Post Pandemic Research Trends on Challenges and Outcomes in Education: 
A Case-study of HEC Recognized Journals of Education 2020- 2021

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ABSTRACT

Objective: The purpose of the present study is to explore the research trends on challenges and outcomes of post pandemic education. The researcher has conducted a meta-analysis of HEC recognized journals of education published in post pandemic period that is 2020-2021.

Methodology: The study has adopted qualitative approach following case-study design. The population of the study is comprised of each of 2 issues of 14 journals of education recognised by higher education commission of Pakistan. The sample was selected using purposive sampling technique. The sample size was 21 articles based on the inclusion criteria which directs to select only those articles discussing the post COVID context of teaching-learning process. The data was collected through a literature review matrix which was developed to classify the articles for various themes generated after critical review. After reviewing the selected articles, different themes were generated such as Pandemic and higher education, psychological aspects of post pandemic context, learning experiences in Covid-19, remote teaching and challenges, assessment and distant learning using content analysis technique.

Findings: This content analysis revealed that COVID-19 has increased the scope of online education by showing an increasing trend of Hybrid model in education. The research has highlighted the effect of COVID-19 on teachers and learners particularly and the system of education generally. It further explored the issue related to depression and anxiety and challenges related to energy crises.

Implications: This study recommends that to overcome such issues and challenges there should be provision of professional development programs for the teachers to prepare them for future circumstances.

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Introduction

The Novel Coronavirus disease (COVID-19) pandemic, which has already infected nearly 3 million
people in 148 countries, has killed over 200,000 people and caused widespread chaos. The crisis has already become an economic and labor market shock. We are only now beginning to understand the economic impacts of COVID-19, but many other issues have emerged that must be addressed immediately, such as school closures and their impact on learning, as well as the burden of education on students, parents, and teachers.

**Statement of the Problem**
As part of a global response to stop the COVID-19 virus from spreading, governments issued urgent national statutes and decisions affecting all facets of the economy. Public health professionals and government officials implemented measures like forced social isolation, self-isolation, quarantine, bolstering medical facilities to control the disease, requiring people to work from home, requiring people to wear masks in public places, and temporarily closing places of worship and educational institutions (Gennaro et al., 2020; The World Bank, 2020). In order to safeguard faculty, staff, and students from COVID-19 viral infection, almost all universities throughout the world cancelled on-campus events and activities (The World Bank, 2020). University core operations like teaching, research, and community service have all been significantly impacted by the interim closure (UNESCO, 2020). Present research is aimed at finding the post pandemic research trend on challenges and outcomes in education.

**Significance of the Study**
The present study is significant for the teachers to adopt the appropriate methodology for online teaching, students to be sounder e-learner to grab the concept in online learning and parents so that they can help out their children to fill the remained gaps of online learning because it focuses on suggesting the measures to overcome the effects of COVID-19 on education.

**Scope of the Study**
The scope of the study is limited to the HEC recognized educational journals and from those journals only those articles are selected which are related to the post pandemic theme.

**Purpose of the Study**
The purpose of the present study is to explore the post pandemic research trends on challenges and outcomes in education. The researcher has conducted a content analysis of HEC recognized journals of education published in post pandemic period that is 2020-2021.

**Objectives of the Study**
There are the following objectives of the study:
1. To explore the post pandemic research trends on challenges and outcomes in education.
2. To suggest some measure to overcome the challenges and issues of post pandemic education.

**Research Questions**
1. What are the challenges and outcomes of post pandemic education?
2. What are the possible measures to overcome the challenges faced by teachers and students in post pandemic period?

**Literature Review**
COVID-19 has strong effects on everything especially on education system as well as on the learning of the learner of every age. According to UNESCO, 1.6 billion students in 190 countries are affected by the education system. In the early stages of the pandemic, there were no firm plans for school openings. Schools and other educational institutions were thought to be more vulnerable to the virus’s spread due to their intensive interaction during school hours. Children, in particular, have become movers, spreading the virus to members of society such as their grandparents. Children have suffered serious consequences as a result of COVID-19 because their cognitive, emotional, social, and psychological development patterns have been disrupted. (Asim & Farooq, 2021)
The psychological response of public to an infectious illness outbreak has a considerable impact on how quickly the disease spreads, how quickly emotional trauma and social unrest arise after the outbreak, and how quickly both of these phenomena occur (Cullen, 2020).

