

# INTERNATIONAL JOURNAL OF DEVELOPMENT IN SOCIAL SCIENCE AND HUMANITIES

e-ISSN:2455-5142; p-ISSN: 2455-7730

Covid 19: Unprecedent Challenge for Educators and Education

System

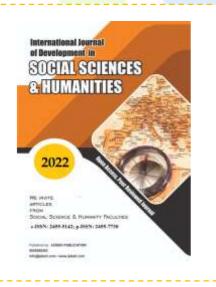
Dr Raksha Gupta

Assistant Professor, B.Ed. Akbarpur Degree College Kanpur Dehat, Uttar Pradesh, India

Paper Received: 08<sup>th</sup> March 2022; Paper Accepted: 30 April 2022; Paper Published: 30<sup>th</sup> June 2022

### How to cite the article:

Gupta R. (2022), Covid 19: Unprecedent Challenge for Educators and Education Systems, IJDSSH, January-June 2022, Vol 13, 106-121



106

### ABSTRACT

The COVID-19 pandemic has significantly impacted the education sector, affecting teachers, students, and parents in various ways. The sudden shift to online teaching and learning has presented numerous challenges and highlighted existing inequalities. Teachers had to quickly learn and adapt to online platforms and tools, often without adequate training or support. Keeping students motivated and engaged in a virtual setting proved challenging, as traditional classroom interactions and activities were no longer possible. Teachers faced increased workloads due to the need to create online lessons, provide individual support, and assess students' progress. Balancing this workload with their own well-being was demanding.

Many students, particularly those from disadvantaged backgrounds, lacked the necessary devices or internet connectivity to participate in online classes effectively. The lack of face-to-face interaction with peers and teachers had an impact on students' social development and overall well-being. Some students faced challenges in adjusting to the new learning format, including time management, self-discipline, and understanding complex concepts without direct guidance. Parents often had to juggle their own work responsibilities while assisting their children with online learning. Limited resources and lack of expertise in certain subjects posed additional challenges. Parents had to fulfill the roles of caregivers, educators, and technology facilitators simultaneously, leading to increased stress and time management challenges. Disparities in access to technology and educational resources among different socio-economic groups resulted in unequal educational opportunities for students.

Addressing these challenges requires a collaborative effort from policymakers, educational institutions, and communities. By Ensuring access to technology and internet connectivity for all students. Providing professional development and support for teachers in online teaching methodologies. Offering mental health support for students and creating virtual platforms for social interaction. Developing inclusive and accessible online learning materials and resources. Implementing alternative assessment methods to fairly evaluate student performance.

The pandemic has highlighted the need for innovative approaches to education and the importance of addressing inequalities to ensure a quality education for all. By identifying and addressing these challenges, we can work towards building a resilient and inclusive education system for the future.

Keywords : Pandemic; Covid19; Online classes; smart phone.

#### **INTRODUCTION**

Education has been recognized as a crucial aspect of human life and societal development since ancient times. The quotes from the Rig Veda and Kautilya highlight the significance of education in fostering selfreliance, selflessness, and love for one's nation. Education indeed holds the power to shape individuals intellectually, mentally, and ethically, preparing them to contribute to various aspects of society. For The examples Nalanda University and the Gurukula system, further emphasize the long-standing value placed on education in Indian culture. Nalanda University, renowned for its advanced teachings in various fields, stood as a symbol of intellectual excellence and attracted scholars from all over the world. The Gurukula system, a traditional form of education. emphasized the relationship between teacher and student, instilling not only knowledge but also values and life skills. Education encompasses a broad spectrum of learning, encompassing academic, moral, social, and practical aspects of life. It equips individuals with the knowledge, skills, and perspectives needed to navigate the complexities of the world. Education contributes to the development of human resources, enabling individuals to contribute to the progress of the economy, politics, technology, and society of their nation.

Furthermore, education is a transformative force that promotes personal growth, fosters critical thinking, and nurtures social cohesion. It empowers individuals to become active participants in their communities, upholding democratic values. and contributing to the overall well-being of society. Education is deeply ingrained in our cultural heritage and continues to play a vital role in shaping individuals and societies. It is a powerful tool that empowers individuals, prepares them for various aspects of life, and contributes to the progress and development of nations.

