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Leadership During Disruptions: Leading and Managing ECE Education During Covid-19 Pandemic

Sheema Gohar[*]
Ali Gohar Chang[**]
Ayaz Latif Siyal[***]

Abstract

Almost every aspect of life had been affected by the COVID-19 pandemic, education was one of most affected aspects, while Early Childhood Education (ECE) being particularly vulnerable, and was severely affected. In Pakistan, most parents, school administrators, and teachers considered ECE students too young to effectively use technology for learning, making it difficult for them to continue their studies. The aim of this research is to investigate the managing mechanism of school leadership for their ECE sections/education during the pandemic. Using a qualitative, exploratory approach, data had been gathered through focus group discussions and semi-structured interviews with parents, ECE coordinators, administrators, IT leads, and teachers. The Creswell Model of Qualitative Analysis was applied. The study found that school leadership promoted teamwork between teachers and parents and explored online tools like Flip Grid, Kahoot, and Google Classroom to engage ECE students. While the study focused on ECE leadership in developing countries, results may differ in wealthier nations.

***Keywords*:** COVID-19 disruption, school leadership team, young learners, technology in Education, and early childhood education using multiple network devices increased digital connectivity and resource availability

[*] Begum Nusrat Bhutto Women University, Sukkur, Email: sheema.gohar22@alumni.aku.edu
[**] IBA Public School Sukkur. Email: gohar.chang@iba-suk.edu.pk
[***] IBA Public School Sukkur. Email: ayazlatifsiyal@ibacc.edu.pk

Introduction

The COVID-19 epidemic has increased disparities in early childhood education quality and ingress which already existed in underdeveloped and developing nations, where dreath of resources and insufficient institutions for early childhood education make it more vulnerable. There remain a huge number of children who are currently of school. It is estimated that more than one hundred seventy-five million children, around the globe, lack the access to pre-primary education, despite an increase in early learning opportunities over the last 20 years; families with low-income and those who are living in distant country-side areas had been excluded (UNICEF, 2019). Prior to the epidemic, many parents abandoned their young children to dangerous and un-enriching environments because to a lack of readily available, reasonably priced, and high-quality early care and education options (Devercelli & Beaton-Day, 2020; Gromada et al., 2020). Due to lockdowns during the epidemic, at around 40 (forty) million children around the globe were deprived of early childhood education; as a consequence, some day care and early education facilities had to close temporarily, while others had to close permanently (Gromada et al., 2020). According to Nugroho et al. (2021), early schooling kids in under-developed and developing countries idled an average of 106 school days in 2020. As of December 2020, there are still a projected 35 million pre-school pupils affected by nationwide closures of schools (UNESCO, 2020). More than sixty nations remained unable to completely reopen their pre- schools through the mid of 2021 (Nugroho et al., 2021). McCoy et al. (2021) estimate that during the initial year of the epidemic, school closures would result in over 11 (eleven) million more kids dropping behindhand in their developmental stages; the largest increases will be seen in low- and lower-middle-income countries (Neuman & Powers, 2022). Notably, even in nations where two schools had revived, indigenous and recurrent closings had been continued (UNESCO et al., 2020b). Additionally, the anticipated harmful effects of closures of schools on preparedness and education continuousness, children may also neglect their meals provided by schools and other subsidiary services (Borkowski et al., 2021; UNICEF, 2020b). There's also concern that more impoverished kids may leave early childhood education due to financial limitations. In this regard, pre-primary education is often fee-based, and parents in underdeveloped and developing countries pay a substantial amount of money for education overall. On the other hand, families facing unemployment or financial hardships are more likely to allocate their little resources towards their older children's education (Al-Samarrai et al., 2020). Furthermore, UNESCO (2020) projects that supply and demand factors would cause a 3% decline in pre-primary school enrollment worldwide. The long-term effects of these global early learning

disruptions are expected to include significant losses in adult salaries as well as an influence on children's educational trajectories and well-being (Benner & Mistry, 2020; Tomlinson et al., 2021).. It seemed that the pandemic increased pressure on all parties involved to guarantee that all children received an education, but ECE continued to be the most affected and, thus, the most difficult to manage. The ECE leadership encountered unusual obstacles since the curriculum for ECE education was never designed to be provided online. As a result, the leadership found it difficult to make the necessary adaptations under the specific circumstances presented by the epidemic. As a result, the study focuses on the challenges that the leadership of ECE encountered to continue education during COVID and how the various stakeholders handled the situation as a whole.

