

PERCEIVED EFFECTIVENESS OF E-LEARNING AMONG PARENTS OF SCHOOL-GOING CHILDREN DURING COVID 19 IN KARACHI – AN ANALYTICAL REVIEW

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Abstract

The study stems from the recognition of the social impact of the pandemic, where a significant aspect was relevant to dissemination of education during the pandemic. The immediate response by school management and teachers and the adoption of an alternate learning strategy by parents and school children has indeed been a matter of grave concern. This study attempts to analytical review the existing online learning and its effectiveness in terms of (i) communication and coordination (ii) instructional design (iii) utilization of relevant medium as perceived by parents of school going children. Based on the premise that online education was embraced as their remained no other choice for child's connectivity to his/her regular school activities, it is believed that it is critical to anticipate whether online education would be willingly adopted by parents and children if given a choice during COVID-19 Pandemic. The research conclusions are based on results of a survey conducted among parents of children enrolled in private schools in Karachi. The study explores perceptions regarding various aspects of online education such as learner interactions with course content, student interactions with instructors, more favourable software application for child's educational progress, most convenient channel of communication with school management, most engaging instructional design and effective medium for online education to analytically review how school children are coping with the change in learning models.

Keywords: Perceived effectiveness of education, online education, online learning, school going children, Education and COVID 19

Introduction

E learning or online education is a familiar concept in modern times; however, COVID 19 has reformed educational processes and triggered implementation of online mechanisms as a compulsory application for learners and students. Private sector schools



adapted to online education and developed parent-student-teacher networks to connect and engage students through existing learning management systems (such as google meet and Microsoft teams) and social network applications (WhatsApp, Gmail or customized apps). Previous studies reflect that effectiveness of online education vastly depends on three critical factors:

1. Communication and coordination – refer to the coordination among teachers, school management, and students/parents. Communication and coordination remain to be the most critical factor in effectiveness of online learning mechanisms.
2. Instructional design – refers to the utilization of relevant and effective tools and techniques to ensure improved communication through online learning.
3. Use of relevant media/medium – refers to the medium selected by the school to communicate and engage with students including social media platforms, exclusive software applications and e-mails etc.

The current research intends to explore opinion of parents of school going children in Karachi, Pakistan.

It is also to be established here that online education was the need of the hour that was implemented and embraced owing to lack of other feasible choices, however it still remains questionable whether the online education model would be widely accepted by parents and children once schools may return to their normal congregational operations. Therefore, this study further gains insight as to the willingness among parents to adhere to online education once schools return to normal operations.

The research would prove to be immensely useful for academics, research scholars and policy makers in comprehending the various aspects of online learning course content, student interactions with instructors, more favourable software application for child's educational progress, most convenient channel of communication with school management, most engaging instructional design and effective medium for online education etc.

Objectives

1. To identify the parents' perception of effectiveness of communication and coordination between students, teachers and school management through online learning during COVID 19.
2. To explore parents' perception on effectiveness of instructional design by the teacher during online learning due to COVID 19.
3. To comprehend parents' perception of use of relevant medium for online classes during COVID-19
4. To anticipate whether parents believe that virtual or online learning should be continued with conventional learning even after the pandemic.

Literature Review

Many terms are used to describe online learning including virtual learning environments, distance learning, virtual learning and virtual classroom, but there are differences between each of these terms with regard to delivery, interaction, control and technology (Piccoli, Ahmad, & Ives, 2001). We will focus our attention to online learning. Online learning is defined in which at least 80% of the course content is delivered online (Allen & Seaman, 2010).

The history of online learning is rooted in the traditional correspondence courses where students and instructors exchanged information through the postal system or other modes of transportation (Harper, Chen, & D.C. Yen, 2004). As technology grew, so did the capabilities of online learning. Students can benefit from online learning by preparing them for certain industries. One research article suggests it is vital that all library and information science students must be trained to think and work in a virtual networked environment by taking at least one class in a web-based virtual classroom (Main, 1998). While many educationists have supported traditional online classroom learning as the most effective learning form (insert citation), a substantial research also indicates that provided with the right tools virtual learning is significantly proficient owing to cost effectiveness, easy access, learners' empowerment, and learning autonomy (Volery & Lord, 2000). Another widely accepted school of thought is supportive of the hybrid or the blended model that promotes blending online learning and traditional classroom learning, that is typically defined as 30–79% of the content being delivered online (Allen & Seaman, 2010). The hybrid approach allows greater flexibility in the delivery of content, while also allows for the inclusion of benefits from both techniques of online and conventional classroom learning. Professors and instructors try to strike the right balance of online learning and face-to-face interaction to maximize students' learning (Young, 2002).

