ORIGINAL RESEARCH PAPER

Education

CHALLENGES FACED BY LECTURERS IN POLYTECHNICS OF ODISHA IN ONLINE TEACHING DURING COVID-19 PANDEMIC

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ABSTRACT

The Polytechnics of Odisha provide 3 year diploma courses and the curriculum of Diploma courses has been designed by AICTE to develop well trained Diploma Engineers having knowledge and the skills to engineer solutions for real-world problems. In order to meet the needs of the industry considering evolving technological trends and implications for the engineering workforce, the diploma courses provide equal weightage to both theory and practical. The industrial visits of students, internship programs and practical experimentations are in the centre of diploma courses. During the pandemic situation due to Covid-19, online education was adopted in Polytechnics of Odisha also. So researcher studied the challenges faced by lecturers of Polytechnics of Odisha in online teaching. The semi-structured in-depth interview was conducted with a small selected group of lectures of Polytechnics of Odisha. The main finding of the research was the proper practical experiences could not be provided to the students in an online class but managed to give a virtual experience to them. The other findings of the research will provide rich insights into virtual experiences which in turn will benefit students, lecturers, and technical education institutions.

INTRODUCTION

The sudden outbreak of Covid-19 changed the education system across the world and forced educators to shift to an online mode instead of traditional face to face learning.

Technical education in India has some distinct features as compared to non-Technical domains. The technical students are required to involve in creating and innovating by learning theory in the classroom and by doing practical experimentation in the laboratory to solve the real life problems. Thus there was a challenge to provide hands on laboratory experience through online mode in Polytechnics of Odisha.

Review of Related Literatures

Dhimmar, S. (2023) conducted a study on The Experiences of Student-teachers' on Virtual School Internship Programme: A Qualitative Study. The objective of the study was to study the experiences of student teachers who had done the virtual internship. The semi-structured in-depth interview was conducted with a small selected group of final year B.Ed. student teachers at the Maharaja Sayajirao University of Baroda. The finding of the study was Student teachers have explored different applications for online teaching. They were satisfied with the Supervisor's guide and feedback. The student teacher used different strategies for making interactive classes such as animation, 3-D video, and demonstration methods and connected with real life

Abdullah, S. (2013) conducted a study on English Language Teaching Challenges in Malaysia: Polytechnic Lecturers' Experience. The objective of the study was to identify the challenges faced by the polytechnics English teachers in their teaching practice. A case study inquiry strategy, via reflective journal writing and semi-structured informal interview, was employed in getting the insights of lecturers' reflective language teaching practice. Results show that issues related to students appeared to be the main challenge to the lecturers. Also, non-academic tasks, concerns related to professionalism and classroom and policy or institutional requirements have been identified as other challenges in their teaching practice. Some practical recommendations are offered based on the current scenario in Malaysian polytechnics' setting.

Mahlangu, G. (2023) conducted a study on Factors affecting the adoption and use of online assessment for learning at Polytechnics in Zimbabwe. A qualitative research methodology was employed to discover and explain the adoption factors of online assessment for learning based on the participants' experiences. Ten (10) students and five (5) lecturers were purposively selected from five (5) Departments. Two (2) students were taken from each Department. The study concludes that the adoption and use of online assessment depend on technological factors (internet access, computing devices and ICT infrastructure), organisational factors (institutional support), environmental factors (academic integrity) and individual factors (digital skills and user perceptions).

Objective of the Study

To study the Challenges Faced By Lecturers in Polytechnics of Odisha in Online Teaching during COVID-19 Pandemic.

Research Designs

Qualitative study with thematic analysis method was adopted to examine the challenges faced by Lecturers in Polytechnics of Odisha in Online Teaching during COVID-19 Pandemic.

Participants

In order to select the participant purposive sampling method was chosen. Implementation of this type of sampling was influenced by easy access and willingness of participants due to familiarity of researcher. Two lecturers were selected.