This pandemic has been observed to have an impact on children's intellectual and psychological development. School teachers have noticed that their younger students are suffering from mental health issues and require counselling and psychotherapy in these affected situations of Covid-19. In the United States, nearly 13% of adolescents receive mental health and psychotherapy from their schools. (Park, 2020)

Anxiety, fear, or depression are natural reactions of normal people when confronted with dangerous or threatening situations (Wang, 2020). From the standpoint of biological and psychological health, if people begin to respond to Covid-19 in an appropriate and positive manner, it can increase the human body's drive to combat the challenges of the current corona virus spread.

Almost 29 countries completely closed their educational institutions, affecting half of the world's student population (UNESCO, 2020; Viner et al., 2020). In other countries, there was a partial closure, often involving a combination of classroom and online learning. Distancing from society has now become an essential way of life.

On March 31, 2020, the Higher Education Commission (HEC) of Pakistan advised all universities to begin online classes to assist their students during the Pandemic (Xinhua, 2020). This necessitated a rapid shift away from traditional face-to-face teaching and learning and toward online teaching and learning. Open universities frequently provide extensive online resources, but they also provide opportunities for students to meet locally and, in some cases, more centrally. However, recorded lectures and a wide range of printed materials continue to play an important role. Because the academy can constantly adapt to this new paradigm, online education has become the accepted norm (Massan et al., 2020).

The availability of technical equipment and reliable internet connectivity is a major issue in many countries, including Pakistan. The problems caused by a lack of reliable internet connectivity are most severe in rural areas, and the Pandemic has widened the urban-rural divide in educational opportunities. The lack of a good internet connection was a major issue, and as a result, many learners do not choose to learn online because they are unsure that they will have access to efficient and reliable internet connectivity during their online learning (Noreen & Reid, 2021).

The biggest difficulty in sustaining the quality of online instruction is ensuring that instructors are reasonable and considerate about best practices and that organizations have the tools and policies required to guarantee quality instruction. It was obvious that educational institutions would not be able to instantly switch all educational programmes from face-to-face to online resources given the readiness of university systems to execute quick changes in such a short amount of time. There were challenges including distance, technology, and individualized instruction (Liguori & Winkler, 2020).

For financially disadvantaged students to benefit from online learning, universities must now offer scholarships or student loans. This need to be a necessity in universities, and those who can't afford it ought to be allowed to pay for it with the aid of grants or student loans. HEC suggested that universities, as members of society, make guarantee that every student has access to all sources of knowledge (HEC, 2020).

Researchers have discovered that parents of young children are also suffering with the issues of virtual learning because they are closely involved with their children's educational activities, in addition to teachers and administrators who are working hard to address learning challenges. (Machado, 2019;
Barnard, 2005; Sheldon and Epstein, 2005).

With this pandemic, parent involvement may be increased as their children engage in online learning, where students are more likely to encounter organizational difficulties, self-regulation issues, encouragement issues, and difficulty understanding learning resources when the teacher is not substantially present (Liu et al., 2010; Stevens & Borup, 2015).

Research engagements have also been impacted by the closing of higher education institutions. Postgraduate students who were gathering data in the field were unable to finish their dissertations on time, and even when they were finished, there were uncertainty regarding the chances of presenting research articles at conferences (Japanese, 2020).

Faculty have found it challenging to work together on research projects locally and internationally due to social distance and travel limitations, which has a negative impact on the completion of field research projects and laboratory work (Marinoni & van't Land, 2020). On-site research operations have been impeded in Australia, the United States, Europe, and China, claim Wigginton et al. (2020). Additionally, researchers must deal with dwindling research funding, which is predicted to get worse as countries recover from the COVID-19 pandemic's economic effects.

**Methodology**
The present research is qualitative in nature. The content analysis of HEC recognized journals of Education of post pandemic period 2020-2021 has been conducted. The study follows case study design. The population of the study was comprised of 2 issues of 14 journals of education. The sample size of the study was about 21 article which are related to the theme of post pandemic education. The sampling technique used in the study is non-random, purposive sampling. The data was collected through a literature review matrix which was developed to classify the articles for various themes generated after critical review. After reviewing the selected articles, different themes were generated such as Pandemic and higher education, psychological aspects of post pandemic context, remote teaching and challenges, assessment and distant learning.

