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Adapting to change: Online education methods in the Covid-19 pandemic in the tribal area of Kerala - a case study

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Abstract

The COVID-19 pandemic significantly impacted global education, accelerating the shift to online learning. This case study explores the online education practices in a tribal area in Kerala, focusing on a government high school in Trivandrum district. Despite efforts from institutions, teachers, parents, and students, significant challenges persisted. The Kerala Ministry of Education's "First Bell" program facilitated continued learning, yet tribal students faced difficulties such as poor internet access, inadequate physical facilities, and home disturbances. Teachers used platforms like Google Meet and WhatsApp, supplemented by recorded classes at "padanakendranganal" centres. However, severe network issues and lack of technical support hindered effectiveness. The study emphasizes the need for better training for teachers, diverse online platforms, essential resources like electricity and internet, and increased financial support for students. It highlights the importance of addressing socio-economic disparities to ensure equitable access to quality education during crises.

Keywords: Online education methods, Covid-19 pandemic, tribal area

Introduction

Education is pivotal in the advancement of human civilization. Every innovation stems from education, which moves society beyond primitive existence. As times change, so do educational methods, evolving to meet contemporary needs. The COVID-19 pandemic drastically altered lifestyles globally, propelling the virtual world into a crucial role. In India, traditional learning methods were predominant before COVID-19. However, with the closure of educational institutions and the need to adhere to academic calendars, emergency remote education became essential. Schools transitioned to online platforms to continue classes, making online education a viable alternative to traditional face-to-face teaching. Various stakeholders, including government and private organizations, have collaborated to enhance online platforms and applications. They provide training for teachers to maximize the use of these digital tools. Efforts from both government and non-government organizations aim to ensure a smooth transition to virtual education. For instance, students in Kerala access classes via the Kerala Infrastructure and Technology for Education (KITE) through its television channel, VICTERS. The administration has focused on up skilling teachers, organizing counseling sessions for teachers, parents, and students, and providing customized teaching materials for online classes.

Online teaching occurs through live streaming or pre-recorded videos. Its effectiveness largely depends on students' ability to learn independently and their learning habits. Teachers must adopt a student-centered approach to stimulate interest and motivation in independent learning, using diverse teaching methods and granting students more autonomy in practice and feedback.

Online learning presents an opportunity to make education more student-centered, innovative, and flexible. However, maintaining educational standards across millions of schools, training teachers, and balancing global educational systems is a significant challenge. Schools vary in size and resources, often compromising the comprehensive development opportunities they can offer students. Infrastructural constraints and social issues further complicate access to education for all societal segments.

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Despite these challenges, the crisis has catalyzed the growth of online learning, with most academic institutions adopting this model. Online learning, remote working, and e-collaborations have surged during the COVID-19 outbreak, providing academic institutions with a chance to leverage online methodologies for teaching and learning. This crisis has prompted a shift towards e-learning technologies, highlighting their benefits and potential for innovation and digital development.

The proliferation of digital education, fueled by technological advancements, spans all educational levels, from elementary to postgraduate studies. Media such as smartphones, televisions, and PCs facilitate this growth. However, accessibility remains a concern, especially for the less privileged and marginalized communities, such as the Scheduled Castes and Scheduled Tribes in Kerala. Many students need continuous support from teachers to stay motivated. Disruptions can significantly affect learning skills, making it challenging to re-engage these students.

In this context, a study on online education practices in tribal areas of Trivandrum district, Kerala, is particularly significant. This project aims to provide an in-depth analysis of online education practices in a tribal school, addressing the unique challenges and exploring effective strategies to ensure that all students benefit from digital education advancements.

Origin of the study

During the teaching practice in the Corona crisis, the researcher experienced first-hand the challenges and opportunities presented by e-learning. Utilizing various applications increased interaction among students and between students and teachers. A major challenge was the lack of internet access for many students, particularly those from disadvantaged backgrounds. The isolation imposed by the pandemic made it difficult to identify and assist those in need of internet access. The researcher observed these disparities during teaching practice, noting the struggles of students who could not participate in online learning due to connectivity issues. These observations led the researcher to contemplate how a tribal school managed to sustain online education during the pandemic. Tribal schools, often located in remote areas with limited infrastructure, faced even more severe challenges. Technological barriers, economic constraints, cultural and linguistic differences, community engagement etc were found to be some major issues.