# Challenges Due to Impact of Covid-19 on Educational Sector

The impact of Covid-19 on the educational sector has presented numerous challenges for students, teachers, and parents. Here are some of the key challenges faced by each group:

# CHALLENGES FOR STUDENTS DUE TO COVID-19

The Covid-19 pandemic has had an unprecedented impact on the educational sector, leading to what can be described as one of the worst scenarios in educational history. Here are some aspects that contribute to this assessment:

108

- Widespread school closures: The pandemic has resulted in prolonged and widespread closures of educational institutions around the world. This disruption in traditional schooling has affected billions of students, causing significant learning loss and social setbacks.
- Learning loss and academic gaps: With the shift to remote learning and the challenges associated with it, many students have experienced learning loss and academic regression. The lack of inperson instruction and reduced access to educational resources and support have widened existing achievement gaps and created new ones.
- Unequal access to remote learning: The transition to remote learning has exposed deep inequalities in access to technology, internet connectivity, and suitable learning environments. Students from disadvantaged backgrounds are disproportionately affected, as they may lack the necessary resources to participate fully in online education, exacerbating existing educational inequities.
- Limited social interaction and wellbeing: The absence of face-to-face interaction and the disruption of daily routines have taken a toll on students'

social and emotional well-being. The isolation, increased screen time, and reduced opportunities for physical activity and socialization have contributed to mental health challenges among students.

- Increased dropout rates: The pandemic has led to an increase in dropout rates as some students have struggled to adapt to remote learning or faced additional responsibilities, such as caring for family members or contributing to household income. The long-term consequences of this trend are concerning, as it could have lasting effects on individuals and society as a whole.
- Disrupted teacher-student dynamics: The shift to online instruction has disrupted the traditional teacher-student dynamics and made it challenging for educators to engage and connect with their students. Building relationships, providing individualized support, and assessing student progress have become more difficult, potentially impacting the quality of education.

Students have faced numerous challenges during the COVID-19 pandemic that have significantly impacted their education. Here are some common challenges experienced by students:

- Limited access to technology and internet: Not all students have access to reliable technology devices or a stable internet connection, making it difficult for them to participate in online classes and access educational resources. This digital divide has resulted in unequal access to learning opportunities.
  - Lack of in-person interaction and socialization: The shift to remote learning has limited students' opportunities for in-person interaction and socialization with their peers. This can lead to feelings of isolation, loneliness, and a lack of the social support that is crucial for their overall development.
  - Reduced engagement and motivation: Some students may struggle with reduced engagement and motivation in the online learning environment. The absence of face-toface interactions, hands-on activities, and a structured classroom environment can make it challenging for students to stay motivated and focused on their studies.
  - Difficulty in understanding and clarifying concepts: Learning remotely can sometimes make it harder for students to grasp complex concepts and seek immediate

clarification from their teachers. Limited interaction and the absence of real-time feedback can hinder their understanding and hinder their academic progress.

- Increased responsibility and selfdiscipline: Remote learning requires students to take increased responsibility for managing their organized, time, staying and maintaining self-discipline. Some students may find it challenging to adapt to the independent nature of online learning and may struggle to establish effective study routines.
- Mental health and well-being: The pandemic has taken a toll on students' mental health and well-being. They may experience increased stress, anxiety, and uncertainty, which can negatively impact their ability to focus on their studies and perform academically.
- Lack of resources and support: Some students may lack the necessary resources, such as textbooks, materials, or a conducive learning environment at home. Additionally, students who relied on school-based support services, such as counseling or special education accommodations,

110

may face challenges in accessing the same level of support remotely.

 Assessment and evaluation challenges: The shift to online assessments and evaluations may present challenges for some students. Adapting to new assessment formats, managing technical difficulties during exams, and demonstrating their knowledge effectively online can be demanding.