Research Questions

How the school leadership team (HT, ECE coordinators, ECE teachers, Admin lead, IT lead) at schools, in collaboration with parents, led and managed (ECE) education during COVID-19 pandemic?

Review of the Literature

In order to comprehend how the school leadership team directed and oversaw the ECE students' learning throughout the COVID-19 epidemic, this chapter examines pertinent literature. The chapter begins by discussing the Covid-19 pandemic's origins and effects on schooling. It then goes on to discuss the value of leadership and the significance of team leadership. After that, the chapter delves into detail regarding ECE leadership and its significance. Lastly, it also addresses the COVID-19 epidemic and how it affected the evolution of ECE leadership.

The COVID-19 endemic that instigated in late 2019 and early 2020, caused widespread disruptions to school systems, stopped international travel, and hampered economic growth. In a few of months, COVID-19 turned into a "supernova" (Azorin, 2020), upending the foundation of education and producing "undeniable turmoil" (Hargreaves & Fullan, 2020). Looking back, this epidemic has essentially turned education into a remote, screen-based activity, leaving the majority of students with little choice but to rely on online instruction from instructors, and almost all institutions have closed (Zhao, 2020). As a result, there has also been a significant restructuring of the teaching methodology. The COVID-19 pandemic has had an unparalleled effect on educational institutions. Roughly 1.5 billion children have had their education interrupted worldwide by school closures and ongoing lockdowns (UNICEF, 2020b). In the first year of the pandemic, early childhood education was

unavailable to some 167 million young children across 196 countries (McCoy, et al., 2021).

Hence, early childhood education is disproportionately affected by the crisis, despite its essential relevance (Kim & Rose, 2020; Lopez Boo, et al., 2020; UNICEF, 2020b). Young children (ages 0–8) may utilise remote learning opportunities on their own, while older children's education tends to get greater attention from both governments and families (World Bank, 2020b). Furthermore, the World Bank has accurately predicted that a generation's learning trajectories would be negatively impacted by the crisis-driven weakening of fundamental learning and early childhood development (World Bank, 2020).

Schools increasingly need competent leaders to guarantee student progress and to give the best possible teaching-learning processes (Bush, 2009). Although there are many ways to describe leadership, at its most fundamental level, it is the ability to influence others to accomplish a shared goal. Understanding the procedures and characteristics required to successfully influence others is essential to appreciating leadership and its value in a variety of settings (Hughes, 2009). A corpus of research elucidates the human traits of leaders, including effectively communicating a broad vision and making decisive judgements after weighing the information at hand.

Additionally, leaders are courteous and cooperative, committed to developing others' potential, and ready to make tough choices when called upon (Kowske & Anthony, 2007). Crucially, the foundation of leadership is credibility, which is often attained by exhibiting moral behaviour in an open and honest manner (Hughes, 2009). Moreover, a dynamic interaction between leaders and followers that collaborates to achieve common objectives is a component of the leadership process (Rosari, 2019).

Ho (2011) agrees, saying that all early childhood professionals who have to cope with educational transition have a shared responsibility when it comes to early childhood leadership. This means that in order to effectively lead change, those in positions of authority must broaden their educational and professional horizons while retaining their sense of self. The way early childhood educator’s work together in a mutually beneficial process to investigate options that lead to the ideal future for ECE students is one method to demonstrate early childhood leadership. According to Stamopoulos (2012), leadership develops as a result of each individual interacting with and influencing the others while also working toward a common goal. She continues by emphasizing that leadership is defined more by this than by a job title and that all professionals, from Early Childhood, who take decisions regarding learning implementation in their work are viewed as leaders in their own right. Bakuza (2014) asserts that early childhood leaders ought to be aware of, comprehend, and apply the following four leadership qualities in their work: 1) Application of

interpretive lenses; 2) Professional identity; 3) Professional knowledge; and 4) Relational trust.

Several studies have shown that the most important factor in determining institutional success, innovation, and quality improvement is leadership. For instance, Bipath, Tebekana, and Venketsamy (2021) stress the significance and need of good leadership in the execution of ECE policies. The report also highlights the growing focus on comprehending how ECE leadership can enhance the early childhood education's quality and have a beneficial influence upon the policies execution. Thus, the issue of how educational leaders might affect a variety of students' learning outcomes is of great worldwide relevance (Silva, 2017). However, the whole globe was greatly obstructed by the contagion (Prime et al., 2020). The majority of countries were compelled to close their schools, playgrounds, early childhood education and care (ECEC) facilities, stores, eateries, and leisure centers. In fact, the UN stressed that while children were not the epidemic's face, they were still at danger and among its biggest victims in terms of the possible serious consequences for their health and wellbeing (Egan et al., 2021). Millions of children have missed out on ECEC chances as a result of this disastrous virus closing early childhood education and care (ECEC) facilities worldwide (Egan et al., 2021). However, the understanding about how these forced closures affect young children's socioemotional and academic development is very slight (Egan et al., 2021).

