



**RESEARCH PAPER**

**Challenges and Benefits of E-Governance in the Education Sector of Pakistan during COVID-19**

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**ABSTRACT**

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The second decade of the 21<sup>st</sup> century confronts new kinds of social, political, and economic challenges due to the pandemic Covid-19. At this time physical activities were shut down completely in all institutions, the education sector is not an exception as on-campus education was geared to shift to online teaching in case the uncertainty of the situation was prolonged. This paper attempts to highlight the challenges and benefits of E-governance in the education sector of Pakistan during the COVID-19 pandemic. In this context, the framework of e-governance is significant which means the delivery of government services and information to the public using electronic means. Quantitative methodology along with descriptive and analytical style is employed to justify the topic. E-education in Pakistan faced policy-based, infrastructural, and socio-economic challenges which came into the limelight during COVID19. The government of Pakistan needs to shape all public sector policies with the consent and suggestions of major stakeholders in the relevant field.

**Introduction**

Governance is all about decision making and decisions are not always taken under peaceful circumstances at times decisions are taken in an emergency, decisions can also be long-term or short-term. COVID-19 situation halted all regular activities in the world and compelled various sections of societies to take emergency decisions to meet this new situation. The infrastructure, resources, and capacity of the system cannot expand as per the urgency of the situation, one needs to manage the challenge within the existing system. Educational infrastructure in Pakistan has already been facing limitations and the pandemic situation posed further challenges to the education system. Budget allocation for the education sector in Pakistan has been around 2% since its creation and out of 2%, higher education receives only 0.5%. Public sector higher education institutions in Pakistan are still not able to meet their own needs and have to depend on the government whereas the private sector is much more resourceful. During the pandemic, educational institutions collaborated with HEC, NCOC, and provincial higher education commissions. The general policy for higher education was given by HEC which was further elaborated by provincial higher education commissions and national command and control gave recommendations to carry out educational activities based on the current situation. The government of Pakistan funds and assists

educational institutions in developing learning management systems, IT support, accessing online reading materials, and helping them in establishing book banks. Governance needs to fulfill its basic objective that was to continue educational activities through online mediums so that students may not suffer and educational activities continue.

## **Literature Review**

### **Concept of Governance and E-Governance**

The concept of governance is not new as it's been there since the start of human civilization however at the same time it remains quite vague due to its wide applicability in almost all walks of life. Precisely governance deals with the process that determines how decisions are made or not made. Decision-making is a diversified activity as it takes place both at household levels as well as at the state level, which means governance activities are going on at all levels and this broad scope of the concept makes it hard to comprehend. Governance covers the cooperate, local, national and international context. Initially, the government was the only actor in governance but due to the state's over the occupation of duties towards citizens new actors emerged to share state responsibilities of governance like NGOs, IGOs, MNC, and private sector actors. The concept of governance is operational whereas the term government bears structural meaning (Rizal, 2012). UNDP defines governance as below

“The exercise of economic, political, and administrative authority to manage a country's affairs at all levels. It comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences.” (UNDP,2013).

The use of authority to decide state institutions, apparatuses, and processes to manage countries' political, economic, and administrative affairs by articulating the demands of people, and interest groups is called governance. Decision-making requires implementation hence governance is about decision-making and later its implementation. Governance demands the state to decide about public resources and authority more efficiently and effectively to serve its citizens. To measure governance there are characteristics like participation, transparency, accountability, responsiveness, fairness and inclusion, and effectiveness or efficiency.

### **Characteristics of Governance**

#### **Participation**

Participation refers to including all those who either are the beneficiary of the decision or are affected by the decision. Users are involved in policymaking, and its implementation later becomes the benefactor of the policy outcomes. As per governments requirement citizens are not subordinate or customers rather, they are partners to the service provider, hence governance encourages a bottom-up approach to decision making (ÖKTEM, et. al, 2014). E-governance means e-participation which is possible due to the incorporation of the concept of ICT and because of that governance became more efficient, cost-effective, and user friendly.

## **Transparency and Accountability**

The concept of transparency is tricky as there is a fine line between openness and privacy, however, the availability of policy matters, rules regulations, and all relevant documents which are primarily concerned with the public should be in the public domain. Transparency also means that the whole process of decision-making shown and why it's taking place is open to all stakeholders. Availability of information makes systems transparent as it's an interrelated concept. Transparency is linked with another term i.e. accountability, once we identify the responsibility of a person due to the concept of transparency it's convenient to hold them accountable for his or her duties. Accountability brings legitimacy to the system as people are the auditor of the system as well, which enhances the public's confidence in the system. The introduction of the ICT in various public sector institutions promotes the idea of transparency and accountability as these institutions are bound to make their information public (M. ÖKTEM, et. al. 2014).

## **Responsiveness**

As per the concept rules, objectives, and, principles are laid down in such a way as to meet the legitimate needs of the citizens. It also requires policies to meet the demands of the citizens within a timely framework and policies must be by the demands (Tatarenko, 2018).

## **Fairness and Inclusiveness**

It involves all stakeholders on board especially those who are in minority and whose voice is less heard due to their number. The demands of the citizens must be taken up by decision-makers before time and the policy outcomes must employ the best use of available resources efficiently (UNESCAP, n.d; Ali, 2015; UN, 2012).

Conceptual clarity needs to be laid down before starting a discussion on E-government and e-governance. E-government and e-governance are two separate terms; the former is all about providing opportunities related to infrastructure whereas the latter is about how this infrastructure become operational (Lucia Casap, 2017). Electronic (e) governance is all about how government services and information will be communicated to the public through information and communication technology. Revolution in information and communication technology is a key pillar backing the concept of e-governance. E-government is a one-way communication protocol where the government lends its services to the public whereas e-governance is a two-way communication protocol, where people utilize government services and respond to the government about their services. The entire concept of e-governance is based on disseminating information to the public with just a click. E-governance shares characteristics with good governance like participation, accountability, transparency, and social integration (Krishnaprabu, 2019).

Types of e-governance are government to government, government to citizens, government to the business sector, and government to civil society. Types of governance work in collaboration with stages of governance such as Presence/ publicizing, interaction, transaction, and transformation.

### **Publicizing/ Presence**

To publicize the services and opportunities offered by the government sector to the audiences, and also register their presence on online platforms is the basic objective of this stage. This is the first stage where the government lets people know all their services to solve their problems. The main objective of this stage was to inform the public and no interaction between parties took place at this stage. The use of ICT made information readily available and cost-effective to the people, which enhance the availability of information and resulted in an aware society. User satisfaction through ICT mode is much more satisfying than in traditional mode (Ilyas, 2016).

### **Interaction**

The second stage develops interaction between the user and the service provider but a direct link is still not established instead users can avail of the online form provided by the service provider. A formal link is established between the user and the service provider as in request can be submitted through an online process. To establish relationships with people ICT proves more effective as web pages, chat rooms, blogs and, social media links may be established to develop an interaction with the people. Sound and effective public opinion are possible through these interactive links (M. ÖKTEM, et. al. 2014; Ilyas, 2016; Al-Hashmi, 2008).