There are many challenges faced by the students in his daily life and education so for the study we have sort 8 basic challenges faced by a students and interpretate the perspective of students, parents and teachers on that challenges

 Table 1: The quantitative analysis of perspective of parents, teachers and students towards the problem faced by students during covid period in education. (Values in percentage )

| Challenges faced by students                        | Students | Teachers |    |
|---|----------|----------|----|
| Limited access to technology and internet           | 67       | 58       | 51 |
| Lack of in-person interaction and socialization     | 77       | 68       | 48 |
| Reduced engagement and motivation                   | 48       | 52       | 58 |
| Difficulty in understanding and clarifying concepts | 78       | 69       | 62 |
| Increased responsibility and self-discipline        | 44       | 49       | 53 |
| Mental health and well-being                        | 69       | 81       | 79 |
| Lack of resources and support                       | 42       | 31       | 22 |
| Assessment and evaluation challenges 2              | 56       | 49       | 69 |

For many students Lack of in-person interaction and socialization and Difficulty in understanding and clarifying concepts were the main challenges as for parents Mental health and well-being along with Lack of in-person interaction and socialization were the main challenges.

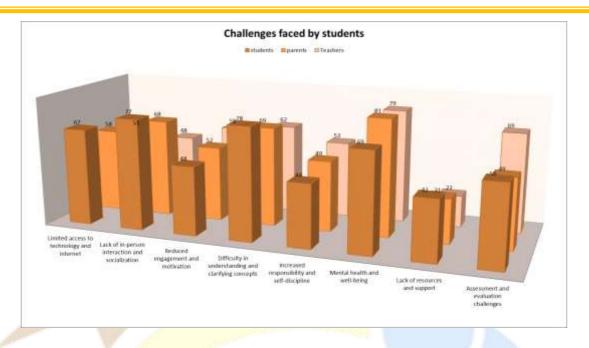


Figure 1: Graphical Representation Of The Perception Of Respondents Over The Provided Challenges In Perspective Of Students

Trends of the perception of respondents over the provided challenges in perspective of students

- Limited access to technology and internet: **Students >Parents >Teachers**
- Lack of in-person interaction and socialization: Students >Parents >Teachers
- **Re**duced engagement and motivation: **Teachers**> **Parents** > **Students**
- Difficulty in understanding and clarifying concepts: Students >Parents >Teachers
- Increased responsibility and self-discipline: Teachers >Parents > Students
- Mental health and well-being: Parents >Teachers> Students
- Lack of resources and support: **Students >Parents > Teachers**
- Assessment and evaluation challenges: Teachers> Students >Parents

 Table 2: the tabulation of the data collected by the respondents for the challenges faced by the students.

| S.N | Respondents | No. of      | MEAN   | S.D.  | C.R. | Degree of    | Value of C.R. at             |
|-----|-------------|-------------|--------|-------|------|--------------|------------------------------|
|     |             | respondents |        |       |      | Freedom (df) | 0.05 level of<br>reliability |
| 1   | Students    | 50          | 104.45 | 15.11 |      |              |                              |
| 2   | Parents     | 50          | 109.85 | 12.18 | 1.87 | (150-3)      | 1.99                         |
|     | Teachers    | 50          | 108.65 | 14.85 |      | =147         |                              |
|     | Total =     | 150         |        |       |      |              |                              |

The application of Critical Ratio test gave C.R. = 1.871 which is less than the table value (1.99) even at 0.05 level of Significance. Therefore there is no significant difference in the perspective of students, parents and Teachers. It is important for educators, schools, and parents to provide support and resources to address these challenges. This can include providing equitable access to technology and internet, offering additional academic support, promoting social connections and emotional well-being, and adapting teaching strategies to accommodate different learning needs. Collaborative efforts to address these challenges can help ensure that students continue to receive a quality education during these unprecedented times.

### CHALLENGES FOR PARENTS

Parents have also faced numerous challenges during the COVID-19 pandemic when it comes to their children's education. Here are some common challenges experienced by parents:

• Balancing work and home responsibilities: With children staying at home for online classes, parents have had to juggle their own work responsibilities with supporting their children's education. This has resulted in increased stress and the need to find a balance between work commitments and assisting with their children's learning.