The pandemic gave school administrators at all levels of education additional duties and obligations. For example, one of the several supporting roles of school leadership was taking on the role of an active policy translator and information mobilizer due to the frequent and sometimes sudden creation of new laws and regulations. Similarly, administrators of schools were forced to deal with matters like regulating the physical space between pupils, formulating strategies for successful communication, inspiring employees, and fostering trust in an online setting (Pollock, 2020).

Teaching Young Children through Online Resources

Leaders working at the early childhood education (ECE) level have to deal with extremely young children via distance or online learning. As a result, while teaching and caring for some children and providing ongoing assistance for many others who are learning at home, educators have had to deal with a variety of additional demands (Eadie et al., 2021).

Offering Parental Support

In order to support the parents in meeting the educational and care needs of young children, the school administration had to forge closer ties with the

parents, who were expected to take on the role of home tutors for their kids.

Teaching by Technology vs. Teaching via Conventional Techniques

Thus, teachers' perspectives on the use of technology in teaching and learning are up for debate (Mertala, 2020). According to some instructors, traditional methods are better since they provide pupils a more hands-on experience and motivate them to study more actively (Mertala, 2020).

Difficulties in Using Technology and online interaction

Numerous situational and contextual variables impact early childhood educators' ability to utilize and assimilate technology into the instruction and classroom practice (Mertala, 2020). Furthermore, the center's or school's culture and the convenience of the suitable online forums, apparatuses, and applications both affect how technologically competent the instructors are.

Besides, while teaching online, instructors have repeatedly lamented that they find it difficult to communicate with parents and students (Dayal & Tiko, 2020; Dias et al., 2020; Szente, 2020; Tarrant & Nagasawa, 2020). This obstacle may arise from the fact that educators, learners, and parents are used to communicating in person; thus, the sudden shift overnight that required the online approach may have caused discomfort for all of them.

Absence of Digital Resources Fit for Young Learners.

Some experts claim that a significant obstacle to the adoption of technology is the dearth of effortlessly available, developmentally appropriate online apparatuses and learning programs premeditated for early childhood education. It was noted, the readily available online educational apparatuses and internet measures have not been designed with under six years pupils (Dreifuss-Serrano & Herrera, 2020).

The Methodology of The Study

The way school administrators ran and controlled education and learning of the students amidst the period of contagion was the study issue that needed to be investigated using a qualitative research approach. Using a variety of data sources to generate a comprehensive understanding, qualitative research involves acquiring knowledge and information about a subject (Ahmad et al., 2019). Qualitative research was employed in this study to learn about the individual experiences, viewpoints, and opinions of many stakeholders in the management of education and pupils at the early grades thru the disease. The school leadership team and parents provided information on how they managed their schools and children' progress amidst the disruption, using an exploratory study design as part of a qualitative research technique.

Sampling Strategies and the Sample

The data was gathered from two semi-government schools in the Sindh districts of Sukkur and Larkana—SS School Sukkur and SS School Larkana. From the both sites, study participants were chosen adopting a purposeful sampling technique. In the first place, those schools were specifically chosen to deploy technology tools during the COVID-19 pandemic. They also had a distinct and effective early childhood education division, and several ECE leaders oversaw the leadership activities in these schools throughout the pandemic. The second goal was to better support research, which was able to overcome the difficulties during the COVID-19 epidemic. Third, the schools chosen were those that shown a desire to take part.

The Individuals Participating in the Research

The ECE departments and coordinators were located separately in each school. As a result, the leadership team from each school—which included the principal, an ECE coordinator, an admin lead, an IT lead, and three ECE teachers—was included in the study since the goal was to investigate how school leadership teams managed education during the COVID-19 epidemic. Additionally, each school had three parents involved. From SS School Sukkur (Principal (**1**) ECE Coordinator (**1**), Admin Lead (**1**), IT lead (**1**), ECE teachers (**3**), Parents (**3**)) and SS Larkana (Principal (**1**), ECE Coordinator (**1**), Admin lead (**1**), IT lead (**1**), ECE teachers (**3**), Parents (**3**)). Therefore, ten individuals form each school were present. Twenty people in all, from the two locations, participated.

