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Research Article

Stakeholders' perception: E-Learning initiatives in school education of Rajasthan state in the course of COVID-19

Gobind Singh Gure[1]*, Mihir Bhatt[2]

[1]Department of Education, Central University of Rajasthan, Bandarsindri, Ajmer, Rajasthan, India, [2]Department of Physics, Central University of Rajasthan, Bandarsindri, Ajmer, Rajasthan, India

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*Corresponding Author: Gobind Singh Gure (E-mail: gobindpuchd@gmail.com)

ABSTRACT

The COVID-19 pandemic led to increased adoption of e-learning in academic institutions, leading to the adoption of digital learning initiatives in Rajasthan. Projects-like SMILE, '*Shikshadarshan* - Educational T-DD Rajasthan', '*Shikshavani* - Education via Radio', '*Hawamahal*- Joyful Saturday program', and 'YouTube Rajiv Gandhi Career Portal' were implemented. This study aimed to understand stakeholders' perceptions of e-learning initiatives in Rajasthan and the global transformation of the education system. A descriptive survey conducted on 308 stakeholders from five government schools in Dungarpur district. The study reveals that 89% of students in Rajasthan state use smartphones for online classes, using WhatsApp video links, e-Raksha apps, YouTube, and open learning sources like Google. However, students often need help with language problems in content provided through e-learning initiatives, possibly due to the absence of their local language. Teachers are aware of e-learning initiatives but must be fully aware of them. Many teachers believe digital teaching-learning approaches make teaching plans and assessments more complex than face-to-face teaching. Parents and community members agree that their children can adopt e-learning comfortably, but 63% are unsatisfied with e-learning during COVID-19. Most participants agree that face-to-face teaching is better than e-learning and that the focus should be on face-to-face learning. The government should consider local languages for online videos and live programs. The department should include training programs for online learning resources in post-service education and teacher training to implement effective online education.

Key words: COVID-19, Online-learning, Online/e-learning initiatives, School education

INTRODUCTION

E-learning is a learning framework that offers education with the help of electronic media and electronic devices through the Internet. The latest trend emerged with the popularity of the Internet and digital devices. Even though it existed earlier, it was not as prominent as traditional learning. As the name implies, electronic learning necessitates using an electronic system and access to the Internet. It used typically for research and distant students with limited mobility. They are present in datasets, pre-recorded videos, live streams, and references, among other things. Individuals did not use it much initially because it could not replace traditional learning. However, due to numerous technological advancements, there has rapidly increased in e-learning. On numerous occasions, traditional classrooms have been dissatisfied. That is where the importance of e-learning becomes apparent. The widespread use of the Internet and digital devices opened the way for an increase in e-learning use. But, the COVID-19 pandemic and the worldwide lockdown pushed all academic institutions to adopt e-learning. As a result, online learning facilities were used mostly during the academic season 2020-2021.

E-learning has many advantages due to its simplicity of access and availability. It can be made available anytime and anywhere via the web or an electronic gadget. Learning aimed to provide students with the necessary knowledge. This platform meets individual needs, and students can interact with the vast world of knowledge like students can interact with their teachers. It also serves as a space for self-study. However, despite its many advantages, it also has many disadvantages, numerous issues, and challenges related to e-learning, such as little interaction with teachers, difficulty clearing doubts, etc. Despite these issues, students worldwide are switched to e-learning because traditional learning is no longer an option. However, e-learning has aided both pupils and educators in continuing instructional strategies. Individuals could carry on with their normal activities online. It also facilitates the classes, assessment, and examination process. As a result, e-learning has aided the education systems in various ways. During COVID-19, the central and state governments have taken various initiatives to continue the teaching-learning process in schools, colleges, and universities. In this regard, the school education department of the Government of Rajasthan has taken the following e-learning initiatives.

Introduction to government e-learning initiatives

E-learning Initiatives taken by the School Education Department, Government of Rajasthan: The School Education Department of the Government of Rajasthan adopted the following digital learning initiatives to help student and

teacher learning along with overall digital practices in the state during COVID-19:

Project SMILE

- Project "SMILE (social media Interface for Learning Engagement)," School Education Department, Government of Rajasthan A program to ensure continuous learning for students and educators from home.
- On April 13, 2020, the Government of Rajasthan's School Education Department launched Project "SMILE (Social Media Interface for Learning Engagement)." It's a program designed to keep students and teachers learning throughout the state during the COVID-19 lockdown.
- Every day, students and teachers receive video content via WhatsApp. The Department has created a video content repository for grades 1 through 12. For each subject, a unit of 4 to 5 videos with 30-40 mins of content has curated using free and publicly available resources. A team of SCERT subject matter experts has analysed this content. Teachers and students can access the content by simply clicking on the links. Under the #10 Prashan-Challenge, Grades 10 and 12 students receive ten quizzes daily on leftover Board papers.
- Panchayat level Education officers (PEEOs) are actively communicating with school personnel in their authority to identify and add as many parents as possible to ensure that these groups reach the greatest number of children (via parents), including those in remote areas. PEEOs have formed two groups: one for all school personnel in their jurisdiction and the other for all students' parents. Every morning at 9 a.m., a message with the links to the video content for the day forwarded by the State Core Team via WhatsApp channels to students (via parents) and teachers (*Roz Sawere 9 Baje, Har Ghar School Ghanti Baje)*.
- Every day, the content reaches students in 12.78 lakh households via 9226 WhatsApp groups and 3.28 lakh teachers via 9768 WhatsApp groups.
- Every day, 2.5 lakh children watch the videos. The content quality was rated as good by 90% of students and teachers (via a feedback form). Ninety-eight percent of parents reported that their children learned something new after watching the videos (via a feedback form) (https://rajshaladarpan.nic.in/ShalaSamvad/Home/SmileProject.aspx).