### **Transaction**

At this stage, a direct link between the service provider and user will be established by either side. The service provider establishes an online link with the user under which the latter may avail of services such as tax or fine payment by the user. Users may also complete an online application and submission process for the relevant department as per need (Jayashree & Marthandan 2010). This stage also comes under one-way communication either by the user or by the service provider.

### **Transformation**

The last stage of e-governance is termed transformation as in this stage demands of users, policymaking, and implementation are all based on the user's interest not on the service provider meaning shift to user centric-approach from a service provider-approach. It's a transformation on the part of the services provider who was a key player in the past but now the service provider provides a user-based manual of services (Ilyas, 2016; Jayashree & Marthandan, 2010).

### **Evolution of E-Governance in Pakistan**

Convergence of Pakistans government services and information from manual to the online system was an issue of recent past. IT policy and action plan were given in the year 2000. This policy drives the attention of the government towards taking revolutionary steps to convert the government system into an online mode. To address the challenges, the department of Electronic Government Directorate was established under the Ministry of Science and Technology for the deployment of software and infrastructure to facilitate IT services in Pakistan. National E-Government Council accepted the E-government strategy five-year plan in the year 2005 aimed at inter-linking all government departments and extending excess of their services to the citizens. In the year 2014 Ministry of Information and technology professed the slogan e-governance for good governance(Ilyas, 2016).

In the year 2002 government of Pakistan realized the importance of ICT and was ready to invest in its growth hence the Minister of Science and Technology created the Electronic Government Directorate. This institution was designed to look after the matters linked with the speed of the internet and promoted the use of mobile phones across the state. Pakistan Telecommunication Authority introduced a smart Pakistan initiative to promote ICT. The Smart Pakistan initiative showed a percentage of 61 million users of 3G & 4G and 63 million broadband users by the end of the year 2018 (Atta Ullah, 2021).

UNESCO report of 2018 revealed that the education budget of Pakistan ranges from 2.1 to 2.7 between the year 2008 to 2017 whereas the higher education budget was about 0.05% of the total educational budget. Universities imparting higher education in Pakistan belong to 40% private sector and 59% public sector out of a total of 187 (Zubair, et.al. 2019). To regulate the working of universities bring uniformity in its procedural aspect, shortly implementing good governance Higher Education Commission (HEC) was established in the year 2002 after dismissing University Grant Commission (UGC).

### **COVID-19 and HEC Measures to Continue Educational Activities**

The government of Pakistan decided to suspend all on-campus teaching activities in the wake of the COVID-19 pandemic in March 2020. All educational institutions were asked to suspend their semesters initially for two weeks and later this was extended until the situation came under control. Under the government guidelines and NCOC decisions, HEC guided provinces in shifting to virtual teaching keeping in mind the best interest of the students so that their academic years may not be wasted. In Pakistan, the education infrastructure is quite vulnerable but still with limited resources it was suggested that universities develop a learning management system (LMS) as well as Online Courses Development programs so that students may consult online material. HEC directed universities to train their staff as to how they can operate the LMS and other online methods of teaching. Students and teachers were instructed to install online applications like Zoom, Whatsapp, and others which were convenient for instructions.

HEC approved three committees to develop a mechanism for an online education system, first one was the Technology Support Committee which was assigned the task of developing an LMS for universities that did not have it, in this context Virtual University's assistance was requested as they were already working under the LMS system. The second one was the Content Identification Committee which was supposed to ensure the availability of online reading as well as evaluation of material for the students. HEC has committed to ensuring that students had access to the digital library content. The third committee was the Preventives Measures Committee established to ensure standard operating procedures to avoid the spread of disease on campus (HEC, 2020).

### **Material and Methods**

This research paper is written by applying quantitative methods. Secondary data was collected to clarify the theory of governance; e-governance and official documents as primary data were used to support the arguments. An online survey technique was used to collect primary data to meet the topic's needs, COVID-19 which is the most recent issue. A random convenient online sampling method was used and a closed-ended questionnaire was designed to collect data from the students and the academia to assess the challenges and benefits of online education during COVID-19. A survey of the

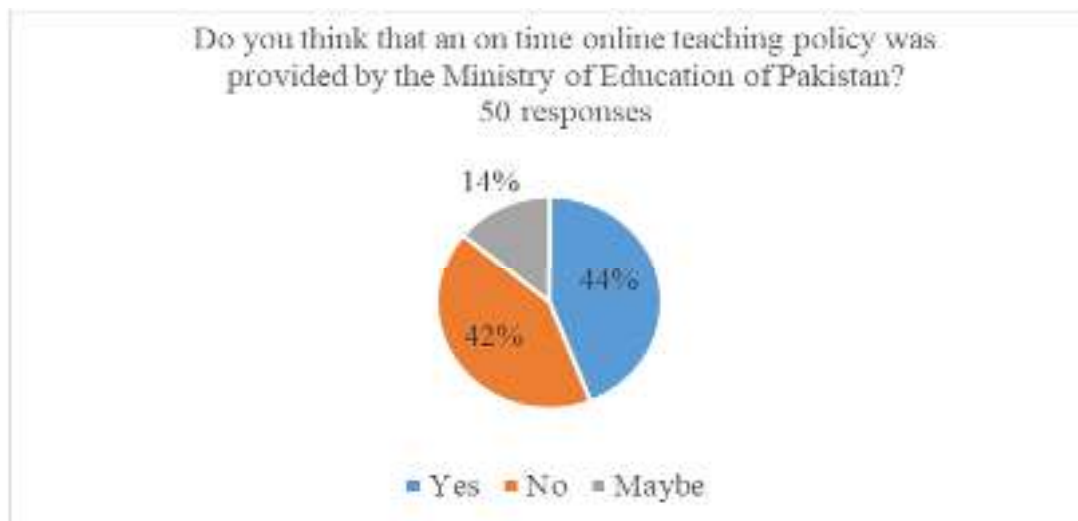
population was taken from the higher education sector out of which the majority belonged to the public sector, sample size of students was 215 whereas for academia it was 50, furthermore, data was collected from March 2021 to April 2021. Descriptive and analytic methods were used to clarify the concept and elaborate on the results of the survey. These Questionnaire covered general hindrances and challenges faced by academia and students during Pandemic 2020.