The researcher's experiences highlighted the urgent need to address socio-economic inequalities in education, especially in times of crisis. Ensuring that all students, regardless of their background, have equal access to learning opportunities is crucial for their academic success and overall development. These thoughts lead the investigator to conduct a detailed study on the issue and hence the research began with a view to progress.

Need and significance of the study

The COVID-19 pandemic highlighted the importance and necessity of online education. Schools transitioned to online learning, leveraging devices like mobile phones and internet technology to provide flexible learning opportunities. Unlike traditional classrooms, online education allows students to learn from anywhere at any time. It includes various formats such as audio, text, video, animations, and virtual interactions with teachers through platforms like

Google Meet, WhatsApp, and Zoom, enabling teachers to reach large groups simultaneously.

Despite its benefits, online education posed challenges for students, including boredom, lack of motivation, technical issues, delayed feedback, and feelings of isolation due to the absence of physical interaction. Overcoming these obstacles requires experience and knowledge in online teaching. Technical problems frequently disrupted the learning process, necessitating constant technical support.

Understanding these challenges is crucial, especially in tribal schools, where the transition to online education faced additional hurdles. The study explores the experiences and opinions of students, teachers, parents, and school administrators, particularly from KITE, to improve the online learning experience. Their insights can guide the government in enhancing teaching methods and implementing effective technological innovations, making the study highly relevant in the current educational landscape.

Objectives of the study

Being a case study, maintaining anonymity is crucial. Therefore, the institution selected for studying the online education system is referred to as Case X, situated in a tribal area in Thiruvananthapuram district. The major objective of the study was to make an in-depth analysis of case X with special reference to

1. Institutional Preparation for online education
2. Teaching – Learning procedure
3. Difficulty faced by the students
4. Students Participation in online sessions
5. Teacher – Pupil interaction during the period.
6. Evaluation Strategies adopted.
7. Provision for Co- curricular and Extracurricular programs provided
8. Parental Support

Procedure adopted for the study

In the present research study, case study method was followed. Case study is a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence (Robson C, 1993) ^[10]. It is a qualitative research method which involves investigating a contemporary research problem within its real life context by making use of multiple sources of data. In the present project institutional case study is adopted. The institute selected for the study was Government High school located at Tribal area in the Trivandrum district, Kerala.

Rationale for selecting the case

Education has been significantly impacted by the COVID-19 epidemic at all levels and in all forms. The abrupt change to online teaching has put the education system-including schools, colleges, and universities-under pressure to adapt. As a result, with the notable expansion of e-learning, in which instruction is conducted virtually and via digital platforms, the educational system has undergone significant transformation. For e-learning to be successful, instructors must prepare ahead, think carefully, and provide both technical and human support. During their third semester of teaching practice, the investigator had the opportunity to instruct students virtually. As she was practicing online instruction, the researcher became interested in learning

about online learning in tribal areas with extremely restricted access to necessary technological devices and network infrastructure. As a result, the investigator chose to undertake a project on online education practice in a tribal area in Kerala.

Sources of data

1. Documents: Documents in the present Study refers to the Government orders and guidelines presented by the General Educational Department regarding the implementation of online education system during COVID period.
2. Head of the institution of the selected school
3. Teacher in charge of KITE
4. Secondary School teachers
 1. The teachers from secondary school, including 3 Male teachers and 5 Female teachers
5. Secondary school students: It included 28 secondary school students

Tools and techniques used for the study tools

1. Interview schedule for eliciting information from head of the institution
2. Interview schedule for eliciting information from KITE in charge teacher
3. Questionnaire for eliciting response from secondary school teachers
4. Rating scale for measuring attitude of students towards online education
5. Focus group guide

Techniques

1. Interview for collecting data from head of the institute
2. Interview for collecting data from teacher in charge of KITE
3. Focus group discussion for collecting the information about online education and practices conducted during pandemic period

Analysis and discussion

The present study about a case study on the online education practices during COVID pandemic in case X located at tribal area in Trivandrum district. The data were collected from different sources and the collected data were analyzed on the basis of the objective formulated.

