E-ISSN: 2583-9667 Indexed Journal Peer Reviewed Journal

https://multiresearchjournal.theviews.in



Received: 08-04-2024 Accepted: 20-06-2024

INTERNATIONAL JOURNAL OF ADVANCE RESEARCH IN MULTIDISCIPLINARY

Volume 2; Issue 3; 2024; Page No. 349-362

The role of social work in building educational resilience in the new normal

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DOI: https://doi.org/10.5281/zenodo.13731688

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Abstract

Background: The pandemic has greatly affected education worldwide, and many students do not have access to digital tools as most people live in places like tribal and rural areas in India. Moving from regular school classes to online learning has created significant educational differences and has even affected the right to education. The pandemic has highlighted vulnerabilities and systemic deficiencies within the classical education system, exacerbated by soc-economic disparities, among students from tribal and rural areas compared to urban of Visakhapatnam, Andhra Pradesh, addressing the difficulties and fostering resilience highlights social work intervention in educational settings.

Objectives: The study evaluates and analyses technological strategies to help schools stay strong and considers how social work intervention could help with education that prepares for the future.

Methodology: The researcher randomly selected a sample of 320 respondents. The sample size remains calculated using the formula 'n' student beneficiaries is $n = z2*p \ q /d2$ (n = desired sample size, z = normal standard deviation, <math>p = proportion in target population, d = absolute precision or accuracy).

It remains absolute precision using various statistical methods like ANOVA, exploratory data analysis (EDA), chi-square tests, correlations, and descriptive statistics (mean, standard deviation, box plots, histograms, mean plots and Q-Q plots) were employed to analyse the data. **Findings:** The findings indicate that the rapid pace of technological change in educational institutions near Visakhapatnam, Andhra Pradesh, has created a critical need for bridging traditional and contemporary teaching methodologies, ensuring sustainable and impactful educational innovation and digitization of learning, where social work interventions remain essential in educational settings.

Keywords: Education, social work, sustainable, educational innovation, digitization

1. Introduction

The COVID-19 pandemic has significantly disrupted education worldwide, with 61 countries closing schools by March 2020 (UNESCO, 2020) ^[5]. Schools have adopted diverse strategies to sustain learning worldwide, ranging from online platforms to asynchronous resources, inadequate digital infrastructure and skills remain significant barriers, especially in remote areas (Crawford *et al.*, 2020) ^[3]. In India, the framework of the National Education Policy (NEP) 2020 enhances the quality of education by working with other countries, using technology, and teaching students how to manage their emotions and social interactions, while initiatives remain more focused on moving content online than developing

online pedagogy, highlighting the issues revealing underfunding, and exclusion (Zhong, 2020) ^[6] during such a crisis. The pandemic has changed how education remains provided worldwide, leading to more attention on local areas (Mok *et al.*, 2021) ^[4]. To tackle these issues, actions after the pandemic, like improving infrastructure, changing how we assess learning, and making digital policies more inclusive, are essential (Badi, 2022) ^[2], and a need for social work intervention and cooperative strategy to build strong education systems that handle future challenges (Anzalda, 2022) ^[1].

2. Materials and Methods

a. Relevance of Research: The pandemic crisis has made

the gap between people in India who have internet access and those who do not and made education more unequal and put pressure on the school system, the study examines how a lack of internet access affects students' ability to continue learning and be treated equally. On the contrary, social work intervention help by advocating for equal internet access for everyone, providing emotional support, and ensuring that online classes remain accessible to all students, the research aims to develop strategies that improve education systems during difficult times in Visakhapatnam, Andhra Pradesh.