## Results and Discussion

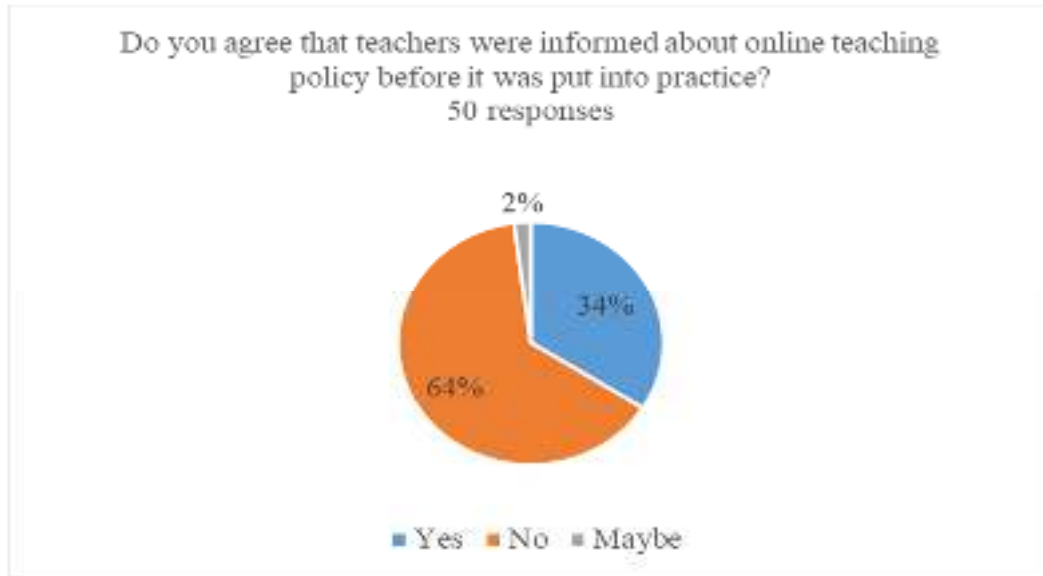
The online survey questions were discussed under the principles of governance e-governance to assess the challenges and opportunities which e-governance brings during pandemic COVID-19 in the higher education sector in Pakistan.

### Publicizing/ Presence and Responsiveness

It is mandatory to first form a policy with consensus and then communicate that policy to all concerned stakeholders and publicize it, this is the precondition before implementation of any policy. Providing an online teaching policy and then training the teachers was mandatory before initiating the whole setup. Its was 44% of the academia believed that the online teaching policy was provided by the Ministry of Education beforehand whereas 42% said it was not, and 14% were not sure at all. Overall it was a not positive sign as only 1% variations occurred in academia between those who believe or those who did not believe timely availability of online teaching policy.

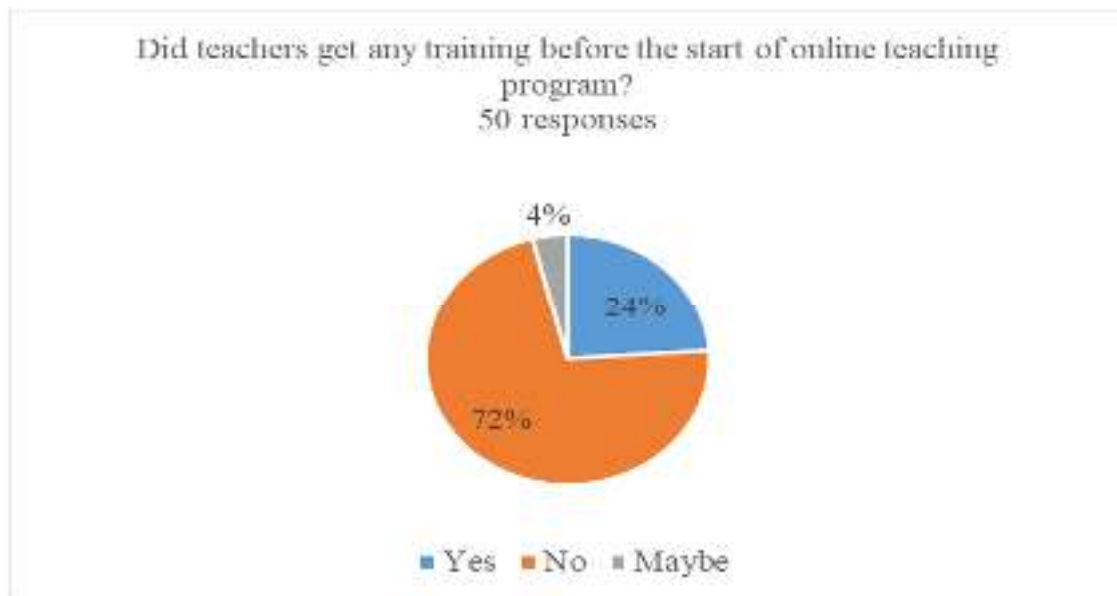


The second question asked about the knowledge of the academia of online teaching policy before they started practicing it. As per results, 64% of academia were not informed in time about policy at all whereas 34% said they were informed before they started practicing it. There was a sizable gap between well-informed academia and uninformed ones which affected the performance of academia in delivering their duties of online teaching as they were not aware of the rules and regulations of the new system.

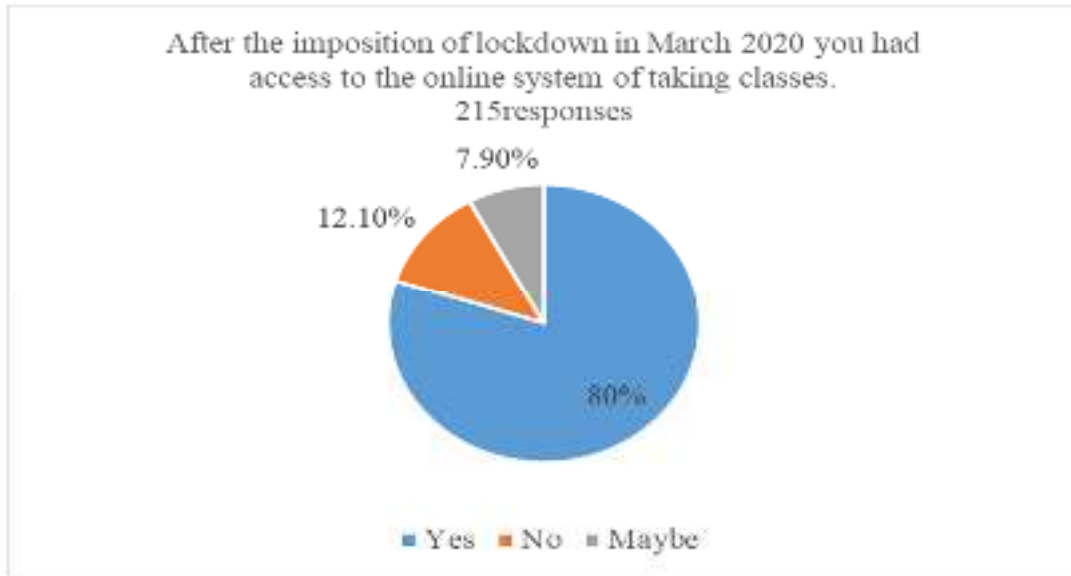


### Interaction

Interaction of academia with students and the medium through which they were linked was the next step towards working on e-governance. Teachers (72%) told in the survey that they did not receive any formal training before the start of online teaching as their institutions failed to train them in time for the new system. Only 24% of academia said that they received training before the start of the program. Pakistan academia in public sector universities is not familiar with online teaching techniques as it was never in demand before COVID-19. The Pandemic changed the world altogether and academia was not an exception.