Prior to COVID 19 virtual learning has been an area of interest for researchers, a comprehensive study by Leidner and Jarvenpaa, identifies three main variables that affect the effectiveness of online delivery: (1) technology; (2) instructor characteristics; and (3) student characteristics (Leidner & Jarvenpaa, 1995). Several studies had also been conducted to identify the measurements of success of virtual learning through a number of different variables student satisfaction and perceived learning (Swan, 2001), perceived usefulness, perceived flexibility and instructor efforts (Arbaugh, 2000) etc. The mixed results in measurements and adherence to online learning as an effective and efficient medium demonstrate the breadth of online learning and paves way for further research to identify the key conflicts and challenges.

The pandemic has stimulated the world to acquire and embrace inventive solutions in disseminating education and ensure a continued learning process among students at various levels. Similar practices have been adopted in Pakistan; however, education has been confronted with a traumatized situation in Pakistan with an increasing concern for implementation of multiple educational systems, deteriorating education standards, alarming reductions in education budgets and obsolete teaching methodologies and curriculum. According to the Pakistan Economic Survey 2018-19, the country's public expenditure on education as a percentage of the GDP is estimated at 2.4 percent in the fiscal year 2018-19, the lowest in the region, that has resulted in a 60% literacy rate (The News , 2012).

Researchers believe these statistics do not represent the factual positions and therefore masses insist on standardized and affordable education, while many among academic and political networks are developing strong narratives to impose educational emergency in the country to combat these critical education challenges. Thus, the education system in Pakistan was substantial suffering in pre-covid times and the pandemic has created a dual responsibility on education sector to contest existing challenges and develop innovative practices to connect and engage students at various levels. It is significant to mention that the education sector in Pakistan has been developed and modified to embrace various education systems especially at school levels; for convenience of comprehension this research has based its methodology on three basic classifications of schools namely (i) public sector schools (ii) private sector schools (iii)

welfare sector schools. The research specifically focuses on perceived effectiveness of e-learning among children going to private schools.

Education remained a national concern throughout the pandemic, while schools, colleges and universities campuses remained closed from March 2020 to Jan 2021, classes were conducted through hybrid modular academic cycle of one or two days of on-site classes while connecting and engaging students through virtual classes rest of the days.

Methodology

This study gained immense significance during the coronavirus pandemic 2020, as most of the private schools in Pakistan shifted to either distance learning or e-learning. Therefore, following the school's implementation of online education systems, a survey was conducted after 6 months to ensure that parents/ guardians of school-going children are familiar with technological applications and academic impact of the e-learning mechanisms. Since this implementation of online learning within school classes has only been a pandemic-driven initiative in Pakistan, therefore this research intends to analytically perceive

- i. The effectiveness of communication and engagement among students and teachers;
- ii. Effectiveness of instructional design provided by teachers and school management and
- iii. Effective use of media for conduction of online classes. This would enable researchers and policy makers too.

This study is constituted on a sample of 273 individuals consisting of parents/guardians, on behalf of school-going children, who were actively facilitating the child in completion of schoolwork during implementation of e-learning programs. This research was conducted in three phases:

Phase I - Development of the data collection tool: a comprehensive survey questionnaire was constructed through 24 structured questions with two major components

1. Child/parent demographic
2. Parental opinions on
 - (i) Communication and coordination
 - (ii) instructional design
 - (iii) use of effective media/medium

Though the questionnaire was developed to inquire responses with reference to perceived effectiveness of online education specifically under the COVID 19 conditions, nonetheless a few questions were also developed to establish a comprehensive narrative to future parental intentions towards e-learning in Pakistan.

Phase II - Data collection: 278 responses were collected using random convenience sampling, through use of social media platforms.