- b. Purpose of the study: The study examines how technological disruptions in tribal, rural and urban Visakhapatnam affect educational resilience and highlights the need for social work interventions, focuses on evaluating the impact of technological innovations on learning outcomes and how social work can support equitable access, and address barriers to digital education.
- c. Problem statement: The pandemic has deepened educational inequalities in tribal, rural, and urban Visakhapatnam, Andhra Pradesh, with declines in access, enrollment, and achievement. Advances in technology and effective social work support can help individuals tackle challenges and use technology well by establishing robust schools that can manage difficulties. Student enrollment and health issues while fostering creativity and ethical behaviour in students remains crucial.

d. Research objectives

- 1. To analyse statistical variations in the impact of COVID-19 on education across urban, rural, and tribal areas in Visakhapatnam, Andhra Pradesh.
- To develop and evaluate the strategies for enhancing the delivery and effectiveness of social work services in virtual learning contexts, and to formulate implementation plans for integrating these strategies into the educational system of Visakhapatnam, Andhra Pradesh.
- e. Data source: The researcher intends to gather extensive and varied data, focusing on the student population sample as the primary source. Emphasis remains placed on ensuring that the study population comprises real individuals and reliable data, drawing information from diverse sources to facilitate in-depth analysis.
- f. Statistical technique: The researchers used the Chisquare method to test the hypothesis. The sample selection calculated on a sample of 'n' student beneficiaries is n= z2*p q /d2 (n= desired sample size, z= normal standard deviation, p= proportion in target population, d= absolute precision or accuracy). Descriptive statistics, such as frequencies and means, Box plot, Histogram and Q-Q Plot are used to summarize the data. Inferential statistics, including t-tests and ANOVA, EDA, and Correlation analysis is also employed to examine relationships between variables, such as the impact of social work interventions on educational outcomes.

g. Data Analysis

Qualitative Analysis: Thematic analysis is employed to identify recurring themes and patterns in the interview data. The analysis focuses on understanding the role of social work in mitigating educational challenges during the pandemic.

Quantitative Analysis: Statistical analysis is conducted using SPSS software. Descriptive statistics, such as frequencies and means, Box plot, Histogram and Q-Q Plot are used to summarize the data. Inferential statistics, including t-tests and ANOVA, EDA, Chi square are used to explore differences in perceptions based on demographic factors. Correlation analysis is also employed to examine relationships between variables, such as the impact of social work interventions on educational outcomes.

Results

- A. Interview Schedule: Dr. Elizebeth Lucas Afolalu, Founder & CEO YYCI, UK emphasizes embracing change and leveraging technology to advance education amidst challenges like the COVID-19 pandemic. She advocates for promoting collaboration, innovation, and adaptability to create an education system that meets diverse student needs and prepares them for future success. Similarly, Dr. Regunath Parakkal, psychologist and social worker, Kerala, India; underscores the critical role of social work practice in schools, focusing on emotional well-being and creativity as essential tools for overcoming crises. He argues that by consistently advocating for emotional balance and creative thinking, educators can build resilience and support students in managing stress and adapting to the evolving educational landscape.
- **B.** Analysis: The thematic analysis of the interview data study reveals that "Emotional Well-Being" is the most frequently discussed theme, with 7 mentions underscoring its critical role in addressing educational challenges. "Embracing Change" and "Leveraging Technology" are also significant, with 5 and 4 mentions highlighting their roles in enhancing educational practices. "Creativity" was mentioned 3 times, indicating a comparatively lower focus. These findings reflect a strong consensus among the interviewees on the need for emotional support and adaptability in education. This thematic distribution provides valuable insights into the priorities and perspectives of the experts regarding the future of education during and beyond the COVID-19 pandemic.
- C. Group discussions: The group discussions underscore school social workers' potential and essential role in addressing educational challenges during the pandemic. In Bhupeshnagar, 70% of students benefited from peer support and emotional guidance, which a social worker could have facilitated more effectively, highlighting the importance of fostering supportive environments. Similarly, in Seva Nagar, 65% of students gained from flexible learning initiatives, emphasizing the need for social workers to advocate for adaptable educational Additionally, 60% of students experienced improved access to technology and reliable information,

underscoring the crucial role that social workers could play in integrating these resources effectively and supporting students' academic and emotional well-being if they were recruited.

Question

Projects, Assignment forms, and Activities are the most engaging parts of online learning.

Table 1: Projects, Assignment forms, and Activities are the most engaging parts of online learning. Descriptive Statistics

| Question | | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|------|----------------|
| Projects, Assignment forms, and Activities are the most engaging parts of online learning. | 320 | 1 | 3 | 2.32 | .685 |

The statistics indicate that, on average, respondents found projects, assignment forms, and activities to be moderate to highly engaging parts of online learning. The standard deviation of 0.685 suggests moderate variability in the responses.