Shikshadarshan - Educational TV

DD Rajasthan will reach students of Rajasthan effective from 01.06.2020 for all classes".

- 195 minutes of content provided via DD Rajasthan from Monday to Saturday for Class 1 to 12.
- Collaboration on content creation with Eckovation, Central Square Foundation, and Tic TAC Learn.
- 75.2 percent of students said they see "*Shikshadarshan*" subject matter daily (based on teacher calls)

Shikshavani - Education via radio

- At 11 a.m. daily, 55 minutes of storylines (*Meena et al.* – that discuss social problems) and study material are shared via radio.
- This is being streamed on All India Radio's 25 stations. There are also exciting stories and recordings on life skills for children.
- 1 L+ teacher calls, 62 percent of the students claim to hear *Shikshavani* content daily.
- The content was interesting to 90% of the listeners. (https://www.hindustantimes.com/education/rajasthan-students-learning-with-smile-during-lockdown/story-mPOlFMXklxgVcUeisqJlIM.html)

Hawamahal - Joyful Saturday program

Corona Samay me Baccho ka Jhaokha

Every Saturday, a picture with a brief description of the storylines, games, and posters was distributed through WhatsApp groups. Students of all ages just need to dial a number to hear these storylines and play games as directed. These posters also contain PDFs of stories that children can access. Every week, over 25,000 school children hear the stories.

Mobile based application

During the Covid-19 lockdown, the Rajasthan Government created a digital educational app for students. The Rajasthan government has partnered with the e-learning system Bright Tutee to start up a free online app for students from grades 9 to 12. The app's free subscription would include extensive learning, topic-specific Videos, Assessments, and a Question Bank for Math and Science. The entire digital learning content is in Hindi, English, and Hindi-English (bi-lingual).

Live sessions for students on career guidance via youtube rajiv gandhi career portal

- Live Sessions for students are conducted on career guidance via YouTube Rajiv Gandhi Career Portal on every Monday, Wednesday and Friday at 5 PM.
- Secondary students can participate in live career counselling sessions on YouTube.
- Sessions about how to look for a job, improve skills, build a CV, and so on are provided.
- A counselling helpline number has also been established.
- Around 3 lakh students attended.

Moreover, other initiates like; - DIKSHA – RISE, *Shala Samvad*- "Talk to teacher" and SMILE Summer Camp, Workshops, Orientation Sessions for students and teachers, *Shaladarpan* initiates and other initiates like Online interviews, Online grievance redressal system, App-based monitoring process through- *Shala Samblan,* had been initiated for by Rajasthan Government during

COVID-19. (https://vikaspedia.in/education/education-best-practices/remote-learning-initiatives-in-india/remote-learning-initiatives-in-rajasthan)

Therefore, all the efforts and initiatives for e-learning by the Rajasthan Government in school education inspired and supported many stakeholders to continue learning with their students during the pandemic.

REVIEW OF RELATED LITERATURE

In their study, Kumar *et al.* (2022) revealed that perceived usefulness (PU) followed by institutional support, perceived ease of use (PEOU), and teacher-student interaction positively and significantly impact teachers' satisfaction. Further, it was also noticed that perceived usefulness (PU), institutional support, and satisfaction significantly affect teachers' attitude and continuance intention towards using online teaching in HEIs is most significantly influenced by teachers' satisfaction than perceived usefulness (PU), perceived ease of use (PEOU), and attitude. Kumari and Singh (2021) conducted a study on 140 secondary school teachers from Patna using the descriptive survey method. They found no significant differences in the perception of secondary school teachers based on the various background variables (Gender, Types of Schools, different levels of teaching experience, different subjects, and different educational qualifications of secondary school teachers). They have a positive perception of online learning during COVID-19, and they use online platforms for the teaching-learning process. The study was carried out by Sharma *et al.* (2020) to determine the factors influencing students' perceptions of e-learning. The exploratory part of the research was primarily concerned with understanding the key factors influencing students' perceptions of e-learning. The findings revealed that four major factors significantly influence students' perceptions. These are the following factors: e-learner competency, external influence, system interactivity, and social influence. E-learner competency, along with all the other factors, is among the most important factors in online education. The study findings of the study conducted by Burgess and Sievertsen (2020) concerning online education, such as unavailability of electronic devices, limited access to the Internet, high cost of Internet, low speed of the Internet, and difficulties in using online platforms, were also provided valuable insights into the present scenario of online tertiary education in Bangladesh as COVID-19 is continuing. The influence of COVID-19 on education in terms of school, skills, and learning, and stated that homeschooling is a major shock to parents' productivity and children's social life and learning. Digital learning and assessment will cause many disruptions in educational quality that will not only be a short-term issue but will also have long-term impacts for the impacted cohorts and will likely increase inequality. In their study, Pathak *et al.* (2019) explained that e-learning has evolved as an important approach to teaching and learning. Thus, combining this unconventional mode with the conventional mode is needed to improve the effectiveness of teaching and learning. According to the findings of the study, the majority of the students have a positive perception and attitudes towards e-learning. Rose (2018) uses qualitative research methods to investigate several key characteristics of effective online teachers. Data were collected through semi-structured interviews with a tiny sample size of academics in Australia and New Zealand, and the following five attributes were discovered: effective digital instructors avoid a lecture-based method, differ their own teaching methods, use constructive errors, and facilitate the learning process. A research study conducted by Cetinkaya (2017) studied the impacts of WhatsApp use on school education students. The study was conducted using a mixed research model. In the quantifiable aspect of the study, a quasi-experimental design with a pre-test – post-test control group was used, and the findings also revealed that both learning systems have different effects on student success, with WhatsApp assisting the traditional environment being more effective in increasing success. Content analyses were used for the qualitative aspect of the study, and the analysis revealed that students developed positive attitudes toward the use of WhatsApp throughout their courses. Overall, it is recommended that the use of WhatsApp in the educational process be welcomed as a helpful technology. A study by Balbay and Kilis (2017) was conducted on 70 enrolled students in the Department's compulsory Academic Communication Skills course to investigate students' experiences and insights on the disadvantages and advantages of YouTube videos in the Educational Speaking Skills course at Middle East Technical University. The findings revealed that the majority of students benefited significantly from the videos of specifically designed supplementary material on the YouTube channel. In their research study, Gon and Rawekar (2017) investigated the efficacy of e-learning via WhatsApp as a teaching-learning tool, concluding that the constant availability of facilitators and learning at any time and from any location has made WhatsApp an innovative and efficient platform for teaching-learning activities. And there is no discernible difference in knowledge acquisition from WhatsApp versus didactic lectures. The researchers also discovered a few drawbacks, such as message flooding, eyestrain, and using a mobile device with a larger screen. Next, a study by Fine (2016) examined the relationship between perceptions of online educators and traditional classroom teachers in the south-eastern United States regarding the visual arts. A survey of 490 participants was used to collect data, which was then evaluated using a non-experimental quantitative methodology on five dimensions (mentor, delivery method, satisfaction, students' learning, and syllabus). Age differences, gender, years of educating children, and aspects taught were examined by the faculty members to see if there were any significant differences. The study discovered a statistically significant difference, working in the delivery dimension across several age groups and years. It is also noticed that in age groups, the dimension of students' learning was statistically significant. Further, Bouhnik and Deshen (2014) identified issues and difficulties in their study of WhatsApp instant messaging between teachers as well