Phase III - Data evaluation, interpretation, and analytical review

The complete data set has been specifically collected from parents of children in private schools, owing to substantial evidence that state schools were unable to adopt any

form of distant/e-learning during the initial pandemic and later adopted a two-day per week policy for schools and colleges.

Discussion

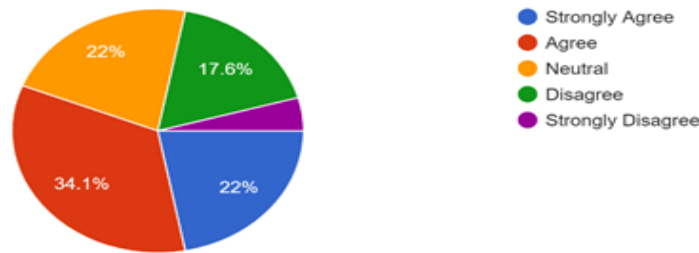
Data Analysis and Interpretation

The technological revolution has captured almost every aspect and activity of social life. It has a major impact on the education sector as well. Now the traditional approach of classroom study is somehow replacing and re-shaping along with new teaching aid and has been aligned with teaching pedagogy to meet the challenges of the new era. This global availability of technology has opened a new room for contemporary learning and turned as the most reliable solution as an online distance learning strategy during the pandemic of COVID-19.

E-learning is supporting the student’s skill development on every level of their academic stage, this contemporary learning strategy is bridging the gap with some Digital technological devices which is easily available and intervened by every individual with easy access at their home with comfort.

Parents believe that virtual or online learning should be continued with conventional learning even after the pandemic.

Figure 1: Distance Learning should be continued with Conventional Teaching after Lockdown



	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Strongly Agree	60	22	22	22
Agree	93	34.1	34	56
Neutral	60	22	22	78
Disagree	48	17.6	18	96
Strongly Disagree	12	4.3	4	100
Total	273	100	100	

Figure 1 Table 1 represents the responses of the 273 participants for their perspective to continue **online** learning after Lockdown. The majority participants report positive for the implemented strategy.

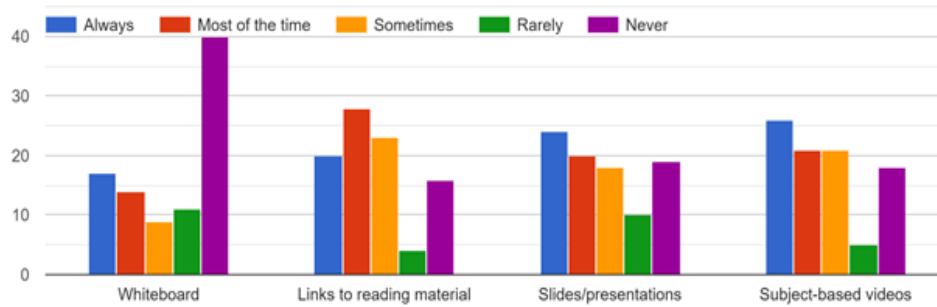
Table 2: Parents' perception of use of relevant medium for online classes during COVID 19

Parents' perception of use of relevant medium for online classes (Table 2)					
	Always	Most of the Time	Sometimes	Rarely	Never
Whats App	42	17	18	4	10
Email	29	22	15	5	20
School App	24	15	19	10	23
Online Educational Portal	22	21	17	8	23
Online Recorded Lectures	18	23	15	6	29
Live Streaming / Online Classes	22	16	20	7	26

The above table 9 represents the responses of the 273 participants to comprehend parent's perception for use of relevant medium for online classes during COVID 19. It reflects the responses for objective number 3 of the study. Parents report that the school teacher's most suitable communication medium is WhatsApp.

Table 3 Figure 2 Resources used by subject teachers for distance / e-learning

Resources used by subject teachers for distance / e-learning (Table 3)					
	Always	Most of the times	Sometimes	Rarely	Never
White Board	17	14	9	11	40
Links to reading material	20	28	23	4	16
Slides / Presentations	24	20	18	10	19
Subject based Videos	26	21	21	5	18



The Table 3 and figure 2 represent the data of 273 participants for the resources used by subject teachers for distance / e learning, it reflects that whiteboard is rarely used as instructional instrument whereas links to reading material is commonly use resource.