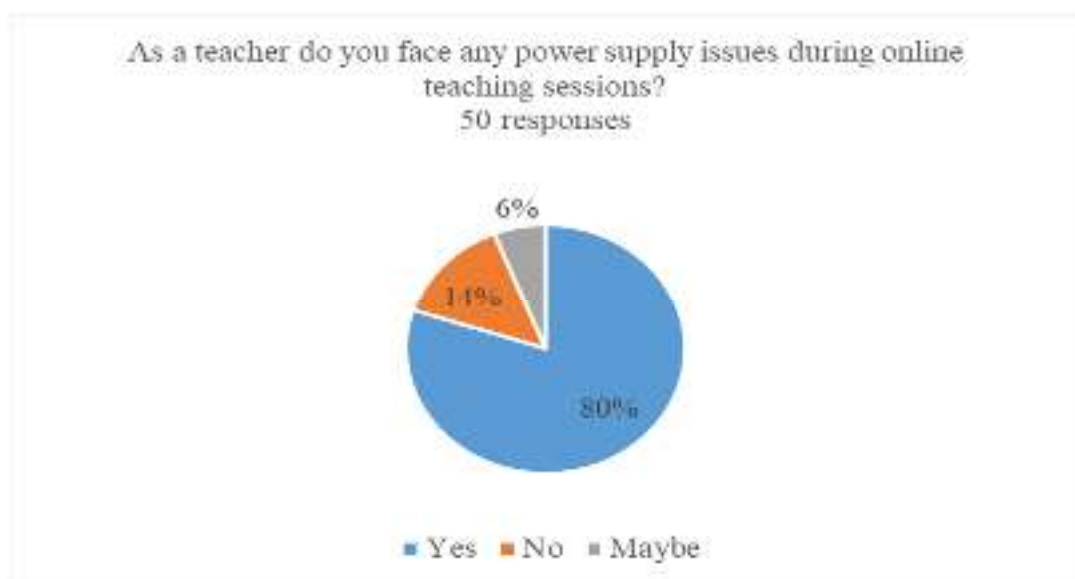


On the other hand, 80% of students said that they had access to online mediums of education and are familiar with this mode, and only 12% of students were not sure about the accessibility of the online mediums of education. Results showed a sizeable gap between academia's non-familiarity with an online system whereas, students already had hands-on practice with this system.



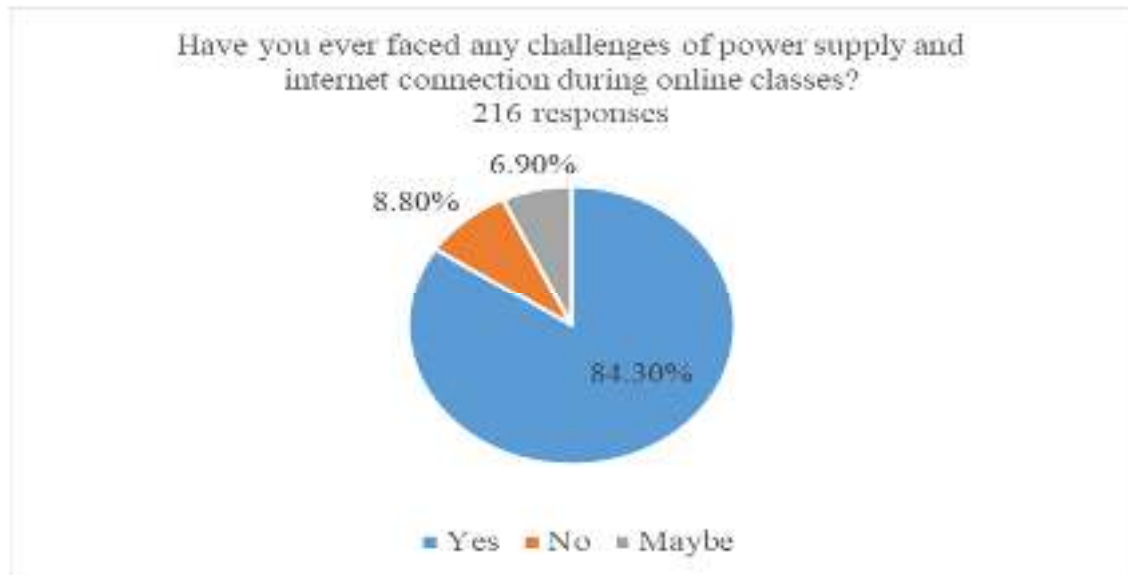
### Transformation and Transaction

Educational institutions needed to transform their physical teaching mode into online teaching and this was the biggest shift ever required in the education sector but were an urgent need, as nobody was sure when the situation would come back to normal. Through online systems, efforts were made to establish a link between student staff and education institutions, which was a major shift in the existing setup. This Pandemic situation pushed educational institutions to shift their educational model to a user base which meant that students' needs would be fulfilled by opting for the online education policy. The use of the internet and consumption of electricity naturally increased during the pandemic, and third-world countries that are already coping with limited resources experienced a major setback. The Online system needs two things internet and electricity, in response to the power supply question, 80% of academia said they had issues with power supply whereas 14% didn't have any and 6% were not sure. Respondents falling in the maybe category reflect those who occasionally faced power supply issues.



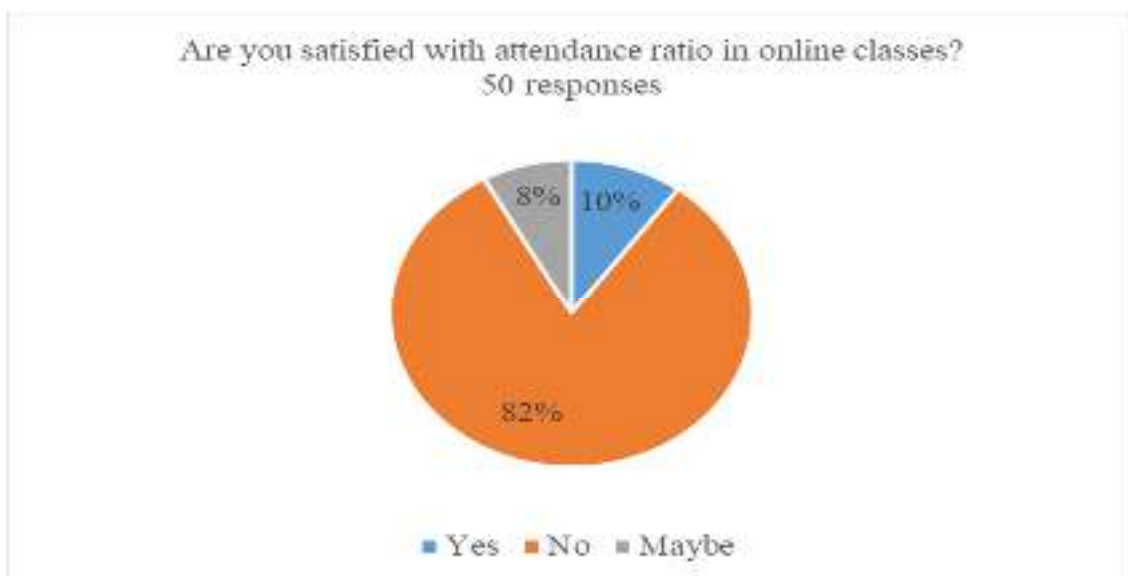


Students' responses in the survey showed that 84.3% of students were facing power supply issues during their academic activities. Transaction of the education system into online needs to be supported by transformation where internet and power supply should also be improved.