 Valid
 No
 40
 12.5
 12.5

 Sometimes
 137
 42.8
 55.3

 Yes
 143
 44.7
 100.0

100.0

320

Total

Table 2: Frequency

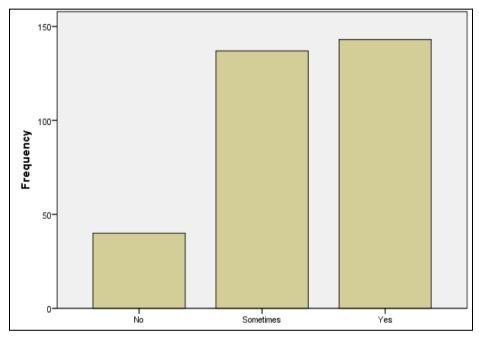


Fig 1: Frequency

Table 3: Projects, assignment forms and activities are the most engaging parts of online learning.

| Variable | Category | No | Sometimes | Yes | Total | |
|----------------------------|-------------|--------|-----------|--------|-------|--|
| | Male | 21 | 54 | 68 | 1.42 | |
| Condon of the respondent | Maie | 14.69% | 37.76% | 47.55% | 143 | |
| Gender of the respondent | Female | 19 | 83 | 75 | 177 | |
| | remaie | 10.73% | 46.89% | 42.37% | 1// | |
| | 15-20 years | 33 | 122 | 104 | 259 | |
| Age of the respondent | 13-20 years | 12.74% | 47.10% | 40.15% | 239 | |
| | 21 20 years | 1 | 2 | 6 | 9 | |
| | 21-30 years | 11.11% | 22.22% | 66.67% | 9 | |
| | 31-40 years | 3 | 3 | 5 | 11 | |
| | 31-40 years | 27.27% | 27.27% | 45.45% | 11 | |
| | 41-50 years | 1 | 6 | 19 | 26 | |
| | | 3.85% | 23.08% | 73.08% | 20 | |
| | 51-60 years | 2 | 4 | 9 | 15 | |
| | 31-00 years | 13.33% | 26.67% | 60.00% | 13 | |
| | Teacher | 3 | 12 | 28 | 43 | |
| | Teacher | 6.98% | 27.91% | 65.12% | 43 | |
| Category of the respondent | Parent | 5 | 2 | 8 | 15 | |
| Category of the respondent | 1 alent | 33.33% | 13.33% | 53.33% | 13 | |
| | Student | 32 | 123 | 107 | 262 | |
| | Student | 12.21% | 46.95% | 40.84% | 202 | |
| Management | Government | 14 | 104 | 65 | 183 | |

| (Type of School or | | 7.65% | 56.83% | 35.52% | |
|----------------------------|---------|--------|--------|--------|------|
| College of the respondent) | Private | 26 | 33 | 78 | 137 |
| | Filvate | 18.98% | 24.09% | 56.93% | 137 |
| | Tribal | 3 | 63 | 10 | 76 |
| | Hibai | 3.95% | 82.89% | 13.16% | 70 |
| Locality (Area of the | Rural | 11 | 8 | 30 | 49 |
| respondent) | | 22.45% | 16.33% | 61.22% | 49 |
| | TT 1 | 26 | 66 | 103 | 195 |
| | Urban | 13.33% | 33.85% | 52.82% | 193 |
| | Total | 40 | 137 | 143 | 320 |
| | Total | 12.50% | 42.81% | 44.69% | 100% |

Table 4: Chi-Square analysis

| Area of the respondent | Value | Df | Asymp. Sig. (2-sided) | | |
|--|---------------------|----|-----------------------|--|--|
| Pearson Chi-Square | 71.438 ^a | 4 | .000 | | |
| Likelihood Ratio | 75.012 | 4 | .000 | | |
| Linear-by-Linear Association | 1.454 | 1 | .228 | | |
| N of Valid Cases | 320 | | | | |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.13. | | | | | |