Data Collection

Researchers sent messages to lecturers related to this study. Lecturers are voluntarily ready for the interview. The researcher conducted an interview through telephone. It took 35-40 minutes per participant. To ensure the confidentiality of potential participants, researcher did not have access to the report at any point throughout or after the study.

Data Analysis

A theme was prepared to analyse the data collected by the researcher through an in-depth interview. The theme gives the direction to the study. It highlights the main areas where the lecturers had faced challenges. The response of the participants is discussed in detail.

Figure-1 gives a brief description of the theme. A detailed discussion of the theme follows the Figure.
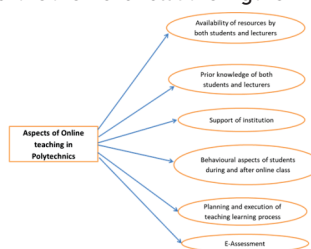

Figure 1: Theme of the Study

Detailed Discussion Of The Challenged Areas
Discussion -1: Availability Of Resources By Both Lecturers And Students

Interview Questions to the lecturers		
1. Resources	Q.1	Did your students have smartphone for online class?
	Q.2	Did your students have internet connection?
	Q.3	How the lecturers were preparing study materials and sending those materials to students?

Lecturer A responded to Question.1 & 2 as follows
"In my Polytechnic, 25% of students are availing the BOC scholarship by the Government of Odisha. The beneficiaries should have labour card for availing this scholarship. 60% of students are availing Post Matric Scholarship and 10% of students are availing Kalia Scholarship because of low income of their parents. They can't afford smart phones for their children. During Covid, the students were in their villages. So internet connection was very poor in remote areas of Odisha."
Lecturer B described
"The students of Polytechnic belong to lower middle class family. 60% of students have smart phones with them. But they are unable to recharge their monthly package for internet connectivity."

Lecturer A shared the experiences related to Question.3 as follows
"Due to sudden change to online class, I prepared handwritten notes collecting reference materials from internet and converted it to PDF, then shared in WhatsApp Group of students those had smart phones and also sent the Xerox copy of notes to the students who were in remote areas through Postal service."
Lecture B also verbalised
"I downloaded reference books from internet and prepared my notes using Microsoft Word and shared with my students through WhatsApp, Telegram and Gmail and also sent the print out of notes through post to the students who didn't have access to internet."

Challenges Regarding Availability Of Resources:
1. The students of polytechnic in the state like Odisha belong to lower middle class family. The parents were not able to provide smart phones and internet connectivity.
2. They belong to rural areas. So good networks can't be assured all the time in all places.
3. The lecturers were using internet for collecting reference materials for preparing their study materials as they could not use their college library. There were difficulties to send notes to all the students as most of them did not have smartphones. So the lecturers sent hard copies by post during lock down periods.

Discussion -2: Prior Knowledge Of Both Lecturers And Students

Interview Questions to the lecturers		
2. Prior Knowledge	Q.1	Were your students aware of different applications like google meet, zoom etc. for joining online class?
	Q.2	How did the lecturers select the online platform?
	Q.3	Did the lectures conduct a practice class with their colleague before interacting with students?
	Q.4	How did the lecturers give the instruction to the students regarding the process of joining the online class?

Lecturer A responded to Question.1 as follows
"The students never heard about Google meet, Zoom, Teachmint etc."

Lecturer B also shared similar experience

"The students didn't know about different applications for online class before I introduced to them."

Lecturer A commented to Question.2 & 3 as follows
"I discussed with my colleagues regarding various online platforms and selected Zoom as medium to reach out my students because there was facility to have whiteboard as screen and it would be helpful to solve mathematical problems. I practiced a demo class with my colleagues and my family members and verified all the options the Zoom had for online class."
Lecturer B described
"I compared some of the online platforms and selected Google meet after searching in internet. Google meet had no time limit for each class as Zoom had 40 minutes time limit for each class. I got acquainted with Google meet by practising with other faculty members of my Polytechnic so that I can guide to my students correctly."