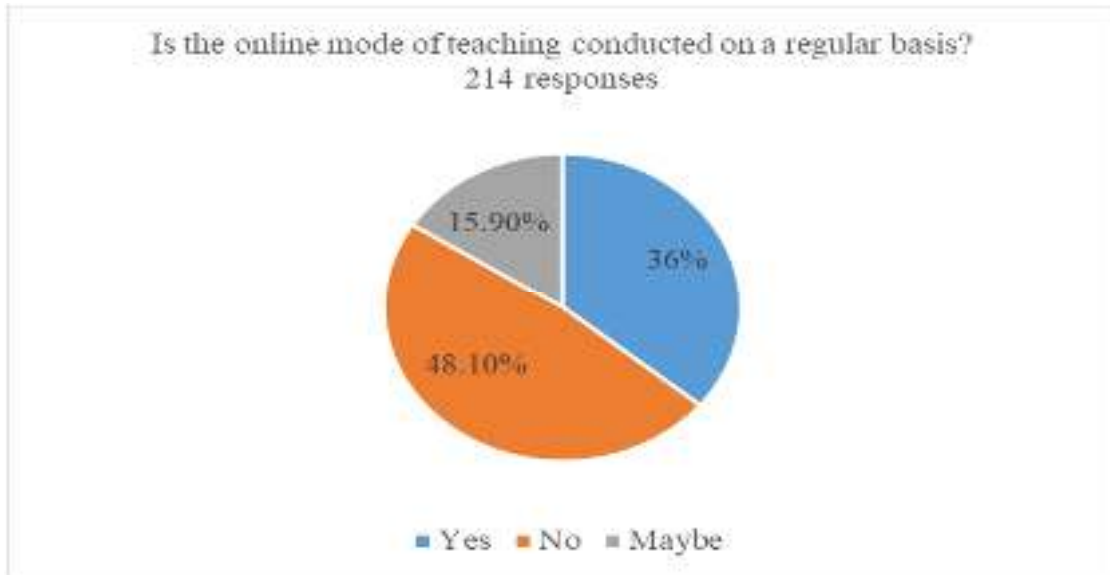
### Participation

In this category decision-making with mutual consent of participants is required but as far as the educational field is concerned participation is termed as student's teacher involvement in achieving their syllabus completion. To achieve this target teachers and students were exposed to the new setup that is online teaching mode. Teachers were interested in the ratio of students who were taking online classes and a survey showed that 82% of teachers were not satisfied with the student attendance ratio whereas 10% were satisfied and only 8% were not sure about it.

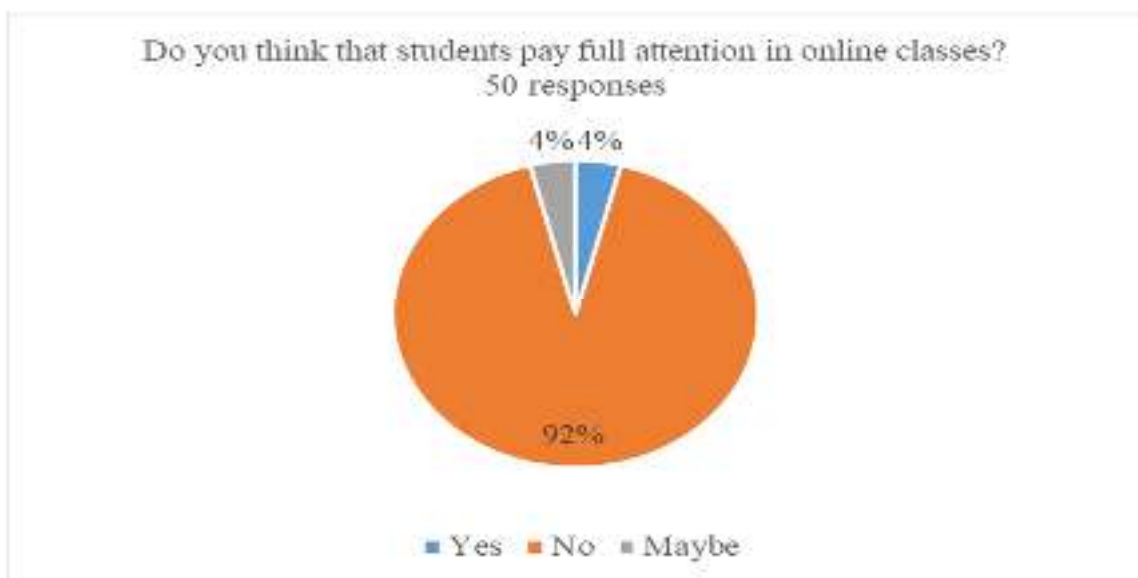


Students' point of view in terms of interaction was the conduction of classes on regular basis, 48.1% of students believed that their classes were not conducted regularly,

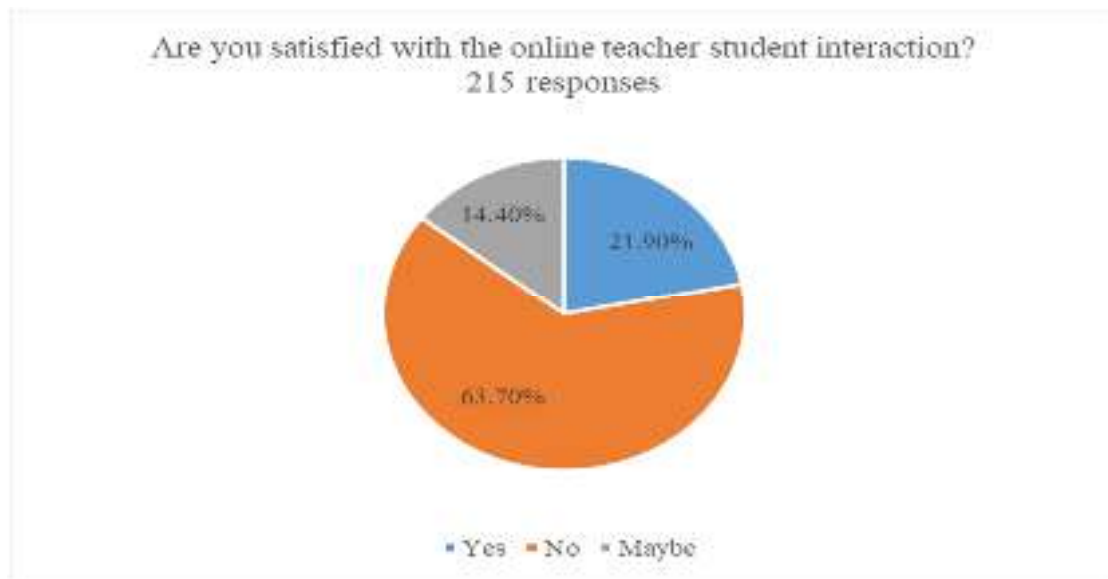
36% said that they were regular whereas 15.9% were not sure about it. There was a gap of almost 12% between yes and no of regular classes which showed that a majority were not satisfied with the regularity of the classes. Teachers were not satisfied with attendance and at the same time, students were not happy about regularity hence participation was naturally compromised in this situation.