**Data Analysis**
This section is based on the theme wise analysis of selected articles. There were 21 Articles which were divided into five themes following is the summary in the table given:

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**Pandemic and Higher Education**

Kara (2021) has performed a desktop review to determine how the pandemic would affect higher education in the future. The researcher used a qualitative methodology and thematically analyzed papers from 2020 open access, peer-reviewed journals. The current trend in higher education that is blended learning is the main topic of this study. After reviewing the data this study suggested that institutions requires to create the room for online learning. The framework of e-learning should be design in a holistic way in order to achieve the goals of Maslow’s Hierarchy of needs. Higher education institutions should deliver blended learning strategically in order to fill the gaps in learning. The study concluded that institutional collaboration is the key to increase efficiency and sustainable growth.

According to Zai & Akhunzada (2020), professor and student roles were discovered to be willing to investigate their positions at the individual, educational, and national levels. They were cut off from the universities due to the main concerns that were found with internet access and internet equipment. Due to problems with the surroundings and the house, no enthusiasm was found. They found that the online system was the most effective. Faculty and students primarily advocated for unity, internet connectivity,
teacher empathy, and the establishment of learning objectives. HEC’s role was deemed to be the most outstanding. For faculty and students, HEC has every solution and piece of equipment imaginable. The study discovered that faculty members, students, and HEC had more positive outcomes.

Shahzad & Aurangzeb (2021) investigated about the teaching strategy and tool used by teachers during the period of COVID-19 and students’ perspective regarding online classes. It was observed that most of the student were not satisfied with online system of education as they reported that their institution didn’t provide any learning management system which caused problems for both students and teachers. Students were not happy with online classes because they faced numerous problems such as internet issues, lack of resources, inability to understand online lectures. Some of the student also showed urge to stop online classes and turn this period into semester break with the compensation of fees.

Sufiana et.al (2021) discussed the challenges and problems of online teaching in post pandemic period at higher education level in Pakistan. The findings of the study revealed that teachers are under pressure because of the sudden shift in teaching paradigm as they were not trained enough to teach online. Teachers also dissatisfied by the training and infrastructure for online classes provided by the universities. Students also faced numerous issues like unstable internet and electricity as well as inability to operate the ICT tools for online classes. Therefore, the study recommends that before starting any online course it is required to plan properly and need assessment should be done throughout the country before launching any course.

**Psychological Aspects of Post Pandemic Context**
Jan et.al (2021) conducted the cross-sectional research and collected data though online survey as it was impossible to travel all over the country at the time of pandemic. The goal of the study was to determine whether people experience anxiety, depression, or terror as a result of the Covid-19 epidemic in various parts of Pakistan. The considerable positive link between anxiety, depression, and fear has been found. The study found that, compared to men, women typically experience higher degrees of anxiety, fear, and despair. The results showed that intermediate, graduation, and post-graduate students as well as undergraduates had higher mean scores, indicating greater dread, anxiety, and depression. Therefore, it is necessary to improve public psychological well-being in order to mitigate the psychological effects of COVID-19.

Núñez (2021) conducted a qualitative research based on phenomenological design. The study described a graduate student's lived experience with remote learning and how she overcame feelings of loneliness and obstacles. It also outlined the efforts taken by the respondent to overcome isolation in remote education and avoid dropping out of the course. In order for a distant learner to succeed in the mode, a network of connections between learners and the university must be present.

In order to examine the association between university students' self-anxiety, time management, and online learning during the COVID-19 pandemic, Hassan et al. (2021) undertook a cross-sectional study. Time management was a very powerful predictor of worry in one's self, according to regression analysis. For students to manage their issues, it is advised to offer guidance and counselling. The COVID-19 pandemic, it was determined, causes problems with academic stress for the majority of higher education students. The majority of students exhibit a positive attitude about online learning because of the urgent switch from the traditional model to online learning, but lockdown has a significant negative impact on their time management abilities. Students' personal and social lives have been badly impacted by the significant increase in their workload. The main contributor to psychological issues among university students is poor time management.