- Limited knowledge of subjects and teaching methods: Parents may lack expertise in certain subjects or teaching methods, making it challenging for them to effectively support their children's learning at home. This can create difficulties in explaining concepts or providing the necessary guidance for academic tasks.
- Access to resources and technology: Not all families have access to the necessary resources and technology for online learning. Limited access to devices, internet connectivity, or educational materials can hinder parents' ability to facilitate their children's education effectively.
- Managing multiple children with different educational needs: Families with multiple children may face the challenge of managing different grade levels and educational needs simultaneously. Providing individualized support and ensuring each child's learning requirements are met can be demanding for parents.

- Emotional and mental well-being: The pandemic has caused increased stress and anxiety for parents and children alike. Parents may face challenges in supporting their children's emotional well-being and managing their own mental health while navigating the uncertainties of the pandemic and its impact on education.
- Lack of social interaction and peer
   learning: Children's social interactions and peer learning opportunities have been limited due to remote learning.
   Parents may find it challenging to provide alternative avenues for socialization and collaboration, which are important for their children's holistic development.
- Understanding and navigating the online learning environment: Online learning platforms and technologies may be unfamiliar to some parents, making it difficult for them to navigate

and assist their children effectively. Parents may need to invest time and effort in learning about these platforms and understanding how to support their children's online education.

Communication with teachers and schools: Establishing effective communication with teachers and schools has become crucial during the pandemic. Parents may face challenges in staying informed about updates, assignments, and assessments, as well as effectively communicating their concerns or seeking support from educators.

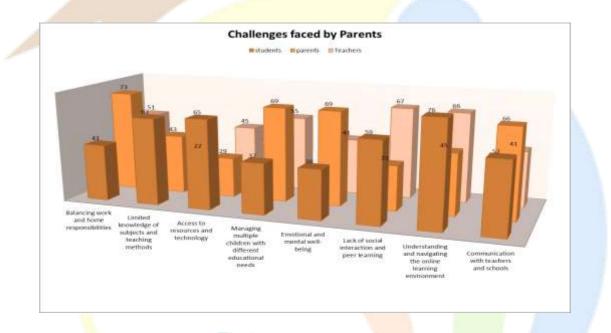
Being a parent during the lockdown the worst case scenario is finance and work office balance along with the health and family management, here also like students we have selected 8 different challenges faced by the parents and interpretate the perspective of students, parents and teachers of Kanpur region.

Table 3: The quantitative analysis of perspective of parents, teachers and students towards the problem faced by Parents during covid period in their child education. (Values in percentage)

| Challenges faced by Parents                                 | Students | Parents | Teachers |  |
|---|----------|---------|----------|--|
| Balancing work and home responsibilities                    | 41       | 73      | 51       |  |
| Limited knowledge of subjects and teaching methods          | 63       | 43      | 22       |  |
| Access to resources and technology                          | 65       | 29      | 45       |  |
| Managing multiple children with different educational needs | 37       | 69      | 55       |  |
| Emotional and mental well-being                             | 36       | 69      | 41       |  |

| Lack of social interaction and peer learning                 | 59 | 33 | 67 |
|--|----|----|----|
| Understanding and navigating the online learning environment | 76 | 45 | 66 |
| Communication with teachers and schools                      | 52 | 66 | 41 |

The main challenges for the parents according to students were Understanding and navigating the online learning environment, Limited knowledge of subjects and teaching methods and Access to resources and technology, while that for Managing multiple children with different educational needs, Emotional and mental well-being and Balancing work and home responsibilities while according to teachers Understanding and navigating the online learning environment and Lack of social interaction and peer learning were the main challenge for parents.