Lecturer A narrated the following regarding Question.4
"I created a WhatsApp group where I asked my students to download Zoom from Google Play store and create their own account in Zoom. I shared a link as well as meeting ID and password to join the class. As some of the students were using the smartphone and WhatsApp of their relatives, it was difficult for me to reach out them."
Lecturer B described
"I selected two representatives and guided them to download google meet and taught them the entire process of joining online classes through video call and asked them to help other students to join the class. I also personally called some of the students and guided them."

Challenges Regarding Prior Knowledge Of Both Lecturers And Students
1. The students weren't aware of different applications like google meet, zoom etc. for joining online class before Covid-19.
2. These online platforms were new to both students and lecturers. It was difficult for the lecturers to select the right online platform which will be suitable to all the students from internet searching and through discussion with their colleagues only.
3. The lecturers faced difficulties to bring all the students in WhatsApp group because all of them didn't have their own smartphones. They were using smartphones of their relatives. It took more time to call each student and inform them regarding the process of joining online class.

Discussion -3: Support of Institution

Interview Questions to the lecturers		
3. Support of Institution	Q.1	Were the lecturers provided laptop and internet connection for online classes?
	Q.2	Was there any training provided to the lecturers to educate regarding online education?

Lecturer A verbalised to these questions
"During shut down and lockdown period, I was taking online classes from my home. Laptop and internet connections had not provided by the institutions. I had not taken any trainings regarding online education."
Lecturer B also commented
"I was taking online class through my smart phone at home. After the lock down period the institution arranged smart board with internet facility as well as desktop, speaker and webcam for taking online class. I was not trained officially for online classes."

Challenges Regarding Support Of Institution
1. During the lockdown period, the lecturers were using their own laptop or smart phones and for taking online

classes. They were also bearing internet charges as it was not provided by the institution. But after the lockdown period, when the lecturers were going to institution for taking online classes, the arrangements were done by some of the institutions. Like interactive smart boards, computers with internet connections, webcams, and speakers were available with the faculties in some of the polytechnics to conduct the online class.

2. There was no training conducted to educate the lecturers regarding online class.

Discussion-4: Behavioural Aspects Of Students During And After Online Classes

Interview Questions to the lecturers		
4. Behavioural aspects of Students	Q.1	What was the average percentage of students in the online class?
	Q.2	Were the students participative in the online classes?
	Q.3	What was the student's behaviour towards lecturers and their friends during online classes?

Lecturer A responded to Question. 1 & 2 as follows
"In my class 35% to 45% students were present. But only 5 to 7 numbers students were giving answer to my questions. One student never answered me in class and when I queried, I found that due to lack of infrastructure he was attending the classes in a room where all the family members were present and watching TV. So he was unable to listen what I was telling."
Lecturer B also shared an experience
"On an average, 40% students were regularly attending my classes. Only 2 to 3 students were responding me. Some students had network issues, so my voice was not clear to them. Other students were joining the class and after muting themselves, they were busy in other works."

Lecturer A verbalised to Question. 3 as follows
"In one class one student by changing his/her name, erased what I was writing on screen and wrote slangs in Odia. So I had to stop the class at that time. After that I allowed those students who had written their names and registration number to my class."
Lecturer B described
"One student played an Odia song during my class. So I removed that student and talked with him not to repeat it again."

Challenges Regarding Behavioural Aspects Of Students During And After Online Classes:
1. The average percentage of students present in the online class was 40% due to unavailability of resources and lack of internet connection.
2. Very few students were participating in the class and asking questions.
3. Most of the students were joining the classes and after muting themselves were busy in other works.
4. Some of the students were trying to mishandle the classes by sending inappropriate messages by changing their names.

Discussion-5: Planning And Execution Of Teaching Learning Process:

Interview Questions to the lecturers		
5. Planning and execution of teaching learning process	Q.1	What were the challenges faced by the lecturers for preparing the lesson plan for an online class?
	Q.2	Were the lecturers executing the online class as per lesson plan?
	Q.3	How were they conducting the practical classes?