Analysis of the Data

The study employed a basic data analysis method called theme analysis, which was derived from Creswell's (2013) model of qualitative data analysis. Prior to being transcribed into English, the data was first gathered in the regional languages of Sindhi and Urdu. Second, from the participants' answers, the primary codes were identified. Subsequently, the bigger codes were combined into further groups. Themes were then taken out and categorized in accordance with follow-up research questions, and the resultant final analysis took the shape of thematic write-ups.

The Credibility of the study

Triangulation of data assisted the researcher in gaining a deeper understanding of the phenomenon while preserving the study's credibility. The researcher attempted to maintain consistency and attention to the study's research problem and research questions in order to establish the study's credibility.

Results and Findings

The Challenges of Technology

Teachers and young students alike face enormous obstacles in carrying on with the teaching-learning process as a consequence of the epidemic. A substantial difficulty for stakeholders was the abrupt shift to online learning in reaction to the coronavirus. Lack of internet access, the inability to purchase or get devices, and providing instructors with online resources and IT assistance were the primary technological obstacles encountered by school administrators.

Lack of Accessibility and Costliness of Gadgets

Due to the surge in COVID-19-related technology demand, it was very challenging to organize digital resources and their timely availability for educators and learners. "So, the gadget arrangement was quite a challenge," said School B's principal (SB_P). "As I already mentioned, concern that everybody was facing, availability of gadgets," says the principal of School A, confirming this observation (SA_P).

Internet Connectivity

The COVID-19 pandemic is responsible for the global digital gap that exists between the affluent and the poor. The demand for internet access was quite high in addition to the availability of devices. "I think the most challenging task out of all the mentioned was ensuring internet's availability," (SA_P) said the school (A) principal, acknowledging that this was the main obstacle.

Additionally, the volume of traffic on the internet posed a barrier upon its availability. The principal of the school emphasised, "Once again, everything has to do with technology. Technology, by which I mean—as I have indicated—was a significant issue with connection (SB_P). He continues, saying, "...the internet was seeing a lot of traffic. According to SB_P, "And so this is also where the connectivity issues actually arise". Children in Early Childhood Education (ECE) were having a lot of trouble using online learning resources and devices, according to the school leadership team's comments. That undoubtedly forced parents and educators to work very hard with the young students. It was found that young children lacked the necessary skills to use technological equipment and gadgets, which was the most significant factor (FGDs _T SB). It was challenging to transition these kids to an online learning environment because the instructors believed that young children could not learn online and could not be brought into this teaching-learning style (SB_P).

Economic Difficulties

International trade and financial markets have been severely impacted by the coronavirus pandemic. The impact on schools was similar, mostly on private institutions. It was not feasible for schools to set up devices for each instructor and student individually, despite their best efforts to continue instruction fully online. Numerous impoverished parents were forced to pull their kids out of school as a result. This difficulty was brought to light by one of the participants, who said, "Every day was difficult, but the main difficulties were: Parents' low financial situation, school internet facilities, power outages, internet service, etc." (SA_P).
Due to the lockdown that followed COVID-19 and the severe health hazards that prevented individuals from leaving their houses, there was a high rate of unemployment.

"In addition to financial difficulties, people had to deal with unemployment since no one was permitted to go out and work," a participant from school B said (SB_P).

However, the ECE coordinator at school B told the researcher that some parents managed to set up devices and the internet. "Certainly, managing the extra devices and internet plans brought financial challenges with parents." Nonetheless, I think that if they were spending money on technology and internet plans, many other costs were also decreased, such as transportation costs, purchasing school supplies, and providing students with lunchboxes (ECE_C_SB).

Difficulties in the Classroom

The academic learning of younger children has been significantly impacted by the COVID-19 epidemic. Kids had to carry on their education on the internet using different electronic devices. Managing younger students in the online format was an equal challenge for educators. Teachers said younger students, given their age, were quite unskilled. Regarding this, one participant's comment was as follows: "When it came to ECE learners during COVID, we had a lot of challenges since they are extremely young, and it was challenging to get them on the online mode right away. The participation of parents was very necessary (FGDs_ Ts_ SA).