Students' level of attention is an important component in participation, 92% of teachers in the survey expressed their views that students were not participating in online classes.

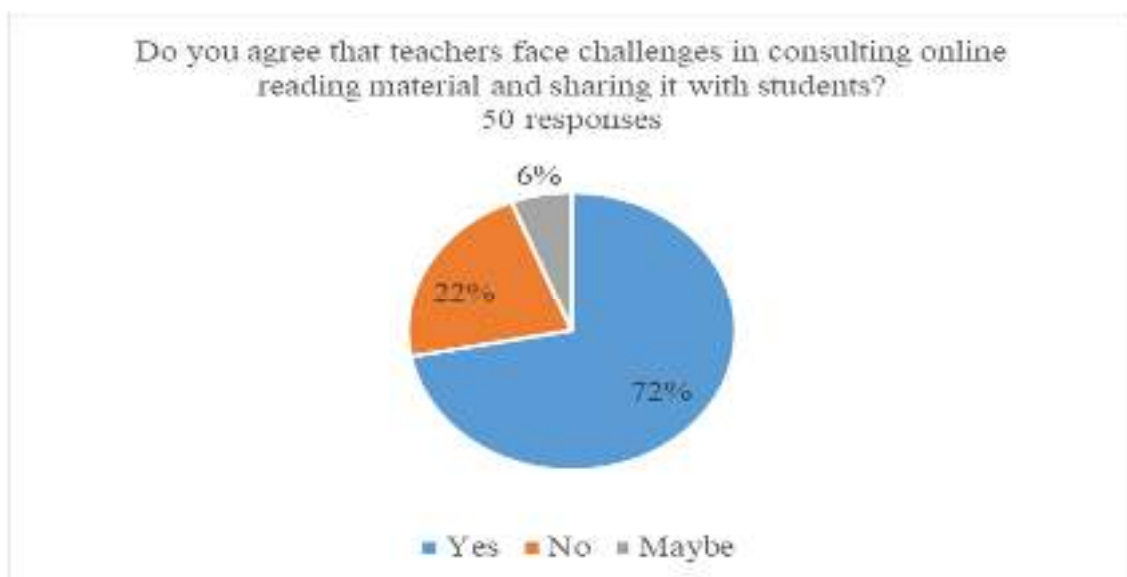


Students, on the other hand, showed their limitations in interaction within online classes, 63.7% were not able to interact whereas 21.9% were satisfied and only 14.4% were confused about it. Students' attention and interaction were the mutual challenges faced at both ends.

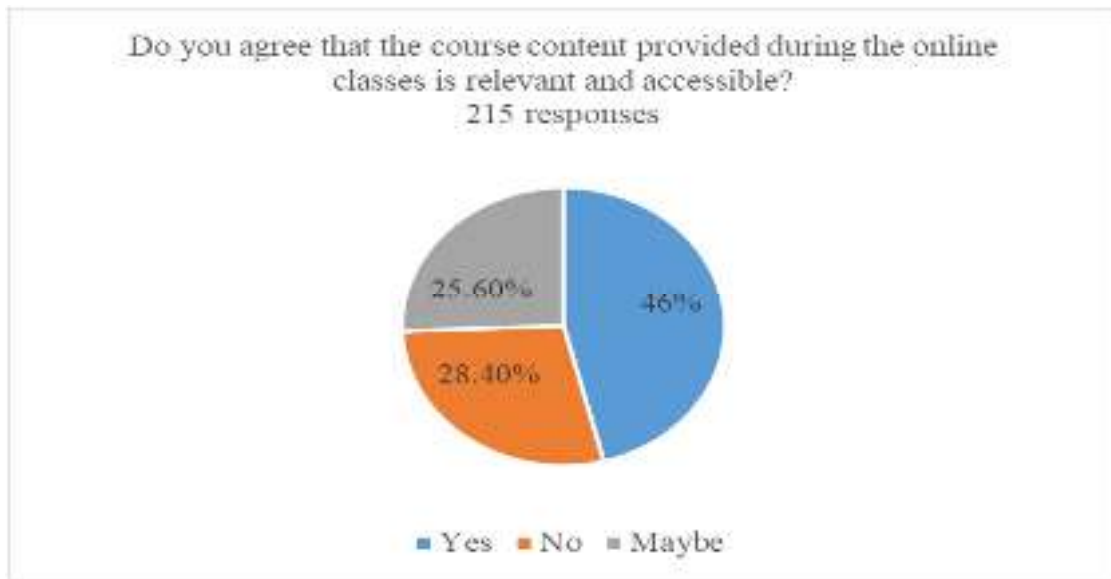


### Transparency

Since educational activities were shifted to online teaching, the main challenge was to share relevant online material with the students. There were limitations in accessing and sharing online material which was to cope with the support of the various academic sites as they opened free access to their sights for all. Other than that different institutions working on different modes as per their capability and access to the resources yet it proved to be a challenge for both. Academia(72%) who showed hindrance in consulting and later sharing material with students, 22% academia compared with 72% feel comfortable in doing so and 6% were not sure about it. Ratio made it clear that the staff was not comfortable accessing and sharing relevant material, resultantly its hard to satisfy the students.

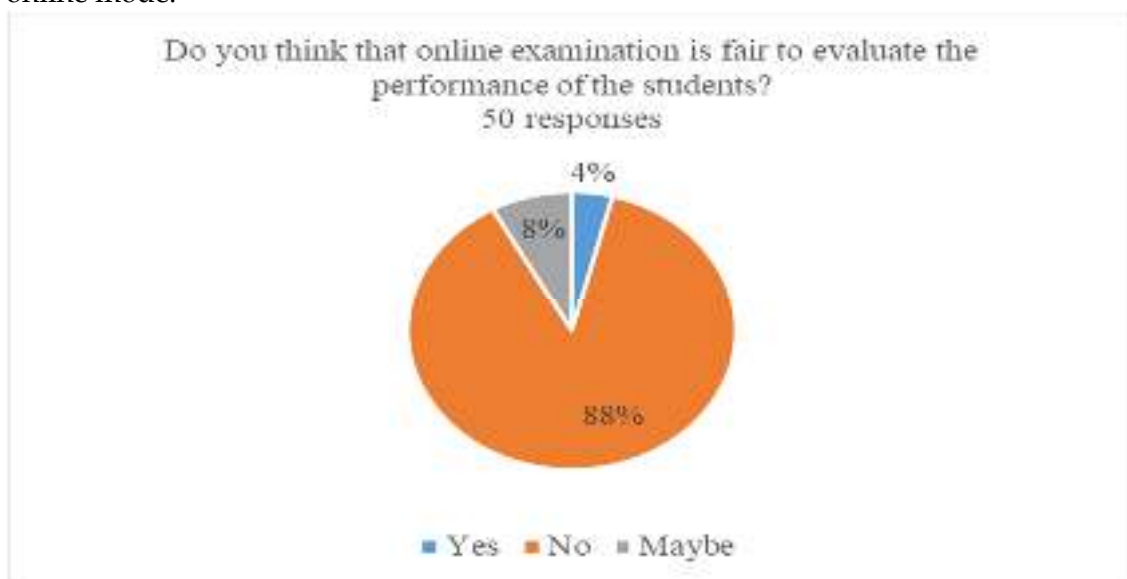


Relevance and accessibility of the students was 46% whereas 28.4% were not satisfied and 25.6% were not sure about it. Students ratio who was not able to access and those who did not have a real idea is quite close which is just 3%. A significant number of students were satisfied with their accessibility and access to the material.