**Learning Experiences in COVID-19**
A focused group discussion and a semi-structured online interview were employed in the qualitative research by Rehman et al. (2021) to address the research issues. Using a purposeful sample, fifteen
pupils from private schools in Baluchistan and sixteen from federal public schools in Karachi were chosen for interviews. Participants from Karachi and Quetta each participated in three focused group talks. Thematic categories and transcriptions of the qualitative raw data were created. The study's conclusions indicated that the use of digital social media by students significantly affects their teaching and learning processes. It is widely considered as a commendable initiative and a suitable substitute strategy for preserving educational activities that, in the absence of such measures, could cause a serious loss of educational opportunity. These online courses offer a positive and creative method of connecting with students, despite some drawbacks.

A quantitative research design was used by Adnan and Uddin in 2021. There were 200 undergraduate and graduate participants in the study from different public and private universities in Pakistan. The Covid-19 pandemic has not only revealed the weakness of the educational systems around the world, but it has also left students with uneven and sporadic access to online learning alternatives. In light of Pakistan's second Covid-19 pandemic wave, the following poll was created to evaluate the effectiveness of online education. The majority of higher education students in Pakistan have significant doubts regarding the efficacy of online learning, according to the study's findings.

When compared to the first wave of the Covid-19, students have reported more productivity in their online classes during the second wave. Ineffective online teaching methodologies/styles, ineffective learning content, poorly scheduled assessment criteria, a lack of access to a dependable internet connection, a lack of classroom socialization, and a lack of self-motivation were some of the major online learning challenges mentioned by Pakistani higher education students. People are still unsure as to whether the sudden acceptance of online learning as a result of the Covid-19 outbreak will continue through the three-year mark given this unanticipated movement away from traditional classroom learning and toward online education. The creation of educational systems with all the tools required to quickly adjust and lessen the negative effects of any potential future disruptions is crucial.

Malik & Ajmal (2020) adopted quantitative methodology and collected through a descriptive survey design. The students of Karachi have been taken as sample. The intermediate, undergraduate, graduate, and postgraduate students were given the questionnaire on a five-point Likert scale. In order to analyze the data, SPSS 23 was used. The results of the study showed that students face problems in understanding the lecture in online classes and also faced internet issues along with the issues in operating technology due to the lack of prior guidance. The same problems were faced by teacher too and online classes also increase the workload of teachers.

Ahmad et.al (2020) have conducted a descriptive study based on survey and correlational approach. The data is collected from the study about tele-schooling during the times of global pandemic and current situation of the world during the pandemic especially in Pakistan. There is negative impact of corona virus on the system of education. This study reveals that the tele-schooling is the most powerful approach to meet the learning outcomes in post COVID-19 period. It is also discovered that the students enjoyed tele-schooling and want it to continue even after pandemic periods.

Bharuchi et.al (2020) conducted a research based on qualitative research design is used to get insights into parents’ real-life experiences during COVID 19. The impact of COVID on children's learning, school support, and caregivers' at-home learning practices are the three main themes that emerged from the data analysis. It was determined that educators from all over the world and the entire country have stepped forward to promote learning at home by providing a wide range of free online platforms to assist parents in facilitating home-learning. In these difficult times, parents should also modify the measure to close any learning gaps that have appeared in their children's education.

Asgaroval et.al (2021) have conducted a research which is qualitative in nature that is why individual and focused group interviews were conducted to know about the experiences and challenges of online
learning in the context of China during the Pandemic. The data has been taken from students of different countries in order to know their online learning experience. After the analysis of data, there were several challenges were found. Apart from challenges and difficulties it was found that the online learning is the most convenient and cost friendly alternative of face to face classroom.

Usmani (2021) evaluated the link between independent, dependent, and moderating variables using a quantitative study methodology. The six-layer onion model from Saunders (2016) was used to build the technique for the current investigation. According to the study’s overall findings, blended learning is superior to traditional classroom-based learning in terms of effectiveness. The students’ learning experiences are improved by the blended courses. The students view blended learning as the best substitute for traditional classroom instruction. This study focuses on how technology is incorporated into blended learning. According to the survey, training courses on how to use LMSs for efficient blended learning must be made available. Universities must also recruit support personnel to educate teachers on the software applications and important pedagogical principles in order to improve the delivery of blended learning.