Table 4: The willingness and readiness of students towards online learning.

Readiness headed for the Online Distance Learning Strategy adopted by Schools (Table 4)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	227	83.1	83	83
No	11	4	4	87
May be	35	12.9	13	100
Total	273	100	100	

Table 4 is representing the data of 273 respondents (mothers, fathers, guardians of Private school going students in Pakistan). The data is reflecting that the respondents of 83% private school going students reported their readiness and willingness towards online distant learning classes. 4% have reported unwillingness and readiness for online classes whereas 13% have conveyed may be opinion as there is no other provided possible solution to the agenda of distance learning.

The Private Schools have adopted the strategy of online classes as the byproduct of the corona lockdown pandemic, as the students were suffering from a huge educational gap and online education strategy is the only practical and logical solution.

The table reflects that most of the respondents have encouraged online learning strategies adopted by private schools whereas 4% of the participants are non-convinced with the implemented strategy due to a couple of personal reasons.

Table 5: The Efficiency and Practicality of adopted online Distance Learning Strategy in Private Schools during COVID-19

During the pandemic's health emergency of COVID-19, it became impossible for the school to operate and carry their daily operations, and simultaneously the academic gap was also concerning. The online distance learning strategy seems to be the most efficient and practical approach to minimize the academic gap during the closure of the schools due to medical emergency, quarantine, and social distancing SOPs.

Efficiency and Practicality of Online Distance Learning Strategy (Table 5)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	221	80.9	81	81
No	41	15	15	96
May be	11	4.1	4	100
Total	273	100	100	

The above Table 5 is representing the data of 273 participants responding to school online classes, the adopted strategy implemented by the private school. It reflects that 81% of the participants reported that online classes adopted by private schools are so far the most appropriate decision in terms of efficiency and practicality. It is one of the most suitable adaptable solutions to minimize the academic gap of school going students during the pandemic of COVID-19.

15% of the respondents doubted the efficiency and practicality of the strategy whereas 4% have opted for maybe response as they have no other available alternative to reduce the academic loss.

The Table 5 concludes that the majority of the respondents supports the characteristic of efficiency and practicality of the adopted online distance learning strategy adopted by the private school.

Table 6: Attitude towards the Contemporary Online Distance Learning Strategy V/S Classroom Teaching Strategy in Schools

The online distance learning strategy has exposed some shortfalls of contemporary educational change as compared to the traditional classroom strategy. Where online learning is facilitating the education within comfort zones at one end, it is also identifying some gaps in the discussion, socializing, group tasks, confusions, lack of understanding, the gap in technical skills, two-way communication, missing physical existence of the teacher, etc. on the other end.

Attitude towards the Contemporary Online Distance Learning Strategy V/S Classroom Teaching Strategy in Schools (Table 6)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Classroom learning	126	46.1	46	46
Online learning	92	33.6	34	80
Both	55	20.2	20	100
Total	273	100	100	

Table 6 is reflecting the data of 273 participant's perception towards contemporary online distance learning v/s classroom learning strategies of the school. 46% of the participants gave more weightage to classroom learning strategy as compared to online learning whereas 34% of participants find online learning more preferable as it is more advanced, developing human technical skill and technology-friendly from an early age. It is an exercise to develop the student's skills to encounter future challenges.

20% of the participants carried a neutral opinion for online and classroom learning. The data conclude that the majority of the participants are convinced with Classroom learning.

Table 7: Encountering Technical Hurdles and Difficulties of Distance Learning in Schools during COVID-19

Technical difficulties may refer to an internet connection, the strength of internet signals, electricity load shedding, device accessibility, device compatibility, technical skills, etc.

Encountering Technical Hurdles and Difficulties of Distance Learning in Schools during COVID-19 (Table 7)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	153	56	56	56
No	74	27.1	27	83
May be	46	16.9	17	100
Total	273	100	100	

The Table 7 is representing the data of 273 participants for encountering technical hurdles and difficulties in the online distance learning process. 56% of the sample size addressed that they bear difficulties and hurdles in online classes whereas 27% reported that they do not face any technical difficulties in online learning strategy.