as students in higher education and discovered that not all high school kids own a Smartphone. Teachers are apt to be annoyed by the flood of irrelevant and nonsensical messages, the Imbalance of language among students, and students' presumptions that their instructors should be accessible 24 hours a day, seven days a week. In their study, Zamzuria *et al.* (2013) stated that all web-based systems are prone to online risks. The crucial area within the e-learning system was identified using STRIDE (*Spoofing et al. disclosure, Denial of service, Elevation of privilege system*) vulnerabilities. The results revealed that students are particularly worried about the system's integrity and availability.

SIGNIFICANCE OF THE RESEARCH STUDY

Such rural children are generally considered backward in society. On the rural side, they are more interested in traditional classrooms, not in e-learning. Education is the only way to help individuals to attain neutrality. The reports on the quality of education pointed out that primary education is a foundation, but both kinds of education, secondary and higher education, will totally depend on it. Unfortunately, the present traditional classroom system has failed, and its quality remains abysmally low, for the vast majority of Indian children are dissatisfied. As per the various services and reports, many schools in Rajasthan have failed to implement effective universal primary education in traditional classrooms, and the same quality of education can be found at the secondary school level. It is obvious that, despite the use of a wide range of e-learning equipment, students face numerous challenges. Therefore, the stakeholders can be both satisfied and dissatisfied, and this would have an impact on their students' academic performances. Even though it is an idea that has been around for a few years, it's the first time, during COVID-19, all the students around the world have used technology/e-learning for regular learning purposes. Therefore, the main interest of the research is to conduct a study to understand stakeholders' perceptions of e-learning and to find solutions to any problems that may arise. This study is conducted on the learners and teachers of five government schools in the Dungarpur district of Rajasthan. This research looks at stakeholders' perceptions toward e-learning initiatives. The objectives of the study are the following: 1) To study the perception of students towards e-learning initiatives in the course of Covid-19, 2) To analyse the perception of teachers towards e-learning initiatives in the course of Covid-19 and 3) To find out the perception of parents and community members towards e-learning initiatives in the course of COVID-19.

METHODS OF THE STUDY

The main purpose of the research is to look into how stakeholders' perceptions toward e-learning have changed. The study seeks to comprehend stakeholders' perceptions toward e-learning initiatives in the course of COVID-19, as well as their preferences and dissatisfaction with it. The study is both analytical and descriptive in nature. The study requires both primary and secondary data. Firstly, the Rajasthan Department of Education policies and documents related to e-learning were analysed. These three questionnaires were prepared on the basis of these three questionnaires. The survey method was used to conduct the study. The data required for the study was drawn from primary data collection through a survey using a questionnaire. The secondary data was collected from articles, journal publications, internet sources, and other similar works. For the data collection, a self-made questionnaire was validated by various experts in the field. A convenience sampling technique is used for the study. Required data are collected by preparing a pre-defined Questionnaire. The collected data are tabulated. Data was analysed by using percentages. Interpretations are drawn on the teachers and the students (standard 9th to 12th), community members of Government Schools of Dungarpur District of Rajasthan. The survey was conducted on 308 stakeholders, from these 76 government school teachers and 202 secondary and senior secondary students of 5 government schools of Dungarpur district and 30 community members.

ANALYSIS & INTERPRETATION OF DATA

Perceptions of secondary student toward e-learning initiatives in school education of Rajasthan state in the course of COVID-19

Demographic profiles of students

From the total sample of 202 students, 123 (61%) of the students were males and 79 (39%) of the students were females. In the total sample, 143 (71%) of the students belong to rural areas, and 59 (29%) belong to urban areas. And from the total sample, 41 (20%), 58 (29%), 56 (28%), and 47 (23%), respectively, of the students belong to the 9th, 10th, 11th & 12th standards.

