijedro.2020.100012

Murphy, E., Manzanares, M. A., & Barbour, M. (2011). Asynchronous and synchronous online teaching: Perspectives of Canadian high school distance education teachers. *British Journal of Educational Technology,* 42(4), 583-591.

Nabarro, D. & Atkinson, J. (2020) 'Learning to live with a new coronavirus. Anticipation. Articulation, Adaptation, and Responsibility," *COVID-19 Narrative.* Retrived from https://www.4sd.info/COVID-19-narratives/learning-to-live-with-the-new-coronavirus Accessed April 26, 2022.

Nieves, M. (2021). *Education in the post-COVID era: 5 important trends to know*. Retrived from https://elearningindustry.com/education-in-post-covid-era-important-trends-to-know

Petrie, C. (2020). Spotlight. Providing quality education for all during the COVID-19 crisis ,*(hundrED study #01).* Retrived from https://hundred.org/en/collections/quality-education-for-all-during-coronavirus

PTI. (2022). *Students and staff should not be allowed to enter school premises without a thermal scan*. Retrived from https://www.deccanherald.com/national/over-50-houses-shops-gutted-in-arunachal-fire-1102927.html Accessed April 26, 2022.

Quilter-Pinner, H. & Ambrose, A. (2020).*The 'new normal' the future of education after covid-19: IPPR 14 Buckingham Street.* Retrieved from http://www.ippr.org/research/publications/the-new-normal

Rangnekar, P. (2021).How will COVID-19 affect the future of the education sector? Retrieved from https://elearningindustry.com/how-will-covid-19-impact-future-of-educational-learning-sector

Rumble, G. (1986). *The Planning and Management of Distance Education*. London : Croom Helm.

Secon, H., Woodward, W. & Mosher, D. (2020). *A comprehensive timeline of the new coronavirus pandemic, from the first case in China to the present*. Retrieved from https://www.businessinsider.com/coronavirus-pandemic-timeline-history-major-events-2020-3

Sintema, E. J. (2020).The impact of COVID-19 on 12th grade student achievement. Implications for STEM education. Eurasia Journal of Mathematics, *Science and Technology Education,* 16(7), em1851. https://doi.org/10.29333/ejmste/7893

Smith, E. (2008). *Using secondary data in educational and social research*. New York, NY: McGraw-Hill Education.

Subedi, S., Nayaju, S., Subedi, S., Shah, S. K. & Shah, J. M. (2020).Impact of e-learning on teachers and students in Nepal during the COVID-19 pandemic. *International Journal of Science and Healthcare Research,* 5(3), 9.

Sun, L., Tang, Y., & Zuo, W. (2020). Coronavirus pushes education online. *Nature Materials,* 19(6), 687–687.

UNESCO. (2020). Adverse consequences of school closures. Retrieved from https://en.unesco.org/covid19

Virgillito, A. & Polidoro, F. (2017). Big data techniques to support official statistics. Using web scraping to collect price data.In Data Visualization and Statistical Literacy for Open and Big Data. *IGI Global,* (253-273)

Wei, X., Weng, D., Liu, Y. & Wang, Y. (2015). Teaching an augmented reality-based creative design course. *Computers and Education,* 81, 221-234.

Xing, Y., Liang, Z., Fahy, C., Shell, J., Guan, K., & Liu, Y. (2021). Virtual reality research. Designing a virtual education system for epidemic disease (COVID-19) knowledge to the public. *Applied Science.* (11) 1-16

Zanda, R., Deniel, L., Sarva, D. & Rudal, A. (2021). Digital transformation of education. Envisioning post-Covidian education in Latvia. Retrived from https://www.researchgate.net/publication/355874926_Digital_Transformation_of_Educat ion_Envisioning_Post-Covid_Education_in_Latvia. Accessed April 26, 2022.

Zhao, Y. (2020). Tofu Is Not Cheese: Rethinking Education Amid the COVID-19 Pandemic. *ECNU Review of Education,* 3(2).

Zhao, Y., & Watterston, J. (2018). The changes we need: education after COVID-19. *Journal Of Education Change*, (22) 3-12.