Noreen & Reid (2021) has conducted a study on digital transformation in distance learning: problems and challenges during Covid-19 which is qualitative in nature and based on phenomenological design. The major objective of their study is to identify the problems faced by students and the faculty of AIOU in moving into online education. The findings of the study indicate that it was impossible for the teachers and students to remain online with the unstable internet connection during their classes. It is also reported that repeated voice was also another issue caused by poor internet connection during online classes. According to the findings it is also discovered that it is difficult for an education institutions in Pakistan to run online learning efficiently.

Ajaz (2021) used data from extensive covert (non-participant) observation and casual talks with young female university students at the undergraduate level in Pakistan over a seven-month period to respond to the research question. Between March 15 and October 15, 2020, observations were made. An author saw five courses with a combined total of about 90 pupils, most of whom were between the ages of 18 and 22. The author had established a rapport with the pupils and had easy access to the classes as an insider. The Pakistani pupils were drawn from a range of socioeconomic backgrounds and geographic areas. Their family structure, level of education, the jobs that their parents and other family members held, as well as the assistance they received from their families, differed. Despite the fact that the majority of the students who were observed eventually succeeded in taking part in online lessons, assignments, quizzes, and exams, this paper represents the voices of those disadvantaged students who, for a variety of reasons, found it difficult to participate in online education. Four days during the week, the researcher observed for a minimum of 13 hours. People were still mingling even after the monitoring period had ended. The report advises further investigation into the incidents and their ramifications for those who were barred from online learning during the Coronavirus outbreak.

Assessment and Distant Learning
Guemide (2020) has conducted research about online system adopted by the universities of Algeria for the provision of online courses in the period of Global pandemic. As higher education in Algeria was completely dependent on electronic system of learning for the first time, so that it is important to bring improvement in the practices, to identify the mistakes and to analyze the overall experience of learning. After the analysis of data, it is found that the teachers face difficulties in shifting to the online teaching because of the lack of resources and lack of training in ICT. The study recommends that there should be planned learning objectives for online teaching and learning in order to make the process of online learning smooth and effective.

Remote Teaching and Challenges
Based on their own experiences with the planning of emergency remote teaching, Saqlain and Laurier
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(2021) have prepared a reflective paper. The researcher has also listed other elements that are beneficial in getting ready for remote teaching, such as his own expertise in online learning, training for remote teaching, course development and design, employing both synchronous and asynchronous methods, student engagement, and presences.

Asim & Farooq (2021) have conducted a study which is based on qualitative research design. The Data was collected through interviews and these interviews were recorded face-to-face, as well as online due to COVID-19 isolation and social distancing. This study revealed that the effect of digital technology on child’s education at ECE level during COVID-19. Different types of technologies can be used to provide learning experiences at home. There are some negative aspects of online learning found after data analysis such as frequent power breakdown, lack of technological resources, students and teachers are not well aware of the usage of technology, internet connection problems, lack of attention from students etc. This study recommends that all school administrators, educators and policymakers need to develop more holistic and constructive system to facilitate learning at early childhood level to fill the arising gaps in learning.

In order to gather data, Saifi et al. (2020) used a descriptive design and a survey method. This study was only undertaken with the second semester B.Ed. students of the 1.5 year programme due to time constraints and a lack of funding, and a sample was taken from both an online university in Pakistan and a university that operates in the traditional method. The data was analyzed by using SPSS version 21, descriptive statistics and t-test were applied on the data to analyze the results. According to the results students faced difficulty in purchasing the internet bundles during the pandemic. Teachers and students both were unable to use technical and e-services devices. Teachers were unable to provide proper instructions in online classes. It is concluded that the pandemic and online teaching affected badly on students and teachers both, students were highly demotivated due the improper environment of education.