From Table 1, 97% of students were able to continue their learning through "SMILE (social media Interface for Learning Engagement), but 3% were not able to continue it during COVID-19. Further, 94% of students observed that they got various links to the videos on WhatsApp channels from concerned subject teachers, but 5% of students denied the same. Next, 49% of students indicated that they were not able to access all related videos (opened via YouTube) for all subjects, whereas 49% of students agreed that they were able to access these easily. It is observed that 55% of students agreed that they fully enjoyed the Saturday program of SMILE (*Hawamahal*), which was full of stories and games, whereas 44% of students felt they did not enjoy it. As a follow-up, 42% of the students showed that they never raised any question in the SMILE WhatsApp group, like asking any doubt, but 58% of students had raised questions in the SMILE/WhatsApp group. 60% of the students confirmed that they were fully aware that *Shikshadarshan* was a television-based program, and 39% of students were not fully aware of the same. Further,

Table 1: Perceptions of Secondary Students' Toward E-Learning Initiatives in School Education of Rajasthan State in the course of COVID-19

S. No.	Statements	Yes	No	Don't Know
1	I continued my learning/study through "SMILE (Social Media Interface for Learning Engagement)" during COVID-19.	97.5%	2.5%	0%
2	Every day, I got the various links of the videos on WhatsApp channels from concerned subject teachers.	94.5%	5%	0.5%
3	I was not able to access easily to all related videos (opened via YouTube) for all subjects.	49%	49.5%	1.5%
4	I fully enjoyed Saturday program of SMILE (*Hawamahal*) that was full of stories and games.	55%	44.5%	0.5%
5	I never raised any question in SMILE WhatsApp group like asking any doubt.	41.6%	57.9%	0.5%
6	I fully aware that '*Shikshadarshan*' was Television based program.	60.4%	39.1%	0.5%
7	I know very well that 'Shikshavani' program was broadcasted via radio.	57.4%	40.6%	2%
8	I used the e-Kaksha app developed by Education Department.	77.2%	22.3%	0.5%
9	I know that Digital app includes topic-wise Videos and Question Bank.	75.7%	21.3%	3%
10	I had taken part in the initiative Educational TV program named '*Shikshadarshan*'.	27.7%	71.8%	0.5%
11	I had taken part in the initiatives "*Shikshavani*" - Education via Radio.	26.7%	72.8%	0.5%
12	I had taken part in the initiatives *Hawamahal - Joyful Saturday program*.	51%	47%	2%
13	I had joined all the live sessions "on career guidance via YouTube. (*Rajiv Gandhi Career Portal*)"	71.8%	27.2%	1%
14	I do not have a smartphone so I could not join online classes.	10.9%	88.6%	0.5%
15	I had discussed my doubts with my peers/classmates.	71.8%	26.7%	1.5%
16	I had faced Network problem during my online-learning.	89.1%	9.9%	1%
17	I had not sufficient mobile data for online-learning.	82.2%	16.8%	1%
18	My teachers were not responding immediately even when I ask my doubts.	57.9%	39.6%	2.5%
19	I had faced complex language related problem in content provided through link.	77.7%	19.8%	2.5%
20	I had also used another online platform which was freely available.	78.7%	20.8%	0.5%
21	I think face to face mode of teaching is better than online teaching.	95%	4.5%	0.5%
22	I think there is lack of interaction during online classes.	94.6%	4.4%	1%
23	I think offline classes are more effective than online classes.	92.6%	5.9%	1.5%
24	The e-learning gives me same-learning experience like traditional classroom.	24.3%	74.3%	1.5%
25	I was added right from the starting to WhatsApp group by my teachers under SMILE program.	91.6%	6.9%	1.5%
26	My all classmates were added to SMILE WhatsApp group.	84.2%	8.9%	6.9%
27	I was getting daily link through SMILE WhatsApp group.	92.1%	6.4%	1.5%
28	I had called my teacher to clear my doubts.	74.3%	24.3%	1.5%
29	My teacher had also taken online class other than sending the daily link.	66.3%	31.7%	2%
30	I never got any homework through these classes.	12.9%	85.1%	2%
31	My homework was checked by my teacher on daily/alternative basis.	81.2%	17.8%	1%
32	I used to get feedback on daily basis about homework.	74.8%	24.3%	1%
33	I had taken help from other source like Google for my study.	92.1%	7.4%	0.5%

it was noticed that 57% of students knew very well about the *Shikshavani* program being broadcast via radio, and 41% of students did not know very well about it. 77% of students used the e-Kaksha app developed by the education department, and 22% of students did not use it. 76% of students accepted that they know that Digital apps include topic-wise Videos and Question Bank, and 21% of students were not awarded for it. Only 28% of students had taken part in the initiative Educational TV program named *Shikshadarshan*, and 72% of students had not taken part in the same. 51% of students had taken part in the initiatives *of the Hawamahal*-Joyful Saturday program, and 47% of students had not taken part in it. It was found that 72% of students had joined all the live sessions on career guidance via YouTube. (Rajiv Gandhi Career Portal) and 27% of students had not joined the same. However, 11% of students do not have a smartphone, so they cannot join online classes, and 89% of students have a smartphone for their online classes. Mentioned that 72% of the students had discussed their doubts with my peers/classmates, and 27% of students had not discussed the same. 89% of students recorded that they had faced Network problems during their online learning, and 10% of students had not faced network problems during their online learning. It is also confirmed by the 82% of students that they did not have sufficient mobile data for online learning, whereas 17% of students reported that they had sufficient mobile data for it. Further, 58% of students said that their teachers were not responding immediately even when he/she asked about their doubts, but 40% of students reported that their teachers were responding on the spot when they asked about any of their doubts. It is important that 78% of students accepted that they faced complex language-related problems in content provided through links, but 20% of students did not face any such problems. However, 79% of students used other online platforms that were freely available, and 21% of students did not use the same. It is reported that 95% of students think a face-to-face mode of teaching is better