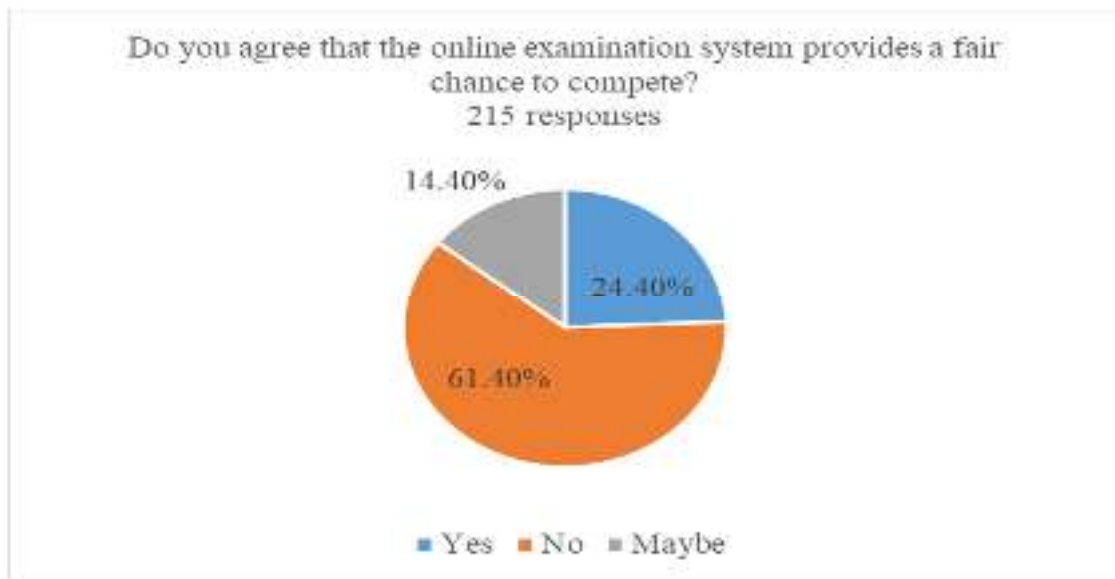


### Accountability

The mode of accountability in academia is the examination system which holds both academia and students accountable. Academia is responsible in general for imparting knowledge to students and students are responsible for reflecting on the learned information in the examination. In the online mode of examination, 88% of academia was dissatisfied and only 8% believed that it failed to evaluate students in the online mode.

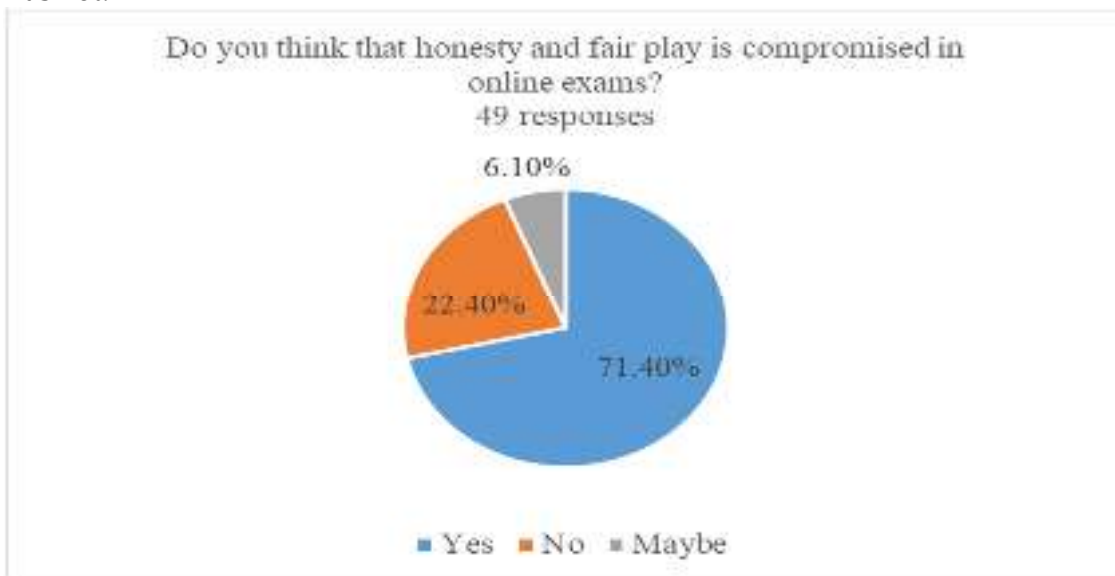


On the other hand, 61.4% of students also believed that the online system was not giving them a fair opportunity to compete. Students who had faith in the system were 24.2% and those who were not sure about the whole setup were 14.4%.

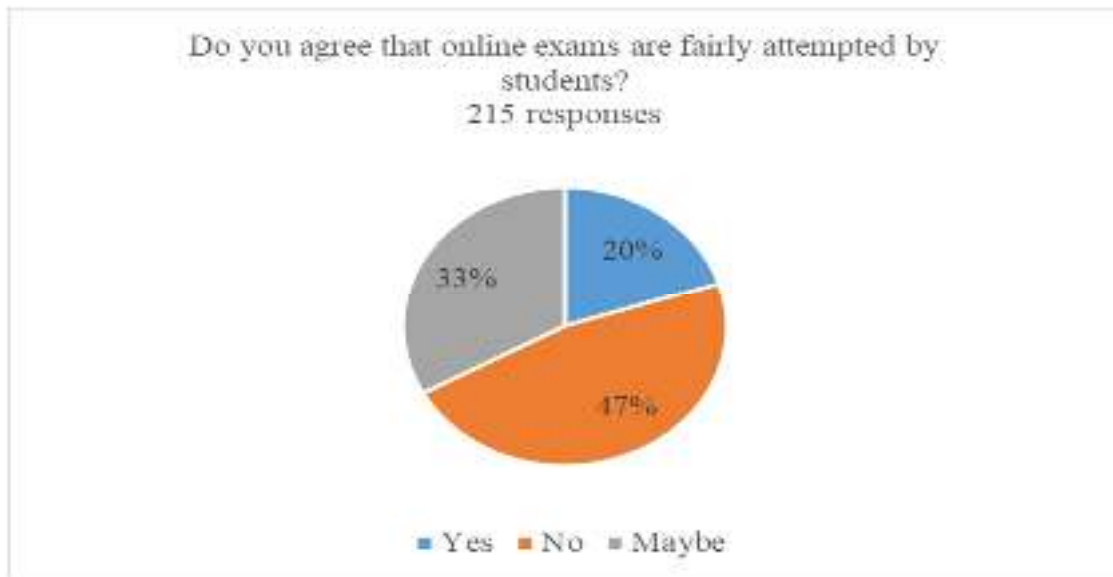


### Fairness

Involves equal chance for all stakeholders to compete in a system, in the category of examination system 71.4% of the respondent from academia believed that honesty and fairness were compromised in the online system of examination, whereas 22.4% it was not.