The most significant factor, it was said further, was that young children were not very adept at using technological gadgets (FGDs_ Ts_ SA). Teachers further had challenges in persuading parents that they needed to assist their children in continuing their online education. The principal determined that the parents' unwillingness to switch to an online learning environment was one particular issue. Parents' willingness for

their children to attend online lessons was one of the biggest challenges, yet every day was difficult (P_SA). Instructors also believed that;

Persuading families in the engagement of their kid's online learning was the most challenging challenge. Things like, " انکا سب سے پہلا جواب یہ تھا، اتنے چھوٹے بچے ہیں تو، کسے لینا، کیا کرینگے، یہ تو سنتے نہیں ہیں ہماری گھر میں، ہم انکو بیٹھائیں گے کیسے۔" were spoken by them. FGDs_ Ts_ SB As per educators, the majority of parents desired that their older children enrolled in advanced grades pursue further education. They believed that younger children should not continue their education online. The instructors disclosed that; previously, the majority of parents felt that their older children should continue attending lessons, which presented another obstacle. As they might re-enroll at any time, and because they were too young to continue with online education, they felt that it was not necessary for ECE students to attend lessons online. (FGDs_Ts_SB) Instructors believed that the majority of parents opposed online learning because they were dissatisfied with the methods the instructors used for instruction. To use their own terms, few parents were seated next to their children during class, which presented another difficulty. Accordingly, the parents used to object to the way instructors taught. Many parents used to comment, "اس طرح پڑھاتے ہیں ٹیچرس تبھی تو ہمارے بچے سففر کر رہے ہیں," expressing their displeasure with the way certain teachers were teaching. A few teachers got many of these complaints. (ECE C SB)

Strategies-The Tactics Employed by School Administrators to Support ECE Students' Learning

Methods of Teaching and Learning

The second tactic had to do with teaching in a traditional classroom; examples included incorporating more interactive exercises into online courses and using the flip grid to add excitement to the learning process. Teachers were attempting to create tactics that needed individual learning since the COVID-19 epidemic demanded that students maintain social distance. The head of the school said, "We provided study packs to the students who were not able to attend the class online." In addition, schools also supplied study materials. (SA_P). This includes things like online resources, lectures that were filmed, and online assessment tools like quizzes that were created using Kahoot.

The online lessons were held using the Zoom App, which has a recording option. For students who were unable to attend online courses, this option was helpful. Additionally, it was observed that the schools

focused on the main courses while using a variety of teaching methodologies and learning materials.

Technology Support

With the COVID-19 pandemic, instructors and students alike needed access to technology. One of the key strategies that came out of the crisis was technological help. It offered ECE instructors the opportunity to work from home and additional devices, as well as continuous internet access, gadget organization, and assistance with teaching and the use of IT resources.

Techniques Schools Employ to Enlist Parental Support

Many parents experienced hardships and unemployment as a result of the pandemic, which made it harder for them to pay for their children's education and meet other family needs. As the excerpt from the interview shows, school administration helped parents by lowering fees so they could handle things relatively easily. Since parents can oversee the online classes, we offered a 20% tuition fee reduction. (SA_P). To support the learning of ECE children, learning plans were distributed to parents before classes began, allowing parents and teachers to agree on the teaching strategies. As the majority of parents were dissatisfied with the online teaching mode, sharing lesson plans was the one tactic to bargain with parents about the continuation of learning through the online mode, according to one of the interviewees who told the researcher, "...Lesson plans were shared with parents prior to online class" (ECE, SB_C). Additionally, learners received prepared worksheets to practice and learn at home; ECE_C_SB states, "We decided on a strategy that we used to plan, 15-day worksheet for ECE I and II and asked the parents to collect it."

During the Covid-19 pandemic, WhatsApp was the only remaining means of communication for parents, schools, and kids. To enable thorough communication, schools set up WhatsApp groups for each class of students and separate groups for parents. School B's principal explained how the school used WhatsApp to communicate with parents and teachers, saying, "We also use, you know, WhatsApp groups to send messages, sharing homework with our student community (SB_P)." In addition to sharing assignments, class assignments, links to the class, educational materials, etc. were shared via WhatsApp groups.

Modifications to the Strategies

Changes Made to Strategies by School Leadership

Changes in the tactics employed to support students' learning during

the COVID-19 pandemic were another theme that surfaced from the data. The school administration changed the tactics to make the online mode productive in order to support ECE students in continuing their teaching-learning in a better manner. Three modifications arose: (a) technological modifications; (b) teaching-learning modifications; and (c) the use of online teaching-learning. Every change will be examined in the context of participant responses under the following:

Adjustments for Technology

To support and oversee online learning, a number of technological adjustments were made. In this sense, class-specific WhatsApp groups were created, internet access and digital device usage were improved, teachers used laptops and other gadgets more frequently, and an attendance portal was created and kept up to date.