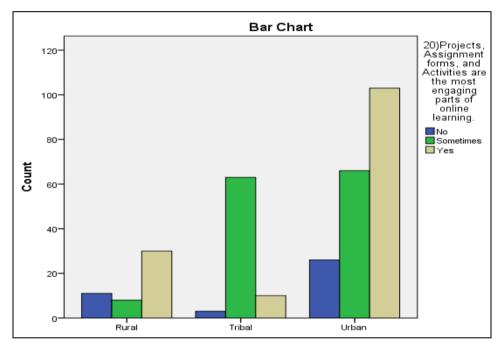


Fig 2: Area of the respondent

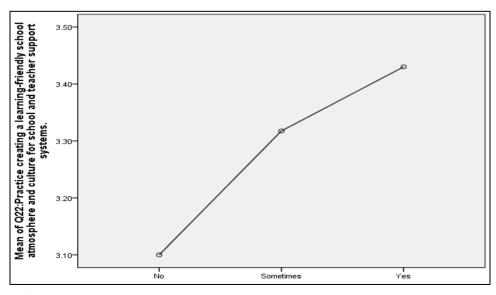


Fig 3: Project, Assignment forms, and Activities are the most engaging parts of online learning

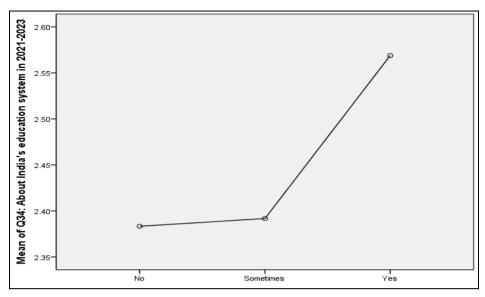


Fig 4: Projects, assignment forms, and activities are the most engaging parts of online learning

Analysis of Table 4: The study reveals that, of the 320 respondents, 143 (44.69%) believed that the most appealing aspects of online learning are projects, assignment forms, and activities, while 137 (42.81%) thought sometimes and 40 (12.50%) replied that they are not. When considering gender, the study discovered that 68 (47.55%) male respondents thought that projects, assignment forms, and activities remained the most exciting aspects of online learning. By contrast, 21 (14.69%) thought they were uninteresting, and 54 (37.76%) thought they were sometimes entertaining. Of the female respondents, 75 (42.37%) thought these elements were the most engaging, 83 (46.89%) thought they were engaging sometimes, and 19 (10.73%) thought they were not engaging at all.

Regarding the age group, 104 (40.15%) of the 259 respondents, those between 15- 20 years old, agreed that projects, assignment forms, and activities are the most engaging aspects of online learning. In comparison, 122 (47.10%) stated that sometimes, and 33 (12.74%) mentioned they were not. 6 (66.67%) of the 9 respondents aged 21-30 declared that projects, assignment forms, and activities remain the most exciting aspects of online learning, while 2 (22.22%) noted sometimes and 1 (11.11%) mentioned that they are not. 5 (45.45%) of the 11 respondents aged 31–40 stated that projects, assignment forms, and activities are the most engaging aspects of online learning, whereas 3 (27.27%) indicated sometimes, and the remaining 3 (27.27%) expressed no. Of the 26 respondents, 19 (73.08%) who were between the ages of 41-50 claimed that projects, assignment forms, and activities are the most engaging aspects of online learning, while 6 (23.08%) thought they are sometimes engaging and 1 (3.85%) felt they are not. Of 15 respondents, ages 51-60, 9 (60.00%) responded that projects, assignment forms, and activities are the most engaging aspects of online learning, while 2 (13.33%) and 4 (26.67%) stated they are not engaging.

Regarding the respondents' category, of the 43 respondents in the teacher category, 28 (65.12%) indicated that projects, assignment forms, and activities remain the most engaging aspects of online learning. In contrast, 12 (27.91%) answered that sometimes, and 3 (6.98%) mentioned that

they were not. 8 (53.33%) of the 15 respondents in the parent group agreed that projects, assignment forms, and activities are the most engaging aspects of online learning. In comparison, 2 (13.33%) expressed they are sometimes, and 5 (33.33%) stated they are not. Of the 262 respondents in the student group, 107 (40.84%) believed that the project assignment forms and activities are the most exciting aspects of online learning. In contrast, 123 (46.95%) thought they were sometimes interesting, and 32 (12.21%) replied they were not.