Analysis of the institutional preparation

According to the head master, during the covid period, the kite team conducted detailed training for the four permanent teachers at case x on using the g suite platform for classes. Various agencies and charitable societies provided educational gadgets to students, with consent from parents. Most classes were held on google meet and whatsapp, following the victers channel. Teachers ensured projectors were functional and laptops were supervised. Case x made additional arrangements, including phone calls between teachers and students and home visits to clear doubts and provide worksheets. About 15 phones and tablets were provided to students. The kite teacher in charge noted no school suggestions were considered for online classes. Students faced network issues due to remote locations but utilized study centers initiated by itdp. Teachers ensured no student was left behind, utilizing school facilities for classes. Kite provided laptops and desktops. According to teachers,

75% lacked g suite accounts and equipment, but 25% received 20 gadgets in good condition. Most agreed the school provided awareness programs. According to students, 53.57% had regular online classes, 75% had access to hi-tech labs, but 46.43% disagreed on the effectiveness of peer interaction in online classes. They attended hour-long google meet classes in the evening, using whatsapp for notes and victers class links.

Analysis of the teaching – learning procedure

According to the Head of the institution, teachers ensured student doubts from KITE VICTERS channel classes were addressed primarily through WhatsApp. They also visited students' homes to provide clarification and worksheets. Case X took the initiative to make phone calls with students for effective interaction beyond KITE and government guidelines. Nearby "Study centres" provided online facilities and gadgets like televisions, freely admitting students and offering all necessary support.

In contrast, the KITE teacher in charge noted that classes were conducted through Google Meet and WhatsApp, but were hindered by severe network issues, resulting in low attendance. Most teachers (87.5%) used WhatsApp for classes, while 62.5% used Google Meet, and 37.5% used Google Classroom. House visits were conducted, and all teachers used laptops for effective teaching. However, none had experience with anonymous participants in G Suite classrooms, and 50% noticed internet misuse by students. Regarding student difficulties during the online period, 96% had access to devices for classes, but 85.72% faced network interruptions. Health issues like eye strain and headaches affected 36% of students, and 85% found online classes stressful. Furthermore, 64% experienced tension about exams, and disturbances at home were reported by 64% of students. Students described online teaching during COVID as one-hour Google Meet sessions in the evening, with teachers sending notes via WhatsApp if students couldn't attend. Regular attendance was low, with only 4 to 5 students joining classes consistently.

Analysis of the student participation

According to the KITE teacher in charge, Little KITES activities were inactive after the COVID period. Teachers reported that no students effectively utilized the G Suite platform, with 100% agreeing that no activities were uploaded. While 75% agreed students used digital equipment properly, 100% used the KITE VICTERS website for learning, while only 25% used mobile apps, and none used social media.

Regarding students, 60.71% had their own Google account, and 82.14% watched KITE First Bell classes, with 71.43% completing activities from those classes. However, only 17.86% used activities from the Samagra portal. 89.29% noted improved digital skills after online classes, but all students disagreed with preferring online over offline classes. They preferred classes by their own teachers over KITE VICTERS. During breaks, students engaged in online games like PUBG and used social media platforms. Some lacked sufficient data for online classes and found them boring, lacking interest.

Analysis of the teacher-pupil interaction

According to the Head of the institution, teachers at Case X diligently addressed student doubts after KITE VICTERS

channel classes, primarily through WhatsApp and phone calls. Case X took the initiative to ensure effective teacher-student interaction during the pandemic, going beyond KITE and government guidelines. The KITE teacher in charge noted a student's isolation and stress due to lack of interaction with teachers and friends, prompting teachers to visit the student's home for counseling. All teachers agreed they cleared students' doubts after VICTERS Channel classes, utilizing home visits and WhatsApp.

Regarding student responses, 60.72% strongly agreed they could clarify doubts during WhatsApp classes, while 32.14% strongly disagreed with receiving clear instructions about online classes from teachers. Only 14.29% strongly agreed they received information about the Samagra portal. However, 85.71% strongly agreed teachers called them to clear doubts, with 10.72% agreeing. Students reported that teachers conducted online classes in the evenings for convenience, sending notes via WhatsApp if students couldn't attend. They also noted teachers frequently visited their homes to check on them.