The Modifications to Teaching and Learning

Many changes were made to the teaching-learning process to facilitate online learning for ECE students. Schools were required to cut back on the curriculum and prepare engaging lesson plans.

Reduced Syllabus: Due to time constraints and other changes in the situation, the syllabus had to be reduced. The researcher was informed that, in fact, the syllabus had been trimmed. In the classes, only the essential material was taught. When it came to ECE I, for instance, we decided to eliminate the "colors" since only academic content needed to be taught. Instead, we focused on teaching letters, numbers, shapes, colors, and other concepts. Instructors also used to share videos on the screen, but they also stopped doing so when they felt that there weren't enough online resources for a particular subject. (C_ECE_SB)

According to the aforementioned quote, only core subjects like mathematics and other sciences were given priority, and the majority of the syllabus was cut. Once more, important material was covered in those subjects. It was also noted that teachers used to skip a topic if they could not find additional, pertinent material for it.

Making Use of Online Resources for Instruction

In order to improve learning outcomes, teachers should take advantage of the COVID-19 pandemic as a chance to investigate and apply a range of online teaching and learning resources. Instructors were utilizing online resources such as Quizzes to administer tests and Kahoot to encourage learning through instructional games. In addition to recorded lessons and Zoom as the main app, they were employing videos as a teaching method.

Additionally, it was revealed that "Zoom is being used to record the lectures and videos." We utilized the "flip grid" app, where students upload their videos after completing the assigned tasks. conducted tests using Kahoot, quizzes on quizzes, etc. The FGDs_Ts_SA.

The statement from school B, which read, "...we had to use a variety of resources, like flashcards, videos, etc." further reinforced this point. (FGDS_Ts_SB). "We tried to follow the approach of teaching through videos," it was added. (TS_SB_FGDs).

Parental Adjustments to Strategies

When it came to learning, using technology, and staying in touch with teachers, parents were changing their kids' learning tactics. Some changes made by parents include giving their kids more electronics, creating a learning environment, and giving them extra time and attention.

Technology-Managed Learning

‘This comment, "We, as parents, purchased mobiles and laptops for our kids' ease," makes it clear that parents bought devices for their young children to support them in continuing their online learning. (FGDs P_SB). Parents who took online classes looked into their children's areas of weakness and helped them get better, saying, "We got to know where our kids are lacking, and how we had to work on them." (FGDs P_SB). Furthermore, in addition to helping children improve in their areas of weakness, parents encouraged their children to enroll in online classes, stating, "We (parents) had to take classes along with students and teach all those concepts to our kids again after the class hours." FGDs _P_SA. Concerned about the early children's learning were both parents and teachers. In order to stay informed about the teaching methods, resources, and student progress, parents established a closer line of communication with teachers via WhatsApp. As a result, "...everything was shared through WhatsApp and we were closely in touch with parents" (FGDs_ P_ SB).

Strategies' Impact on Students' Learning

The way the strategies were changed had a big impact on the way the students learned.

School Leadership's Impact on Students' Learning with Strategies

This pandemic gave ECE students a chance to learn how to effectively use technology, explore digital tools, and make learning connections. According to school leadership, the greatest influence on both school leadership and student learning in schools came from parents beginning to

actively participate in their children's education and students becoming self-sufficient learners.

ECE Students Became Independent Technology-Oriented Learners

ECE students became more confident and driven to learn using technology, started to investigate technological resources on their own, and became more accustomed to it. Pupils developed into "independent-technology oriented learners," according to one participant. (SA_ECE_C). Even though most kids seem comfortable using technology, some might still find it difficult.

ECE Students were Investigating and Being Acquainted with the Technological Resources

Students were using the digital tools because of independently investigating while gaining knowledge through technology. "The students became more adept at utilizing technology and looking through resources" (FGDs, Parents, school B). Another participant's response, which went something like this: "Since students are comfortable using technology and the internet, we as teachers sometimes don't have to search for extra resources, games, quizzes, links for particular topic; children would search and share them in the Google Classroom and WhatsApp." Thus, the pupils had developed into "self-reliant, tech-savvy learners." (ECE_C_SA) Teachers reported that, in certain cases, they could share resources with their instructors via WhatsApp groups because their students had become so adept at finding information on their own.