than online teaching, whereas only 4% of students deny the same. 95% of students clearly reflected that there is a lack of interaction during online classes, but 5% of students did not agree with the same. Most of the students 93% confirmed that offline classes are more effective than online classes, but 6% of students denied the same. The majority of the students, 74%, believed that e-learning does not give them the same learning experience as traditional classrooms, whereas only 24% of students understood that e-learning gives them the same learning experience as traditional classrooms. It is reported that 92% of students were added right from the start to the WhatsApp group by their teachers under the SMILE program, and 7% of students denied the same. And 84% of students said that all their classmates were added to the SMILE WhatsApp group, whereas only 9% of students did not agree. Of the students, 92% got daily links through the SMILE WhatsApp group, and 6% did not agree with the same. 74% of students agreed that they had called their teacher to clear their doubts, and 24% of students did not agree with the same. Next, 66% of students said that their teacher had also taken online classes other than sending the daily link, but 32% denied the same. Only 13% of students agreed that they never got any homework through these classes, whereas 85% of students got homework through these classes. The majority of students, 81% of students, reported that their homework was checked by his/her teacher on a daily/alternative basis, and 18% denied it. 75% of students used to get feedback on a daily basis about homework, and 24% of students did not get feedback for the same. The majority of the students, 92% of the students, took help from another source like Google for their study, although 7% of students did not get help from the same.

Perceptions of teachers' perceptions toward e-learning initiatives in school education of Rajasthan state in the course of COVID-19

Demographic profiles of teachers

From the total sample of 76 teachers, 43 (57%) of the teachers are males and 33 (44%) of the teachers consist of females. 72 (95%) of the teachers are belongs to rural area and the rest 4 (5%) of the teachers belongs to urban area. 16 (21%) of the teachers have educational background, bachelor's degree with B.Ed. 39 (51%) of the teachers have educational background master's degree with B.Ed. and the 21 (28%) of the teachers have any other degree. 76 teachers, 29 (38%) of the teachers have Overall Online Teaching-Learning Experience of 1 year. 26 (34%) of the teachers have Overall Online Teaching-Learning Experience of 2 year and the 21 (28%) of the teachers have Overall Online Teaching-Learning Experience of more than 2 year.

As can be seen from Table 2, all of the teachers, 100%, were observed to be fully aware of all the initiatives that have been taken by the Rajasthan government regarding e-learning. Although most of the teachers, 92%, agreed that "SMILE stands for (Society Management Interface for Learning Engagement)," 8% of the teachers were not able to ensure it. 97% of the teachers were aware that the school education department had launched a project called SMILE in April 2020 for school students, but only 1% of the teachers were not found to be aware of it. Of most of the teachers, 86% of the teachers mentioned that they were familiar with the SMILE project as it covered all the subjects from Grades 1 to 10 only, but 10% of the teachers were not familiar with the same. In the majority of the teachers, 96% of the teachers were aware that every day, links to the videos were forwarded through WhatsApp from the State Core Educational Team to reach students and teachers, but 4% of the teachers did not agree with the same. The majority of the teachers, 97%, had to continue assessing, observing, and sending the modules of 4 to 5 videos of all subject content that can be accessed by students through publically available resources. However, 3% of the teachers did not agree with it. It is noticed that 91% of the teachers agreed that the SMILE program ensures the continuity of learning of students during the lockdown period across the state, whereas 9% of the teachers did not agree with the same. The majority of the teachers, 92%, had created a WhatsApp group for the same, and 8% of the teachers had not created a WhatsApp group to continue the learning of students as per the instructions of the Education Department. Further, it was observed that 60% of the teachers believed that all the links that had been sent to learners for study purposes were not reliable and understandable according to their class, whereas 33% of the teachers thought that all these links were reliable and understandable according to students. Further, 88% of the teachers mentioned that learners had taken their full interest in learning activities through links that had been sent to them, and 8% of the teachers thought that learners were not showing their full interest in learning activities through links that had been sent to them. It is noticed that 84% of the teachers said that Apart from the daily shared links, they had usually shared other Open Educational Resources provided by MHRD to learners, and 13% of the teachers said that Apart from the daily shared links, they also had not usually shared other Open Educational Resources. 64% of the teachers said that they were not allowed to send messages to students in the WhatsApp group because it was not a public platform, and 30% of the teachers allowed students to message in the WhatsApp group. From the total sample of teachers, 97% said that on a daily basis, they had sent subject-related content to the learners, although 3% of the teachers reported that they had not sent content related to the learners. There were 71% of the teachers organized some online classes to clear the doubts of the learners in their subject, but 28% of the teachers were not able to organize any online classes. It is observed by 88% of the teachers that they had taken some other initiatives like mobile calls and online classes to continue students learning in a better way, whereas 9% of the teachers had not taken any other initiatives for the same. It is observed that 92% of the teachers reported that they had completed some online training, and 8% of the teachers had not completed any online training. 95% of the teachers were found to be

Table 2: Perceptions of Teacher's' Perceptions Toward E-Learning Initiatives in School Education of Rajasthan State in the course of COVID-19