Regarding management, of the 183 respondents in the category of government schools, 65 (35.52%) respondents stated that the most engaging aspects of online learning are projects, assignment forms, and activities. In contrast, 104 (56.83%) indicated they are sometimes engaging, and 14 (7.65%) believed they are not. Of the 137 respondents in the private school category, 78 (56.93%) stated that the most exciting aspects of online learning are projects, assignment forms, and activities, whereas 33 (24.09%) sometimes and 26 (18.98%) expressed they are not.

Regarding location, 10 (13.16%) of the 76 respondents who fell under the tribal area category agreed that projects, assignment forms, and activities are the most engaging aspects of online learning. In comparison, 63 (82.89%) stated they are sometimes engaging, and 3 (3.95%) answered they are not. Of the 49 respondents who fell into the group of rural areas, 30 (61.22%) acknowledged that projects, assignment forms, and activities are the most engaging aspects of online learning. In contrast, 8 (16.33%) said they are sometimes engaging, and 11 (22.45%) suggested they are not. Of the 195 respondents that fell into the urban area category, 103 (52.82%) declared that the project assignment forms and activities are the most interesting aspects of online learning, whereas 66 (33.85%) stated that sometimes and 26 (13.33%)felt they are not.

Chi-square tests reveal significant associations with several factors. Age (Pearson Chi-Square: 17.059, p=0.030; Likelihood Ratio: 17.102, p=0.029), respondent category (Pearson Chi-Square: 17.732, p=0.001; Likelihood Ratio: 17.210, p=0.002), type of school (Pearson Chi-Square: 35.703, p=0.000; Likelihood Ratio: 36.854, p=0.000), and

area of residence (Pearson Chi-Square: 71.438, p=0.000; Likelihood Ratio: 75.012, p=0.000) all show significant relationships, indicating that these demographic factors influence online learning engagement.

Conclusion: As various respondent groups corroborate,

interactive components like projects and gamification augment engagement in online learning.

Question: Please rate your level of satisfaction with virtual learning.

| Table: | 5: | Descri | otive | Statistics |
|--------|----|--------|-------|------------|
|--------|----|--------|-------|------------|

| Q.no: 7 | | Minimum | Maximum | Mean | Std. Deviation |
|---|-----|---------|---------|------|-----------------------|
| 7A) Teaching through Google meet, Zoom, Microsoft Team and other sources. | 320 | 1 | 5 | 3.66 | .823 |
| 7B) Through video recording by the teacher. | 320 | 1 | 5 | 3.68 | .836 |
| 7C) With an audio recording by the teacher. | 320 | 1 | 5 | 3.30 | .926 |
| 7D) Sharing Online presentations & study materials. | 320 | 1 | 5 | 3.83 | .919 |
| 7E) Written communication through WhatsApp and Telegram. | 320 | 1 | 5 | 3.65 | .880 |

The research study assessed satisfaction levels with virtual learning among 320 respondents, revealing an average satisfaction score of 3.66 for teaching via platforms like Google Meet and Zoom, indicating moderate satisfaction. Video recordings scored slightly higher at 3.68, while audio recordings were less favored at 3.30. Online presentations and study materials received the highest satisfaction score of 3.83. Written communication through platforms such as WhatsApp scored 3.65. The study highlighted the flexibility

and accessibility of virtual learning, noting positives like the ability to join from any location and the convenience of reviewing recordings. However, it also identified challenges such as limited real-time interaction, quality issues, and notification overload. Addressing these challenges and enhancing interaction methods are crucial for improving the virtual learning experience and bridging the gap between online and in-person education.