17% of the respondents selected may be options due to their personal experiences. Covid-19 has opened a new room to address, develop, and adopt the technology.

Table 8: School Students Attitude towards Distance Learning towards COVID-19

It is identified that online distance learning is the so far best strategy to implement to minimize the academic gap of the student and it is the most efficient and effective way to proceed the academic progress.

School Students Attitude towards Distance Learning towards COVID-19 Table 8				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	208	76.2	76	76
No	41	15	15	91
May be	24	8.8	9	100
Total	273	100	100	

The Table 8 of 273 participants is representing the data for a school student's attitudes towards distance learning. 76% of the participants reported a positive attitude towards distance learning as it is enhancing students' capacity and knowledge whereas 15% of participants are not positive towards online learning and 9% of the participants are in maybe a dilemma.

Table 9: Significance of Online Teaching and Learning as School Educational Progressive Strategy during COVID-19

Significance of Online Teaching and Learning as School Educational Progressive Strategy (Table 9)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Yes	213	78	78	78
No	22	8	8	86
May be	38	14	14	100
Total	273	100	100	

The Table 9 is representing the data of 273 respondents. 78% report the importance and significance of online learning as a progressive strategy. 8% of the respondents do not find it as a reliable progressive strategy whereas 14% report it with maybe an opinion.

Table 10: Students attitude towards categorized Learning Strategy

Students attitude towards categorized Learning Strategy (Table 10)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Online Learning	77	28.2	28	28
Traditional Classroom Learning	196	71.8	72	100
Total	273	100	100	

The Table 10 is representing the data of 273 participants responding for their perception towards categorized learning strategy. 28% of the sample size is reporting for online learning whereas 72% opted for a traditional classroom learning strategy. This table concludes that 72% of respondents are convinced with classroom learning strategy as compared to online learning strategy.

Table 11: Online Tools Experienced by School Students in Online Learning Strategy

Online Tools Experienced by School Students in Online Learning Strategy (Table 11)				
Participant's Responses	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Google Classroom	68	25	25	25
Zoom	104	38	38	63
Recorded Videos	66	24.3	24	87
Whatsapp	27	9.8	10	97
Others	8	2.9	3	100
Total	273	100	100	

The Table 11 is presenting the data of online tools experienced by school students in online learning strategy. It reflects that zoom is the most commonly used tool.

Figure 3: Students facing difficulties in comprehension and completion of online task

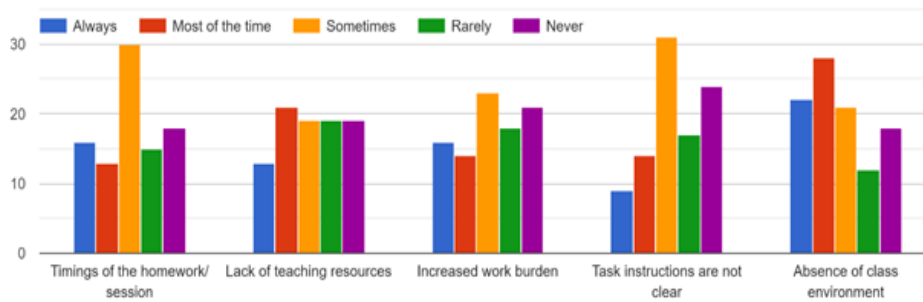


Figure 3 represents the data of 273 participants for the difficulties in comprehending and completing online learning tasks, it reflects that sometimes the homework session gets very lengthy, most of the time the students face lack of teaching material, sometimes it increases work burden and instructions for completing the tasks are not clear and most of the time the students miss the class environment.