Lecturer A responded to Question 1 & 2 as follows
"As I was taking online class through smart phone, I was unable to see all my students. I was not sure of their presence in my class mentally. Sometimes the students used to lie that I

was not audible if I asked some questions to them. So it was difficult to prepare a lesson plan which will be reliable. Although I prepared the lesson plan assuming the students response, the classes were not executed as per lesson plan."
Lecturer B verbalised
"As I could not use black board / white board like offline class and I could not do any activity with students physically, I faced challenges to prepare lesson plan using you tube videos & power point presentations. I prepared the lesson plan after practising 3 lessons online. But it was not implemented in every class because few students used to leave the class due to low battery & exhausted of 1 GB or 1.5 GB daily quota of data."

Lecturer A answered to Question. 3 as follows
"As there was lockdown in Odisha, I was not able to visit laboratories. So I downloaded videos from you tube and shared to students. After that I discussed the theoretical aspects of that experiment and assigned some projects to them related to this."
Lecturer B also shared similar experience
"During lockdown period, I used to share animations, videos related to practical. After the lockdown period, I recorded the practical experiments in videos and took observations. Then I shared the videos with clear explanations with students. I asked them to write rough records. The students sent me photos of those records and I verified all of those and gave feedback to them."

Challenges Regarding Planning And Execution Of Teaching Learning Process:
1. As the lectures were not sure of student's response in online classes and they could not use black board/ white board as desired and they could not perform any activities with the students physically, it was difficult to prepare a reliable lesson plan.
2. Sometimes the students were not able to hear their teachers due to network issues, so they weren't able to give desired response in the class. The classes may not be able to continue for 55 minutes as per schedule because of low battery in student's phone, network problems & limited data package. So it was difficult to implement the lesson plan in every class.
3. It was difficult to conduct a practical class in an online mode as it needs to be. There was no proper set up in the laboratory to show the procedure of doing practical in online. So videos were recorded by the faculties and shared in the WhatsApp group first, then the detailed procedure were explained in the online classes for some experiments. The students were sending the photos of their rough records for getting assessed by the teachers. It was difficult to verify authenticity of those records.

Discussion -6: E-assessment:

Interview Questions to the lecturers		
6.E-assesment	Q.1	How the students were getting assessed in online class?
	Q.2	How did the lecturers evaluate the students after the completion of course?

Lecturer A commented to Question. 1 as follows
"I was assigning some problems during the class. Then I was asking the students to solve and send photos in WhatsApp and I was giving feedback to them instantly. I was using rubrics to assess their performance in each class also."
Lecturer B described
"I used to give few MCQs and asked the students to send the answers written in a paper captioning their names and registration numbers in WhatsApp. Then I verified their answers and discussed their marks and answers in next class."

Lecturer A verbalised to Question.3 as follows
"I was using Teachmint Application for evaluating the

students. Here I was submitting a question paper and setting the time period for their test. The students used to upload the photo of answers written in a paper within given time and then I awarded the marks to them in that application only."

Lecturer B commented

"I prepared a Google form and asked the students to write answers in that form and submit. Then I evaluated them."

Challenges Regarding E-Assessment:

1. It was like open book examination. The students could take help of their notes, internets or their family members for writing answers. As there was no facility of invigilation, it was difficult to check the fairness, validity and reliability of test.

CONCLUSION

In this study, after the discussion with lecturers, it was noticed that the lecturers as well as students were educated regarding new application of online classes and getting acquainted of videos lecturers, e-learning materials and process of online assessment and evaluation. The student's behaviour and attitudes were difficult to change in an online class due to lack of connectivity. There was no restriction of keeping the student's in the class compulsorily. Due to which the student's attendance was 35% to 40% .Some of the students were misusing the situation and leaving the classes as per their wish and not joining the classes regularly. The practical experiences could not be provided to the students in an online class but managed to give a virtual experience to them.

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