S. No.	Statements	Yes	No	Don't Know
1	I am fully aware about all the initiatives have been taken by Rajasthan government regarding e-learning.	100%	0	0
2	I agree that SMILE stands for (Society Management Interface for Learning Engagement).	92.1%	7.9%	0
3	I aware that "School education department has launched a project SMILE on April, 2020 for school students."	97.4%	1.3%	1.3%
4	I am familiar about SMILE project as it covered all the subjects from Grades 1 to 10 only.	85.5%	10.5%	3.9%
5	I agree that every day, links of the videos were forwarded through the WhatsApp from State Core Educational Team to reach students and teachers.	96.1%	3.9%	0
6	I continue assessed, observed and sent the modules of 4 to 5 videos of all subject content that can be accessed by students through publically available resources.	97.4%	2.6%	0
7	Definitely, the SMILE program ensures the continuity learning of students during the lockdown period across the state.	90.8%	9.2%	0
8	I had created WhatsApp group to continue-learning of Students as per the instructions of Education Department.	92.1%	7.9%	0
9	I think that all the links had been sent to learners for study purpose were not reliable and understandable according to their class.	60.5%	32.9%	6.6%
10	Learners were showing their full interest in learning activities through links that had been sent to them.	88.2%	7.9%	3.9%
11	Apart from the daily shared links I had usually shared other open Educational Resources provided by MHRD to learners.	84.2%	13.2%	2.6%
12	The students were not allowed to message in the WhatsApp Group because it was not public platform.	64.5%	30.2%	5.3%
13	On the daily basis, I had sent content related to subject to the learners.	97.4%	2.6%	0
14	I had organised some online classes to clear the doubts of learners in my subject.	71.1%	27.6%	1.3%
15	I had also taken some other initiatives like mobile calls, online classes to continue students learning in a better way.	88.2%	9.2%	2.6%
16	I had completed some online training for professional development.	92.1%	7.9%	0
17	I agree that the Rajasthan government launched "e-kaksha" app for students during Covid-19 lockdown.	94.7%	5.3%	0
18	I know that "e-kaksha" app would include comprehensive-learning, topic-wise Videos and Question Bank."	96.1%	3.9%	0
19	I agree that "under the initiative "*Shikshadarshan*" - Educational TV program content was telecasted from Monday to Saturday for Grades 1 to 12 via DD Rajasthan."	86.8%	10.5%	2.6%
20	I know that "under the initiatives "*Shikshavani* - Education via Radio, a story *(Meena ki Kahani – which talks about social issues)*" was broadcasted via radio at 11 am daily."	92.1%	6.6%	1.3%
21	I am aware that "*Shikshavani*" Content also includes interesting stories, recordings related with life-skills for children."	96.1%	3.9%	0
22	I know that "under the initiatives "*Hawamahal - Joyful Saturday program*", a poster with a short description of stories and games were shared via the WhatsApp groups."	96.1%	3.9%	0
23	I am aware that "Education Department had organised live sessions for secondary students on career guidance via YouTube Rajiv Gandhi Career Portal"	84.2%	15.8%	0
24	Students' participation in the SMILE program in a class was not nearly about offline classrooms.	77.6%	18.4%	3.9%
25	I had gotten learning contents links daily via WhatsApp Group under SMILE program through state core educational team.	92.1%	7.9%	0
26	I used to give homework to students on daily basis.	96.1%	2.6%	1.3%
27	Students did their homework and return back to all subject teachers.	92.1%	5.3%	2.6%
28	Students had freely asked their doubt/confusion to related teachers on WhatsApp.	85.5%	14.5%	0
29	I had organized unit test other than the worksheet shared by Education Department.	96.1%	2.6%	1.3%
30	Some of my students do not have smartphone.	90.8%	9.2%	0
31	Usually, students called me to clear their doubts/confusion.	80.3%	15.8%	3.9%
32	Some of my students were facing network problem during their online-learning.	93.4%	5.3%	1.3%
33	Some of my students were not having sufficient mobile data for online-learning.	90.1%	7.9%	1.3%
34	Some of my students did not showing their interest in online-learning.	84.2%	15.8%	0
35	Some of my students had faced complex language problem in content provided through link.	85.5%	14.5%	0
36	I think content of material provided through online link was not in proper order.	53.9%	42.1%	3.9%
37	I had Covid-19 Duty so I am not getting enough time for e-learning program.	44.7%	53.9%	1.3%
38	I think, despite the education initiatives taken by the Department of Education students' learning got affected due to Covid-19 pandemic.	82.9%	17.1%	0
39	I believe e-learning was not much beneficial to students.	51.3%	47.4%	1.3%
40	I believe Digital teaching-learning approaches made teaching plan and assessment process hard and complex.	64.5%	32.9%	2.6%