The Takeaways on Leadership

To handle the COVID-19 concerns in the ECE classrooms, be ready for, and prevent disruptions in the future, the school leadership team and parents have learnt many leadership skills from this pandemic.

Organizing and Getting Ready

The school administration made a crucial statement when they said, "...we have to be ready if COVID-like situation happens in future" (SA_A). The reaction above demonstrates the necessity for preparedness on the part of school administrators, parents, students, and others for potential COVID-19 situations. Above all, it is critical that we get ready for this in the future. Since they are safe and effective, we should start taking these precautions on a regular basis. The action encourages improved hygiene habits. I propose that these steps be taken, and that we should keep doing this in the

future as well. (SB_A) Schools also need to be ready to retain technology, curriculum, and resources while upholding health requirements. The participant shared that "the biggest lesson was to be mentally prepared...," which means that we need to mentally prepare ourselves in case a situation similar to this arises in the future. (FGDs _P_SB).

Furthermore, a participant said, "We cannot accomplish the objective if we do not engage in any pre-planning. My takeaway was that teaching online required more meticulous planning. (ECE_C_SA).

Technology Awareness and Usage

Practice Technology and Stay Informed

Many respondents stated that they should be able to apply current technology and stay informed about it. One thing that COVID has taught us is that we have to be technologically advanced. This was the primary lesson learned from the COVID-19 epidemic, and many participants suggested that this should be done in practice. SA_A.

Therefore, as stated in the following statement, "I believe we must bring technology in practice so that we remain aware, and prepared for future uncertainties...," technology should also be used in regular physical classroom settings. Furthermore, I believe that technology use should continue in addition to in-person instruction rather than being discontinued (ECE _C_SB). This is a true statement since technology not only enables us to fulfil the demands of the twenty-first century, but it also allows us to save time and energy. As one participant put it, "We also learned how to deal with technological glitches and how using technology saves time" (ECE_C_SA).

As a result, it is advised that educational institutions improve themselves by developing their own websites and applications. One participant stated, "I believe that schools should start keeping up with technological advancements; each school needs to have a website and app that allow them to run smoothly in situations like these." (SA_ITL).

Teacher Sessions and Professional Training

Educators needed to understand how to use and be well-equipped with contemporary technologies. Facilitating and preparing teachers in this area was also the principal duty of the school administration. As the statement makes clear, "I believe that teachers should receive special training in the field of technology in schools. A teacher ought to be computer literate and have a basic understanding of online learning and teaching. (SA_P). Additionally, resources for instructors to access additional online courses must be provided. According to what was said, "...schools should compel

teachers to enroll in at least two online courses, as this will help them improve their knowledge and skills" (SA_P). As stated, "...but we think there should be sessions conducted in a timely manner in schools for dealing with such situations" (FGDs, SB_T), schools should not only support teachers in face-to-face and online courses, but they should also hold sessions to address situations such as these.

Parent Education

The administration of the school came to the realization that, in order for parents to better support their children's education, they too needed to get training in the field of technology. The main takeaway was that parents' ought to receive training. Parents should also receive training so that they are informed. (ECE_SB_C). Therefore, it is critical that parents be informed about technological advancements as well.

Discussion

During the COVID epidemic, parents and teachers were heavily involved in their children's education to enhance teaching-learning. One of the main strategies for maintaining regular connection with parents and children was the usage of WhatsApp. Parents' main methods of assistance were meeting the prerequisites for online learning (i.e., supplying devices, internet access, and a conducive learning environment). The study also demonstrated parents' concerns about the online learning module. Nonetheless, it was seen that ECE students' use of digital devices fostered a feeling of autonomous learning and self-belief. Early learners may benefit from future development of technology-based learning solutions, as shown by the rather active involvement shown by children in online activities provided by instructors. At addition, several adjustments were implemented at schools to improve the efficacy of the tactics being used; for example, more internet routers were installed, and internet connection capacity was expanded to enable instructors to provide online courses. To enhance learning, online resources including Google Classroom, Kahoot, and quizzes were employed.

During the pandemic, there has been an abrupt increase in the number of active users of Zoom meetings and Google Classroom. According to Robinson (2021), the meetings were utilized 25 times more often than they were in January 2020, demonstrating their capacity to fill the gap left by the epidemic. In addition, this online platform fostered a feeling of community among students in the online classroom. These applications' user-friendly interfaces were originally intended for business pitches and webinars held worldwide. Nevertheless, during the epidemic, they became

vital tools for facilitating communication between schools and parents and children, especially at the ECE level.