Table 6: Frequency Table

| | | Frequency | Percent | Cumulative Percent |
|-------|-------|-----------|---------|--------------------|
| | 1.20 | 1 | .3 | .3 |
| | 1.40 | 1 | .3 | .6 |
| | 2.00 | 3 | .9 | 1.6 |
| | 2.20 | 2 | .6 | 2.2 |
| | 2.40 | 9 | 2.8 | 5.0 |
| | 2.60 | 13 | 4.1 | 9.1 |
| | 2.80 | 13 | 4.1 | 13.1 |
| | 3.00 | 23 | 7.2 | 20.3 |
| | 3.20 | 18 | 5.6 | 25.9 |
| Valid | 3.40 | 34 | 10.6 | 36.6 |
| | 3.60 | 22 | 6.9 | 43.4 |
| | 3.80 | 84 | 26.3 | 69.7 |
| | 4.00 | 48 | 15.0 | 84.7 |
| | 4.20 | 18 | 5.6 | 90.3 |
| | 4.40 | 5 | 1.6 | 91.9 |
| | 4.60 | 10 | 3.1 | 95.0 |
| | 4.80 | 6 | 1.9 | 96.9 |
| | 5.00 | 10 | 3.1 | 100.0 |
| | Total | 320 | 100.0 | |

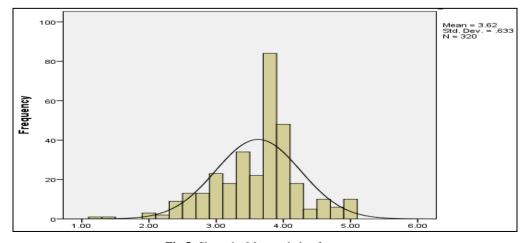


Fig 5: Show the Mean std. dev frequency

Table 7: ANOVA

| | | Sum of Squares | df | Mean Square | F | Sig. |
|--|----------------|----------------|-----|-------------|-------|------|
| | Between Groups | 2.173 | 2 | 1.086 | 2.742 | .066 |
| Q7: Level of satisfaction with virtual learning. | Within Groups | 125.597 | 317 | .396 | | |
| | Total | 127.770 | 319 | | | |

The ANOVA test results indicate that there is no statistically significant difference in satisfaction with virtual learning across different groups, with an F-statistic of 2.742 and a p-value of 0.066. However, gender shows a significant influence on satisfaction (F(1, 282) = 4.714, p = .031), highlighting the need for gender-specific interventions in virtual learning. The analysis also reveals that rural

respondents report significantly lower satisfaction compared to tribal respondents (Mean Difference = -0.2809, p = 0.014), while no significant differences are found between rural and urban or tribal and urban respondents. Other factors and their interactions do not significantly affect satisfaction levels, with the model explaining only a small portion of the variance ($R^2 = 0.152$, Adjusted $R^2 = 0.041$).

Table 8: Level of satisfaction with virtual learning.