aware of the Rajasthan government-launched e-Raksha app for students during the COVID-19 lockdown, but 5% of the teachers were not aware of the same. Most of the teachers, 96% knew that the e-kaksha app would include comprehensive learning, topic-wise Videos, and a Question Bank, but 4% of the teachers did not know about it. Most of the teachers, 87%, agreed that under the initiative Shikshadarshan - Educational TV program content was telecasted from Monday to Saturday for Grades 1 to 12 via DD Rajasthan, whereas 10% of the teachers did not agree for the same. 92% of the teachers know that under the initiatives *Shikshavani* - Education via Radio, a story (*Meena ki Kahani* – which talks about social issues) was broadcast via radio at 11 am daily, but 7% of the teachers did not know the same. It was noticed by most of the teachers that 96% of the teachers that they were agreed that *Shikshavani* Content also includes interesting stories and recordings related to life skills for children, whereas 4% of the teachers were not aware of the same. It is reported by 96% of the teachers that they know that under the initiatives *Hawamahal* - Joyful Saturday program, a poster with a short description of stories and games was shared via the WhatsApp groups, but 4% of the teachers did not know it. There, 84% of the teachers were aware that the education department had organized live sessions for secondary students on career guidance via YouTube Rajiv Gandhi Career Portal, whereas 16% of the teachers were not aware of it. It was also noticed that 78% of the teachers said that students' participation in the SMILE program in a class was not nearly about offline classrooms, but 18% of the teachers did not agree with the same. Of the teachers, 92% reported that they found learning content through daily links via WhatsApp Group under the SMILE program through the state core educational team, whereas 8 % of the teachers denied the same. 96% of the teachers used to give homework to students on a daily basis, whereas 3% of the teachers not used to give homework to students on a daily basis. 92% of the teachers said that students did their homework and returned it to all subject teachers, but 5% of the teachers denied the same. It was noticed that 85% of the teachers observed that students had freely asked related teachers about their doubts/confusion on WhatsApp, whereas 14% did not agree with the same. It was reported by 96% of the teachers that they had organized unit tests other than the worksheet shared by the Education Department, but 3% of the teachers had not organized unit tests other than the worksheet shared by the Education Department. There were 91% of the teachers believed that some of their students did not have smartphones, although 9% of the teachers agreed that their students did. It was reported by 80% of the teachers that they asked their students to clear their doubts/confusion, whereas 16% of the teachers denied the same. And 93% of the teachers reported that some of their students were facing network problems during their online learning, whereas 5% of the teachers observed that students were not facing any kind of network problem during their online learning. It was mentioned that 91% of the teachers said that some of their students did not have sufficient mobile data for online learning, but 8% of the teachers agreed that they had sufficient mobile data for online learning. It was mentioned by 84% of the teachers that some of their students did not show an interest in online learning, whereas 16% of the teachers believed that students had shown interest in online learning. It is reported by 85% of the teachers that some of their students had faced complex language problems in content shared through links, but 14% of the teachers did not agree with the same. It was noticed by 54% of the teachers that the content of material provided through online links was not in proper order, but 42% of the teachers thought that the content of material provided through online links was in proper order. Further, 45% of the teachers had COVID-19 duty, so they were not able to get enough time for e-learning programs, and 54% of the teachers had COVID-19 duty, so they are not getting enough time for e-learning programs. Most of the teachers, 83%, thought that despite the education initiatives taken by the Department of Education, students' learning was affected due to the COVID-19 pandemic, but 17% of the teachers did not agree with it. More than half of teachers, i.e., 51%, believed that e-learning was not very beneficial to students, although 47% of the teachers considered it very beneficial to students. 64% of the teachers believed that digital teaching-learning approaches made the teaching plan and assessment process hard and complex, but 33% of the teachers did not agree with the same.

Perceptions of Parent's and community member's toward e-learning initiatives in school education of Rajasthan state in the course of COVID-19

Demographic profiles of community members

Form of community members shows that 19 (63%) of were males and 11 (37%) were female. 23 (77%) belonged to rural areas, and 7 (23%) belonged to urban areas. There were, 77% of the participants belonged to rural areas, and 23% of the participants belonged to urban areas. The above-tabulated form of Particulars shows that 17% of the participants were businessmen and contractors, and the remaining 23% of the Participants belonged to urban areas. 7% belonged to the laborer class, 30% were housewives, and 23% belonged to the servicemen.

Table 3 depicts that 90% of the parents and community members agreed that their children were able to adopt the e-learning patterns comfortably, but 10% of the participants said that their children were not able to adopt the e-learning patterns comfortably. Mentioned that 33% of the participants said that their children have personal smartphones/desktops with internet facilities, but 67% of the participants pointed out that their children did not have their personal phones/desktops with internet facilities. There were 63% of the participants who said that their children use their phones during e-learning, and 37% of the participants who agreed that they did not use their mobile phones during e-learning. Half (50%) of the participants reported that their children had consistent access to the Internet for e-learning, whereas

Table 3: Parent's and Community Member's Perceptions Toward E-Learning Initiatives in School Education of Rajasthan State in The Course of Covid-19

S. No.	Statements	Yes	No	Don't Know
1	Was your child able to adopt e-learning pattern comfortably?	90%	10%	0
2	Did your child have personal smart phone/desktop with internet facility?	33.3%	66.7%	0
3	Did your child use your phone during e-learning?	63.3%	36.7%	0
4	Had your child consistent access the internet for e-learning?	50%	50%	0
5	Did your child engage immediately as he/she got the study material link?	30%	70%	0
6	Was it easy for your child to take help from the teachers for his/her learning problems?	80%	20%	0
7	Whether your child completes daily basis e- learning modules?	80%	6.7%	13.3%
8	Was your child engaged in learning after completion of e-learning module?	86.7%	13.3%	0
9	Was your child got regular feedback from the teacher through mobile calls?	73.3%	26.7%	0
10	Was your child participated in any TV based learning program?	40%	60%	0
11	Was your child participated in any Radio based learning program?	10%	86.7%	3.3%
12	Do you think that your child's studies were badly affected due to Covid-19?	73.3%	26.7%	0
13	During Covid-19, did you take an active part in your child's learning?	63.3%	36.7%	0
14	Overall, are you satisfied with e-learning during Covid-19?	36.7%	63.4%	0
15	In your opinion face to face-learning is better than e –learning.	96.7%	3.3%	0
16	In future would you like to engage your child in e- learning?	86.7%	13.3%	0