# Figure 2: Graphical Representation Of The Perception Of Respondents Over The Provided Challenges In Perspective Of Parents

Balancing work and home responsibilities: **Parents >Teachers > Students** Limited knowledge of subjects and teaching methods: **Students >Parents >Teachers** Access to resources and technology: **Students > Teachers >Parents** Managing multiple children with different educational needs: **Parents >Teachers> Students** Emotional and mental well-being: **Parents >Teachers >Students** Lack of social interaction and peer learning: **Teachers> Students > Parents** Understanding and navigating the online learning environment: **Students>Teachers >Parents** Communication with teachers and schools: **Parents >Students > Teachers** 

 Table 4: the tabulation of the data collected by the respondants for the challenges faced by the
 Parents.

| S.N | Respondents | No. of      | MEAN   | S.D.  | C.R. | Degree of    | Value of C.R. at             |
|-----|-------------|-------------|--------|-------|------|--------------|------------------------------|
|     |             | respondents |        |       |      | Freedom (df) | 0.05 level of<br>reliability |
| 1   | Students    | 50          | 125.12 | 23.65 |      |              |                              |
| 2   | Parents     | 50          | 142.56 | 22.35 | 2.43 | (150-3)      | 1.99                         |
|     | Teachers    | 50          | 165.33 | 22.65 |      | =147         |                              |
|     | Total =     | 150         |        |       |      |              |                              |

The Critical ratio calculated is 2.43 which is greater than the value of C.R. from table value (1.99) at 0.05 level of reliability. It shows that there exists significant difference in all groups. The expectation of child for parents were too high and the tense environment of the home due to work and home balance were quite offensive, while teaches expectation from parents were needed and well versed.

It is important to acknowledge and support parents in overcoming these challenges. Schools and educational institutions can provide resources, guidance, and regular communication to assist parents in facilitating their children's learning at home. Collaborative efforts between teachers, parents, and schools can help mitigate these challenges and ensure a supportive learning environment for children during these unprecedented times.

### **CHALLENGES FOR THE TEACHERS**

Teachers play a crucial role in the continuation of the teaching-learning process, and their adaptability during the pandemic has been remarkable. They have faced numerous challenges and have had to quickly adjust to the new style of online teaching. Here are some of the challenges teachers have encountered:

- Technological adaptation: Many teachers had to rapidly learn new technologies and online platforms to deliver their lessons effectively. This required acquiring digital skills, troubleshooting technical issues, and finding innovative ways to engage students virtually.
- Redesigning lesson plans: Teachers had to modify their existing lesson plans to suit the online environment. They needed to rethink their instructional strategies, adapt teaching materials, and

create interactive online resources to ensure effective learning.

- Engagement and interaction: Keeping students engaged and fostering interaction in an online setting can be challenging. Teachers had to explore various strategies, such as incorporating interactive tools, group discussions, virtual breakout rooms, and multimedia content to maintain student engagement and participation.
- Individualized support: Providing personalized attention and support to students became more challenging in the online setting. Teachers had to find ways to address individual learning needs, offer feedback, and provide assistance, often through virtual one-on-one sessions or online discussion forums.
- Assessment and feedback: Assessing student learning and providing timely feedback became more complex in the online environment. Teachers had to adapt their assessment methods, design online quizzes or assignments, and develop alternative ways to gauge students' understanding and progress.
- Student well-being and motivation: Teachers have been concerned about the well-being and motivation of their students during these challenging times.

They have played a crucial role in providing emotional support, maintaining a positive classroom environment, and encouraging student engagement and participation.

- Professional development and support: Teachers have sought professional development opportunities to enhance their skills in online teaching methodologies, technology integration, and student engagement. They have relied on virtual training sessions, webinars, and online communities to share experiences and seek support from their peers.
- and evaluating student Assessing The shift online progress: to assessments and evaluations presented new challenges for teachers. Adapting assessment methods, ensuring academic integrity, and providing timely and meaningful feedback to students required adjustments in traditional evaluation practices.

Teachers play a crucial role on holding the education system during the lockdown period, as they act as bridge between parents and students, here we categories 8 challenges faced by many teacher during the pandemic and all 3 category responses on that perspective.