Analytical Review

1. The study was able to identify that most of the children among private schools are attending online classes daily - 36.3, alternate days – 33% or once a week – 18.7%. This represents that schools did take an immediate response to alternate strategies diverting from conventional teaching classrooms to online classes. Most of the teachers are using slideshows and subject-based informative videos to communicate concepts to students. A major area of concern was the conceptualization and retention of information that is a critical element for completion of the communication process. The results showed an encouraging trend where 56% parents disregarded that they have any difficulties in understanding the teacher's instructions during online classes or given assignments, while almost 29% suggested that they sometimes face difficulties in comprehension of instructions. Simultaneously, 38.5% of sampled parents mentioned that their child may have difficulty in comprehension, however 44% parents informed that their child faces little or no difficulty during online sessions and completion of assignments. This trend reflects that most children are able to conceptualize and retain information during online sessions. However a critical aspect is to identify the reasons behind these difficulties – on an average parents identified that such hitches in comprehension is owing to the lack of teachers resources, vague instructional design, increased work burden with shorter time for completion and most importantly due to lack of school environment where children work in unison to achieve objectives. The data also identified that 89% parents admitted that in case of confusions and further explanations the school management and teachers can be coordinated through email, telephone calls or other social media apps.
2. The most enjoyed teaching resource by children as perceived by parents are subject-based videos followed by slideshows and links to reading material. The data also reflected that 69.3% showed active participation in online classes. The date reflected that child participation is quite good in during online classes, however this

participation may compromise the discipline of the session. Simultaneously, aspects of 'teacher's explanation of the topic', 'clarity in task instructions', 'sufficient information material' were all rated high by parents of school going children. Thus indicating that the instructional design has been rated high in parents' opinion.

3. The medium for communication of education and work assignments for online classes was maintained through a number of varying options including WhatsApp, email, exclusive online portals, recorded lectures, live streams. The most popular medium among parents is WhatsApp, followed by emails exclusive online education portals, recorded lectures and live stream. Except for WhatsApp, that represented exceptional rating, all other mediums were equally utilized by the sampled population. On the contrary the least used medium was recorded lectures by teachers. Therefore, indicating that a uniform school policy was not practiced across Karachi, rather to meet the learning challenges, schools' management adopted mediums as per their convenience.
4. The data reflects that approximately 56% of the parents either strongly agree or disagree with continuation of online learning along with traditional classroom learning practices; while a significant 22% remained undecided as to whether a blended model should be adopted in the future or not. Surprisingly, though almost 87% parents agreed that their child's private school responded promptly and satisfactorily nonetheless, and there was an approximate 22% of parents who either disagreed or strongly disagreed that online teaching should not be accepted as a future normal for school learning. Thus, it is safe to interpret that while parents may compromise for conduction online classes, many among them still believe it is an ineffective solution to school learning and development. As this issue was further probed, parents identified several challenges such as lack of co-ordination among teachers, students and school management, lack of teachers' training for conduction of online classes, unavailability of supportive infrastructure and resources for implementation of online learning for example frequent electric supply failures or lack of electronic devices in larger families and managing student engagement.

Conclusion

A detailed and comprehensive primary survey on the Perceived Effectiveness Of E-Learning Among Parents of School-Going Children during COVID 19 in Karachi was conducted through a sample of 278 active parents. The results of the data reflect an increasing towards acceptance of online learning trends wherein both parents and students have shown significantly positive responses in all three domains of effective online learning namely (i) communication and coordination – data compilation indicates that school management, parents and teachers remained coordinated through use of various media while most parents have identified that children neither them nor their child faces any major difficulties during online classes. (ii) instructional design – almost all aspects of instructional design such as 'teacher's explanation of the topic', 'clarity in task instructions', 'sufficient information material' were all rated high by parents of school going children. (iii) Use of relevant medium - Except for WhatsApp, that represented exceptionally rating, all other mediums were equally utilized by the sampled population indicating a trend of convenience from the school management's perspective.

An interesting research outcome was the parents' opinion regarding adoption of online learning as a permanent option in the curriculum after the pandemic and though almost 87% parents agreed that their child's private school responded promptly and satisfactorily however, the data reflects that an approximate 22% of parents do not agree to the mechanism of online classes and assignments. A further probe into these findings stipulated that while parents may compromise for conduction online classes due to the

pandemic, however online classes is challenging from their perspective. The major challenges that children and parents often face during sessions include: lack of coordination among teachers, students and school management; lack of teachers' training for conduction of online classes; unavailability of supportive infrastructure and resources for implementation of online learning for example frequent electric supply failures or lack of electronic devices in larger families, and managing student engagement.

A further study for challenges and opportunities in online learning may provide with insightful data on such challenges can be addressed and opportunities created and utilized.

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