Analysis of the evaluation strategies

According to the Head of the institution, Case X took initiatives independently, such as facilitating communication between teachers and students to ensure doubt clearance after VICTERS classes. Similarly, the KITE teacher in charge noted teachers visited students' homes to clear doubts and provided worksheets. Teachers at Case X employed various assessment methods: 75% asked questions, 50% assigned online tasks, 38% conducted online tests, and 50% communicated with parents about their children's studies. They ensured students engaged with digital platforms, collecting responses via WhatsApp.

Regarding student responses, 28.57% strongly agreed their assignments were regularly corrected, and 72.43% agreed. Students noted teachers frequently visited their homes to check notebooks and later collected them for correction. Additionally, teachers conducted online examinations.

Analysis of the provision for co-curricular and extra-curricular programmes

According to the head of the institution, little emphasis was placed on implementing the "Avadhikala Santhosangal" program during the COVID-19 pandemic, but online programs were held on special days. Teachers instructed students to send videos related to these occasions. However, the KITE teacher in charge noted that the "Avadhikala Santhosangal" edutainment program provided in the Samagra portal wasn't effectively utilized. 87.5% of teachers admitted they hadn't introduced the concept to students, while 12.5% had. Student responses revealed no awareness of "Avadhikala Santhosangal". Instead, they mentioned participating in online programs, including quiz competitions conducted through WhatsApp.

Analysis of the parental support

60.72% of the students strongly agreed that their parent's assistance in learning during the period of online class was satisfactory and 35.72% agreed the same. 71.43% of the students strongly disagreed that they had private tuition for different subjects other than the online classes provided by VICTERS and their teachers of the school and 25% of the students agreed on the same. Majority (89.29%) of the students were of neutral attitude towards online education

and only 10.71% student's showed favourable attitude towards online education.

Major findings

- The parents are unable to buy electronic gadgets for students for the educational support
- The authorities utilized the padanakendrangal already present on those areas for watching online classes.
- Case X provided electronic gadgets to students with the help of different agencies
- No support from local self-government
- The PTA members supported the initiatives taken by the school for conducting online classes.
- KITE team have given a detailed training class to permanent teachers
- The schedule of the VICTERS class was informed to the pupils by the teachers through WhatsApp
- The COVID duty and teaching at the same time make a struggle situation for teachers
- Some parents were alcoholic they destroyed the mobile phones given to the students from school
- Teacher's frequently visited the homes and check the note books and provide work sheets for them
- Even though electronic gadgets were provided, students failed to attend classes due to severe network issue at this locality
- Students get easily get distracted due to social media influence and games Students and teachers had improved a lot in their digital skills after online classes Very few students attended online classes regularly.
- Students find difficulty and tension to attend examination after online classes
- Teacher's conducted classes using Google Meet and WhatsApp by considering the convenience of students and notes provided through WhatsApp
- The resources in "Avadhikala Santhosangal" for students in Samagra portal were not utilized.
- Majority of students (82.14%) agreed that they have watched KITE First bell classes regularly
- The teachers were supported the students who felt stress during this period by providing counselling.
- No sufficient financial support was provided to the students from the part of Case X

Educational implications

1. Before using advanced tech-based teaching methods, the government should train teachers better.
2. Besides training teachers, the government should inform kids about G-suite accounts.
3. It's important to use various online learning platforms instead of just one.
4. The government should provide essentials like electricity, internet, and devices to ensure all students can access online education.
5. The government should increase the number of "padanakendrangal" centers for students in tribal areas.

Conclusion

The COVID-19 pandemic impacted many sectors globally, including education. During this time, online teaching advanced educational progress, thanks to the combined efforts of institutions, teachers, parents, and students. The Kerala Ministry of Education launched the First Bell program to ensure uninterrupted learning. Tribal students,

although interested in traditional teaching, adapted to digital learning but faced challenges. They struggled with accessing locations with internet signals and dealt with poor physical facilities and home disturbances. Recorded classes played at "padanakendrangal" centers were helpful. Financial support for mobile recharges is needed. Overall, students found online classes less effective due to severe network issues.

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