| Variable | Category | Highly Dissatisfied | Dissatisfied | Neutral | Satisfied | Highly Satisfied | Total |
|-----------------------|--------------|---------------------|--------------|---------|-----------|------------------|--------|
| | Male | 2 | 8 | 33 | 79 | 21 | 143 |
| Gender of | Male | 1.4% | 5.6% | 23.1% | 55.2% | 14.7% | 143 |
| the respondent | nt Female | 4 | 12 | 53 | 95 | 13 | 177 |
| | remale | 2.3% | 6.8% | 29.9% | 53.7% | 7.3% | |
| | 15-20 years | 6 | 11 | 67 | 147 | 28 | 259 |
| | 13-20 years | 2.3% | 4.2% | 25.9% | 56.8% | 10.8% | 239 |
| | 21-30 years | 0 | 0 | 6 | 3 | 0 | 9 |
| | 21-30 years | 0.0% | 0.0% | 66.7% | 33.3% | 0.0% | 9 |
| Age of | 21 40 210000 | 0 | 0 | 2 | 8 | 1 | 11 |
| the respondent | 31-40 years | 0.0% | 0.0% | 18.2% | 72.7% | 9.1% | 11 |
| | 41.50 xxxxxx | 0 | 6 | 7 | 11 | 2 | 26 |
| | 41-50 years | 0.0% | 23.1% | 26.9% | 42.3% | 7.7% | 20 |
| | 51-60 years | 0 | 3 | 4 | 5 | 3 | 1.5 |
| | | 0.0% | 20.0% | 26.7% | 33.3% | 20.0% | 15 |
| | Teacher | 0 | 6 | 8 | 23 | 6 | 43 |
| | Teacher | 0.0% | 14.0% | 18.6% | 53.5% | 14.0% | 40 |
| Category of | D | 0 | 4 | 6 | 4 | 1 | 15 |
| the respondent | Parent | 0.0% | 26.7% | 40.0% | 26.7% | 6.7% | 15 |
| | Student | 6 | 10 | 72 | 147 | 27 | 262 |
| | | 2.3% | 3.8% | 27.5% | 56.1% | 10.3% | 202 |
| Management | Government | 1 | 7 | 37 | 119 | 19 | 183 |
| (Type of School or | Government | 0.5% | 3.8% | 20.2% | 65.0% | 10.4% | 165 |
| College of the | Private | 5 | 13 | 49 | 55 | 15 | 137 |
| Respondent) | Private | 3.6% | 9.5% | 35.8% | 40.1% | 10.9% | 137 |
| | Tribal | 0 | 2 | 5 | 67 | 2 | 76 |
| I1:4 | Hibai | 0.0% | 2.6% | 6.6% | 88.2% | 2.6% | 70 |
| Locality (Area of the | D1 | 1 | 4 | 18 | 19 | 7 | 49 |
| respondent) | Rural | 2.0% | 8.2% | 36.7% | 38.8% | 14.3% | 49 |
| respondent) | Urban | 5 | 14 | 63 | 88 | 25 | 195 |
| | Orban | 2.6% | 7.2% | 32.3% | 45.1% | 12.8% | |
| | Total | 6 | 20 | 86 | 174 | 34 | 320 |
| | Total (%) | 1.9% | 6.3% | 26.9% | 54.4% | 10.6% | 100.0% |

Table 9: Chi-Square Tests

| Area of the respondent | Value | df | Asymp. Sig. (2-sided) | |
|---|---------|----|-----------------------|--|
| Pearson Chi-Square | 46.922a | 8 | .000 | |
| Likelihood Ratio | 53.285 | 8 | .000 | |
| Linear-by-Linear Association | .646 | 1 | .422 | |
| N of Valid Cases | 320 | | | |
| a 5 cells (33.3%) have expected count less than 5. The minimum expected count is 92 | | | | |

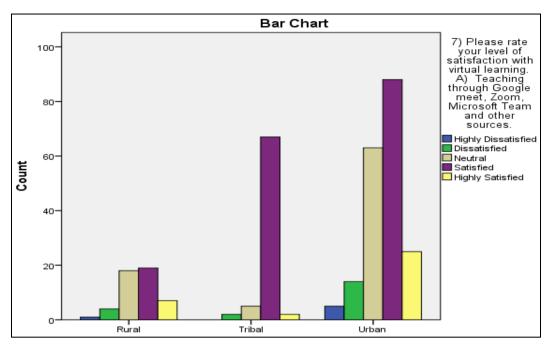


Fig 6: Area of the respondent

Out of 320 respondents, 54.4% were satisfied, 10.6% were highly satisfied with virtual learning platforms, while 26.9% were neutral, indicating mixed feelings. Among parents, 40.0% were neutral, 26.7% were satisfied, and 26.7% were dissatisfied, highlighting room for improvement. Teachers had a similar pattern, with 53.5% satisfied and 14.0% highly satisfied, but 14.0% were dissatisfied. Students showed a majority satisfaction rate, with 56.1% satisfied and 10.3% highly satisfied, while 27.5% were neutral.

Respondents from government institutions had higher satisfaction levels (65.0% satisfied, 10.4% highly satisfied) compared to those from private institutions (40.1% satisfied, 10.9% highly satisfied), where neutral responses were more prevalent (35.8%). By locality, rural respondents were generally satisfied (38.8%), while tribal respondents had an overwhelming satisfaction rate (88.2%). Urban respondents also showed high satisfaction (45.1%) but with notable neutral responses (32.3%).

The Chi-Square test revealed significant associations between satisfaction levels and factors such as age, respondent category, type of institution, and locality, with all p-values below 0.05. The study findings underscore the urgent need for implementing focused interventions to tackle digital disparities and improve the efficacy of remote learning among diverse demographic groups.