The ECE facilitators worked very hard to figure out how to utilize technology in the classroom to engage children and offer lessons that were appropriate for their age-appropriate learning. Although these programs weren't perfect, they did assist parents and instructors in giving students a positive virtual teaching and learning experience overall. In order to effectively execute virtual teaching and enhance kids' engagement and education via these platforms, it was needed to integrate technology with a positive mindset (Mertala, 2020). The majority of participants in the study stated that they had some training and resources, but they were often of a basic type and hence inadequate to handle their urgent needs, regardless of the setting or age group that the ECE leadership team and parents worked with. More support was deemed essential in order for them to be able to develop and implement trustworthy virtual learning processes. The study's findings, however, also suggest that parents, via offering top-notch virtual learning opportunities at home, may significantly assist young children and their teachers (Dayal & Tiko, 2020; Dias et al., 2020; Szente, 2020; Tarrant & Nagasawa, 2020).

Some of the study's leaders also said that having parents involved and having access to technology posed significant barriers to their participation. Due to the lack of access to technology and networks, families in distant areas with lower socioeconomic status have been most affected by the epidemic, pushing their technological expertise to the limit. This restriction made it difficult for the schools to continue offering instruction and learning throughout the epidemic. During the pandemic, online learning required that every family have access to the technology provided by the school. Additionally, children needed to receive a bundle of tools to facilitate online direct instruction with their instructor (Ford et al, 2021).

The study's school leadership team did note, however, that parents' support in aiding their children with their virtual learning settings and experiences was an important but often unfulfilled need. Parents were unable to meet this need for a number of important reasons. The main cause was family socioeconomic differences, which have a big impact on parents' decisions about how much money and time to spend on at-home education for early children (Andrew et al., 2020; Jaeger & Blaabk, 2020). The results of the research indicate that even though parents didn't provide much assistance with online teaching and learning, their involvement was still very important. During the pandemic, it was feasible to maintain ECE children's involvement with learning at a somewhat higher level thanks to assistance from schools and parents (Dereli, et al., 2022).

Above all, the system needs to account for potential future disasters such as floods and health issues related to COVID-19. However, the poor resource affordability of parents and the government's limited ability to handle difficult situations will prevent the widespread implementation of such technologically supported systems in underdeveloped nations. Because of inadequate administration and a faltering educational system, inhabitants of emerging nations have unequal access to education. Regarding how they addressed the learning challenge during COVID, the poor nations' solutions differed significantly from the rich countries' responses. During the COVID-19 era, Pakistan, a poor nation, encountered and continues to confront many obstacles related to teaching and learning. A few of these difficulties include: serious technical problems in isolated locations; inadequate knowledge and comprehension; inadequate early childhood education administration; and inadequate ECE leadership (Reimer, 2021).

Conclusion

How the school leadership team managed education at ECE levels during the pandemic" was the study topic set out to be investigated. With the primary goal of highlighting the difficulties that the ECE leadership team at the school and parents confront, the tactics and adjustments that the team has made, and the impact that these altered tactics have had on the ECE learning experiences. Specifically, the research also looks at the leadership skills that were discovered and acquired while overseeing and directing early childhood education throughout the pandemic. The research also highlighted the beneficial adjustments made by school administration, such as the creation of an attendance portal and a decrease in the curriculum, which had positive effects at the ECE level. The study also highlighted significant issues that require attention, such as the use of technology in traditional classroom settings, parents' dissatisfaction with online learning, the necessity of creating pre-planned disaster management plans, and educating parents and teachers about the digital world to promote preparedness and enhance comprehension at the early childhood education level.

Recommendations

1. The leadership teams in the challenging area were ill-prepared to handle the crisis and carry on learning via technology-based solutions during the pandemic because they paid little attention to the unique development requirements for ECE leadership.
2. To assist future educators and leaders, especially those working at the ECE level, be better equipped to deal with these challenges, specific strategies and appropriate training are needed.
3. Accordingly, future practices and policies need to include pre-service learning programs by considering and creating a range of training techniques and formats necessary for digital learning as suggested by (John & Robbinson, 2020).
4. Furthermore, teacher educators ought to consider augmenting the ability of novice educators and students to handle disruptions by offering seminars, webinars, and programs that foster the social skills and development of young children who have lost over a year of social-emotional development.
5. Additionally, parents need support in order to provide their kids with an effective online learning environment.

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