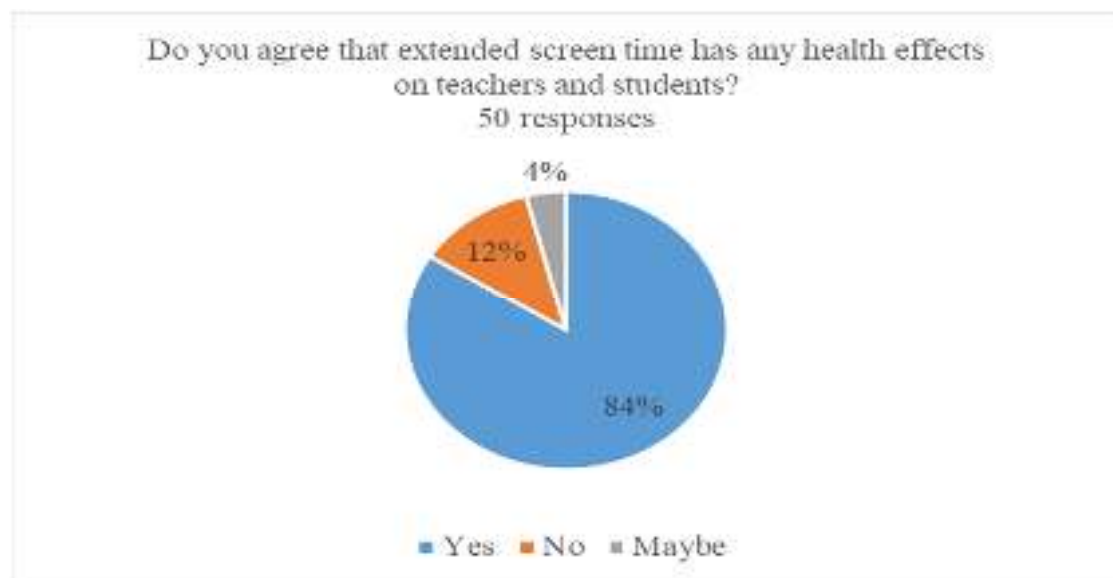
The student's ratio who believed that examinations were fairly attempted by them was 47%, those who said it was fair were 20% and surprisingly the ratio of students who were not sure was 33%. This is the highest ratio shown in the whole survey which reflects an almost equal gap with the other two categories.



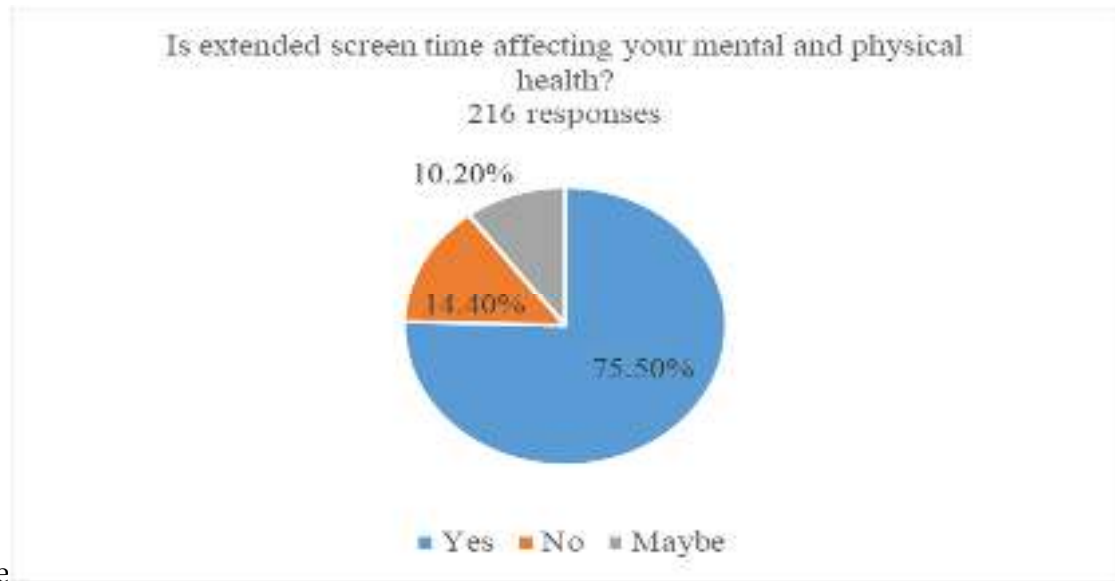
The academic and student ratio was high for people who showed dissatisfaction with the fairness of the online examination system.

### Limitations

The routine educational activities were suspended in March 2020 and an online educational system was adopted due to uncertain conditions to reduce the educational loss of coming generations across the world. The online system helped to continue education; activities, however, had its side effects which hit both the students and the academia. It needs to be clarified that students were already having more online contact hours than academia however mental and physical health challenges were encountered by both parties. Academia who believed that their extended screen hours affect their health were 84% and 12% denied the effects of the online system.



Students who were facing physical and mental health challenges were 75.5% and those who didn't receive any effects were 14.4% whereas 10.2% of students did not reflect the effects of the online education system.



### Conclusion

In Pakistan, educational activities were mainly conducted on-campus before the pandemic. A complete online mode of teaching was never experienced in Pakistan except in distant learning systems which are not formal teaching-based systems. However, when this pandemic pushed institutions to shift from physical to online mode then an online education policy was made and its implementation was made possible through several ambiguities and clarities. The smooth running of this system requires internet and power resources which are limited in Pakistan hence the major challenge was connectivity. While the Public sector education institutions cater to all sections of societies, apart from city areas students, students from underdeveloped areas or far areas also faced serious internet and electricity issues. Student-based education policy was adopted but their attention and interaction during online classes could not be retained. Serious concerns were raised about the student's evaluation system; the process of evaluation went through the roads of transparency and accountability as the online examination system was unable to give honest, fair, and, equal opportunities to all students to compete in Pakistan specifically and in the world at large. However, we should remain positive as we can continue with the online education system; we may also be able to overcome attendance, interaction, and evaluation issues through compact policy, the latest technology, and efforts of the administration, academia, and students.

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