Findings and Discussion
Findings
After the analysis of related articles, the overall findings of the study revealed that:
1. There were five themes generated for the post pandemic research trend which are Pandemic and higher education, psychological aspects of post pandemic context, Learning experiences in COVID-19, Assessment and distant learning, Remote Teaching and Challenges.
2. Most of the researches are related to the theme of learning experiences in COVID-19. 47% of the articles based on this theme. Almost half of the post Pandemic researches have identified the learning experience as the most challenging aspect.
3. It was found that 4% of the articles are related to the theme of assessment and distant learning.
4. It is discovered that COVID-19 has negatively affected on the psychological state of a learner as we can see in the analysis section there are 14% articles related to the theme of psychological aspects of post pandemic context.
5. The teachers also faced different kind of challenges while paradigm shift in post COVID-19 as it was found that there are 14% of the articles related to the theme of remote teaching and challenges.
6. The data analysis revealed that Higher education was also facing a challenging situation. 19% research articles have investigated to address the challenge.

Discussion
This study was conducted to see the research trends on challenges and outcomes in post pandemic education. There were numerous challenges that the learners faced during the corona virus outbreak such as lack of training in ICT, internet issues, frequent power failure, lack of technological resources, and lack of interest in online classes etc. The biggest challenge which occurred during post pandemic period was to maintain the quality of education. Teachers and administrators faced many hurdles while developing the framework of e-learning. Along with the teachers and administrators, parents were also
equally disturbed due to the post pandemic paradigm shift as it was new for them as well. Parental involvement was increased which is considered as the positive aspect as they were equally taking part in their child’s learning to fill the gaps. If we talk about higher education, it is one of the major areas which was affected by Covid-19 as we can see that in the literature review section, Jappie (2020) has highlighted that post-graduate level students faced difficulties in their data collection procedure for the thesis writing which is the reason they were failed to submit their thesis on time. The psychological aspects like fear, anxiety and depression also affected the learner progress in remote learning. The Pandemic period was the most challenging period for the teachers because it was tough to engage students online. On the other hand, teachers also suffered in using technology as teachers were not trained enough to manage online mood of teaching. Apart from challenges and difficulties in online learning it is discovered that some learners enjoyed online learning and consider online learning as a best alternative of face-to-face classroom teaching. There were number of articles found on learning experiences in COVID-19 but there was only 1 article related to the assessment in remote learning which shows that this area is neglected and need more research. The assessment area demands more researches in order to find out the best possible ways to assess the students in such situation so that educator can get ready to deal with this kind of crisis in future. As we all are aware of the advantages of remote learning during the pandemic period that it is the best alternative of face-to-face learning, but it has several disadvantages as well such as students were facing difficulties in socializing with each other after being at home during lockdown and it has negatively impacted on the mental and physical health of a learner because excessive screen time developed eyesight problems along with some other health issue. The impact of remote learning on learner’s health is the area which needs more investigation.

Conclusion and Recommendations

Conclusion

COVID-19 has effected human life in many ways, one of the most important area which has been effected due to the Pandemic outbreak is education. When lockdown was started education was completely neglected in the beginning but after few month the government took decision to shift towards the online delivery of education which was tough for everyone in the start due to the lack of knowledge and training. After sometimes it was realized that online classes are the best alternative of physical classes. On the other hand majority was unhappy with the online delivery because teachers faced many challenges and problems while conducting online classes and it was discovered after the present content analysis that the training provided by an intuitions were not useful and enough for teachers to conduct online classes smoothly. Teachers and students both were frustrated because of the technological issues, unavailability of internet and unorganized system of management during the post pandemic education.

Recommendations

1. Assessment is the most neglected area found in the research published in HEC recognized journals of education. This area requires serious attention, and we need to work on developing effective online assessment plans in order to make true evaluations about students’ abilities.
2. It is discovered that teachers were not satisfied with the kind of training their institutes provided them during the post pandemic period in order to improve their performance in online classes. There should be comprehensive and organized training program to facilitate teaching, learning, and assessment.
3. The increasing screen time due to online learning has become a health hazard in many ways. This increased screen time is badly disturbing the vision of both teacher and student. Moreover, a constant sitting posture has decreased the muscular mobility which has resulted in obesity and overweight issues. This crucial situation needs to take necessary measures to reduce the screen time to a certain extent.
4. There should be some accountability for the check and balance in online classes to ensure the presence and participation of students during online classes.
5. It is recommended for the future researchers to conduct the study on a broader scale so that we can understand the research trends round the globe on challenges and outcomes during pandemic as the present study was limited only to the context of Pakistan.
References