Table 5: The quantitative analysis of perspective of parents, teachers and students towards theproblem faced by teachers during covid period in their Students. (Values in percentage)

| Challenges faced by Teacher               | students | parents | Teachers |  |
|---|----------|---------|----------|--|
| Technological adaptation                  | 33       | 43      | 52       |  |
| Redesigning lesson plans                  | 26       | 56      | 81       |  |
| Engagement and interaction                | 45       | 55      | 41       |  |
| Individualized support                    | 65       | 45      | 78       |  |
| Assessment and feedback                   | 36       | 41      | 74       |  |
| Student well-being and motivation         | 85       | 75      | 89       |  |
| Professional development and support      | 45       | 52      | 69       |  |
| Assessing and evaluating student progress | 74       | 52      | 81       |  |

The main challenges what students were percept for the teachers is Individualized support and Assessing and evaluating student progress, according to parents the main challenges for the teaches were Student well-being and motivation and Redesigning lesson plans, while for teachers himself Student well-being and motivation and Redesigning lesson plans were the most prominsing challenges.

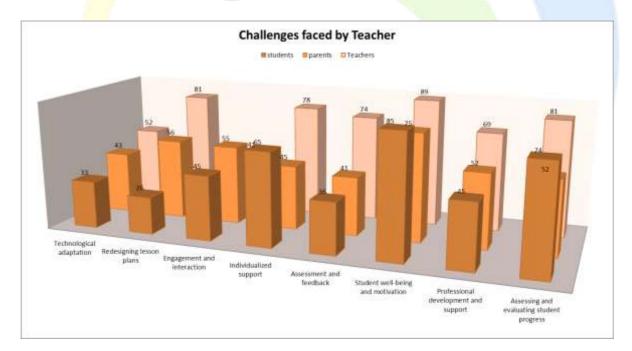


Figure 3: Graphical Representation Of The Perception Of Respondents Over The Provided Challenges In Perspective Of Teachers

Technological adaptation: Teachers>Parents >Students Redesigning lesson plans: Teachers>Parents >Students Engagement and interaction: **Parents > Students > Teachers** Individualized support: Teachers >Students >Parents Assessment and feedback: Teachers>Parents >Students Student well-being and motivation: **Teachers >Students >Parents** Professional development and support: Teachers>Parents >Students Assessing and evaluating student progress: **Teachers** >**Students** >**Parents** 

Table 6: the tabulation of the data collected by the respondants for the challenges faced by the Teachers.

| S.N | Respondents | No. of      | MEAN   | S.D.  | C.R. | Degree of    | Value of C.R. at          |
|-----|-------------|-------------|--------|-------|------|--------------|---------------------------|
|     |             | respondents |        |       |      | Freedom (df) | 0.05 level of reliability |
| 1   | Students    | 50          | 145.36 | 35.63 |      |              |                           |
| 2   | Parents     | 50          | 136.52 | 22.35 | 0.88 | (150-3)      | 1.99                      |
|     | Teachers    | 50          | 139.96 | 34.52 |      | =147         |                           |
|     | Total =     | 150         |        |       |      |              |                           |

The Critical ratio calculated is 0.88 which is less than the value of C.R. from table i.e. 1.99 at 0.05 level of reliability. It shows that there is no significant difference in the opinion within the parent's teachers and students. As we can also concluded that since pandemic a lot of work has been put on the teachers without prior notification, regarding online material generation and examination and evaluation, which create the transparency conflict with the students but the main role of teachers cannot be avoided since they lay a significant role in continuation of the student's education.

#### **RECOMMENDATION** AND **SUGGESTIONS:**

Certainly, keeping children's education on track during the COVID-19 pandemic is crucial.

Establish a routine: Create a daily schedule that includes dedicated time for classes. self-study, online breaks. physical activity, and leisure activities. A consistent routine provides structure and helps children stay focused and motivated.

- Create a conducive learning environment: Set up a designated study area at home that is free from distractions. Ensure that children have access to necessary learning materials, such as textbooks, notebooks, and a reliable internet connection.
- Communicate with teachers: Maintain regular communication with teachers to stay updated on assignments, class schedules, and any additional support available. Address any concerns or challenges your child may be facing to ensure they receive appropriate guidance and assistance.
- Encourage self-directed learning: Foster a sense of curiosity and independent learning in your child. Encourage them to explore topics of interest, read books, engage in online educational resources, and pursue creative projects that align with their passions.
- Monitor screen time: While online learning is essential, it's important to balance it with other activities. Set limits on screen time and encourage children to engage in offline activities such as reading, hobbies, physical exercise, and family interactions.