50% of the participants said that their children did not have consistent access to the Internet for e-learning. Only 30% of the participants agreed that their children had engaged immediately as he/she got the study material link through online learning, whereas 70% of the participants said that their children were not engaged immediately as he/she got the study material link. Most of the participants, 80%, observed that it was easy for their children to get help from the teachers for their learning problems, whereas 20% of the participants denied the same. Mentioned that 80% of the participants stated that their children complete e-learning modules on a daily basis, whereas 7% of the participants denied the same. The majority of the participants, 87%, agreed that their children were engaged in learning after completion of the e-learning module, although 13% of the participants did not agree. It is reported by 73% of the participants that their children got regular feedback from the teacher through mobile calls, but 27% of them denied the same. 40% of the participants said that their children participated in TV-based learning programs, but 60% of them did not agree with the same. Only 10% of the participants confirmed that their children participated in radio-based learning programs, whereas the majority of them, 87%, denied it. The majority of participants, 73%, agreed that their children's studies were badly affected by COVID-19, but 27% of them did not think about it. There were 63% of the participants agreed that they had taken an active part in their children's learning, although 27% of them were not able to do so. It is important to mention that 37% of the participants were satisfied with e-learning during COVID-19, whereas 63% of them did not agree with the same-19. The majority of the participants, 97% of them, confirmed that face-to-face learning is better than e-learning, but only 3% of them denied it. Most of the participants 87% agreed that in the future, they would like to engage their child in e-learning, but 13% did not agree. Further, community members were asked the following positive concerns and recommendations for the e-learning through open-ended questions.

Open ended questions

The parents and community members have noticed their children's interaction with e-learning, and the majority of the participants mentioned that anytime children can learn, e-learning is a good alternative in Corona; it saves time (Table 4). A few of the participants said that lectures on a digital board are good for children's learning. Online learning helps to save the year gap in study during COVID-19, and learning continues. Some of the participants thought that children become techno-friendly as they also try to engage in e-learning. Few of the participants agreed that e-learning is good as it provides learning at their own convenience. Some of the participants said that e-learning is good as children have new experiences during their study.

The main recommendations suggested by parents and community members for improving e-learning were as follows: There should be more live classes rather than just sharing the e-content so that students can clear their doubts in a live class, as well as technical support should be given to the students (Table 5). Teachers should encourage the students to participate in peer discussion and interaction during online classes. Some of the parents suggested that network connectivity in the villages should be improved. Also, a few of the parents suggested that more interactive methods like animation and simulation can be used for better understanding in a virtual environment. Some of the parents mentioned that proper and regular feedback should be given by the school teachers. It is also suggested that there must be some contact/face-to-face classes for remedial classes, and teachers should continuously observe, motivate children, and act as a support system in e-learning.

Table 4: Positive things noticed with e-learning

Statement	Response (s)
What are some positive things you have noticed about your child's interaction with e- learning?	• Anytime child can learn. • Good alternative in corona • Saves time. • Classes on digital board, good alternative in corona, learning continued. • Online-learning helps to save the year gap in study during Covid-19 and learning continued. • Learning continued, students are taking interest in e-learning. • Student become techno friendly for e-learning • Good alternative in corona time • Child is getting smart in using latest technology. • Anytime child can learn, good alternative in corona time. • Saves time • Good alternative in Covid-19, learning continued. • Digital board and saves time. • Learning at own convenience. • Good alternative in corona time, saves time, reduce corona spread. • Good alternative in pandemic. • Anytime can learn, saves time • Child is feeling new experience during study. • Good alternative in corona. • Digital board classes, daily class. • Good alternative in Covid-19 like situations.

Table 5: Recommendations for improving the e-learning

Statement	Response (s)
Please add any other recommendations for improving the e-learning.	• More live classes for interaction. • Technical support should be given to children. • Teacher should encourage peer discussion and interaction during online classes. • More live classes so that students can ask their doubts in live class. • Improve network connectivity issue. • Good internet facility should provide to the learner. • More interactive methods like animation, simulation can be used for better understanding in online environment. • Technical support system should provide to the children's. • Technical support system should provide to children • Feedback form school should be necessary. Lack of interaction between teacher and students so there must be some contact/face to face classes. • Regular feedback from teacher should be necessary. • Technical support system should provide to children. • Only recorded lectures are provided there should be some live classes. • There should be availability of good internet. • Teacher should motivate children's and act as support system for e-learning. • Improved support system should available to learners. • Live classes should be arranged.

CONCLUSION

Regarding the stakeholders' perceptions of e-learning initiatives in school education in Rajasthan, all of the stakeholders agreed that the face-to-face mode of teaching is better than online teaching. They also accepted that there exists a lack of interaction during online classes, and it is not possible to give an experience like face-to-face teaching. There were various issues and challenges to e-learning, such as connectivity issues, networking problems, which obstruct the natural flow of learning, and limited internet data use. Despite these limitations, they added that e-learning is very useful in continuing learning during pandemic situations as it saves time and allows students to continue their education. However, overall, most of the stakeholders were dissatisfied with e-learning, as 73% of the parents and community members agreed that they were not satisfied with e-learning during COVID-19. And 84 % of teachers observed that some of their students did not show an interest in online learning. Many of the teachers around 64% believed that digital teaching-learning approaches made the teaching plan and assessment process harder and more complex. It was not as beneficial to students at large as a face-to-face model. Around 60% and 87% of the participants observed that their children did not participate in any TV-based learning program or radio-based learning program, respectively. It was also noticed by 85% of the teachers that some of the students had faced complex language problems in the content provided through the link. Thus, it is suggested to the Government that it is important to take into consideration the local languages and contextualization for creating online videos and e-content for any particular topic and subject, and also, more focus should be on live programs. Access to the TV-based and radio-based learning programs must be associated with or shared through WhatsApp or mobile. Almost all of the students prefer to engage themselves in mobile-based programs. From a future perspective, to implement effective online education, the education department needs to include and organize various training programs for handling the various online learning resources in their post-service education. Teachers and students' coherence, integrity, and dedication to their work can make a difference in the quality of education, even if there is any drastic situation.

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