- Engage in parent-child learning activities: Take an active role in your child's education by engaging in learning activities together. This can include discussions about current events, helping with homework, or exploring educational websites and apps together.
- Prioritize well-being and mental health: The pandemic has brought increased stress and anxiety. Prioritize your child's well-being by creating a supportive and nurturing environment. Encourage regular exercise, healthy eating, and adequate sleep. Be available to listen and provide emotional support when needed.
- Foster social connections: Help children maintain social connections with their peers through virtual platforms, such as video calls or online group activities. Social interaction is crucial for their emotional well-being and can also support collaborative learning experiences.
- Leverage online educational resources: Utilize the abundance of online educational resources available. Many websites, platforms, and educational apps offer interactive lessons, quizzes, and educational games across various subjects and age groups.

 Stay updated with official guidelines: Stay informed about the latest guidelines and recommendations from health authorities and educational institutions. This will help you adapt your strategies and plans accordingly.

Remember, every child is unique, and their learning needs may vary. Be flexible, patient, and supportive during this challenging time. Collaboration between parents, teachers, and students is essential to ensure children's education stays on track and they continue to thrive academically and emotionally.

#### REFERENCES

- 1. Giorgigon marinoni, h. V. (May,2020). The empact of covid19 on higher education around the world may 2020. International association of universities.
- Amin Aftab (june 2020): Education post COVID-19: Challenges and opportunities; face-to-face, online and blended learning pedagogy, <u>https://www.researchgate.net/post/Education-post-COVID-19-Challenges-andopportunities-face-toface-online-and-blended-learningpedagogy</u>
- 3. Saavedra Jaime(march 2020) :Educational challenges and opportunities of the Coronavirus(COVID-19)pandemic,https://blogs.worldbank.org/educatio

n /educationalchallenges-and-opportunities-covid-19-pandemic

- 4. Sahoo Bijaya (march 2020) :COVID-19: Challenges For Education Sector, How They Can Be Overcome, <u>https://odishabytes.com/covid-19-</u> <u>challenges-for-educationsector-how-they-can-be-overcome</u>
- 5. Gopinath, r. (2020, Jun 07). Education. Retrieved from henry harvin: https://www.Henryharvin.Com/blog/thechangingrole-of-a-teacher-post-covid/

- 6. Jena, d. P. (July,2020). Impact of covid19 on education in india. International journal of current research vollum12 issue 7.
- 7. Kundu, p. (2020, May 05). Digital divide. Retrieved from scroll.In: <u>https://scroll.In/article/960939/indianeducation-cant-go-online-only-8-of-homes-with-schoolchildren-have-computer-with-net-link</u>
- 8. Lone, z. A. (2017). Impact of online education in india. International journal of engineering science and computing , 3.
- Saavdra, j. (2020, March 30). Educational challenges and opportunities of corona virus pandemic. Retrieved from world bank organisation.
- 10. Samantaray Pankaj Kumar (june 2020): Covid Challenges to India Education System , <u>https://digitallearning</u>. eletsonline.com/2020/06/covid-challenges-toindiaeducation-system/
- 11. UNICEF (August 2020) : 5 ways to help keep children learning during the COVID-19 pandemic, www.UNICEF.org
- Schmidt, D. A., Baran, E., Thompson, A. D., Mishra, P., Koehler, M. J., & Shin, T. S. (2009). Technological pedagogical content knowledge (TPACK) the development and validation of an assessment instrument for pre-service teachers. Journal of Research on Technology in Education, 42(2), 123–149.
- Kise, J. A. G. (2005). Coaching teachers for change: Using the concepts of psychological type to reframe teacher resistance. Journal of Psychological Type, 65(6), 47–58.
- 14. Collis, D. J. (2004). The paradox of scope: A challenge to the governance of higher education. Competing conceptions of academic governance: Negotiating the perfect storm, 33-76.

121