Table 10: Statistics

| | | Q7: Level of satisfaction with virtual learning. | | |
|-------------|-------------|--|--|--|
| | ** ** * | | | |
| N | Valid | 320 | | |
| 11 | Missing | 0 | | |
| Mean | | 3.6244 | | |
| M | edian | 3.8000 | | |
| Ske | ewness | 438 | | |
| Std. Error | of Skewness | .136 | | |
| | 25 | 3.2000 | | |
| Percentiles | 50 | 3.8000 | | |
| | 75 | 4.0000 | | |

The high median (3.8) and the mean (3.6244) close to the median suggest that respondents generally have a positive outlook on virtual learning. The slight negative skewness (-0.438) implies that more respondents rated their satisfaction higher than the mean, a positive indicator. The narrow IQR (0.8000) indicates that most satisfaction ratings are clustered around the median, showing consistent satisfaction levels among respondents. Overall, the data shows a generally positive response to virtual learning, with most respondents being moderately to highly satisfied.

Table 11: Exploratory Data Analysis

| Exploratory Data Analysis (EDA): | | | | |
|----------------------------------|-------------------|-------------|--------|--|
| | Mea | 3.6244 | | |
| | 95% Confidence | Lower Bound | 3.5548 | |
| | Interval for Mean | Upper Bound | 3.6940 | |
| | 5% Trimme | ed Mean | 3.6333 | |
| | Media | 3.8000 | | |
| Q7: Level of | Level of Variance | | .401 | |
| satisfaction with | Std. Devi | iation | .63288 | |
| virtual learning. | Minim | 1.20 | | |
| | Maxim | um | 5.00 | |
| | Rang | ge ge | 3.80 | |
| | Interquartil | .80 | | |
| | Skewn | ess | 438 | |
| | Kurto | sis | .835 | |

The data shows that most respondents' satisfaction levels are centered around the mean of 3.6244, with a slightly left-skewed distribution, indicating a small tail on the lower end. The satisfaction levels are relatively consistent, with moderate variability as indicated by the standard deviation.

Table 12: Tests of Normality

| | Kolmogorov-Smirnova | | Shapiro-Wilk | | ⁷ ilk | |
|--|---------------------|-----|--------------|-----------|------------------|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Q7: Level of satisfaction with virtual learning. | .175 | 320 | .000 | .957 | 320 | .000 |

The results of both tests indicated significance values (Sig.) of 0.000, which are less than the typical alpha level of 0.05,

indicating that the satisfaction levels within the data significantly deviate from a normal distribution.

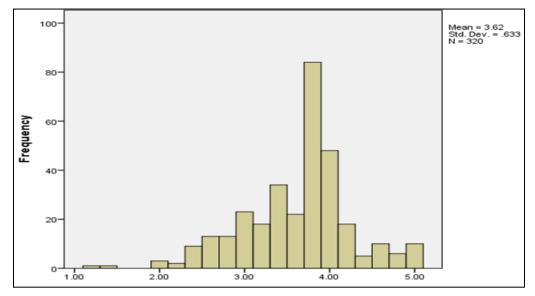


Fig 7: Histogram: Based on respondents level of satisfaction with virtual learning.

The distribution remains positively skewed, with a peak around the satisfaction level of 4. The mean satisfaction level is 3.62, with a standard deviation of 0.833, indicating that most responses are clustered around the mean with some variability. Most respondents rated their satisfaction between 3 and 4, with fewer respondents at the extreme

lower and higher ends. The sample size (N) is 320, providing substantial data for analysis. Figure -8.

Normal Q-Q PLOT: Based on respondents level of satisfaction with virtual learning.

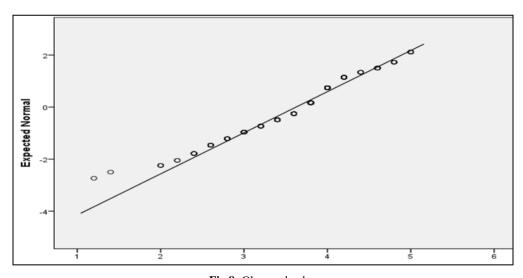


Fig 8: Observed value

The points in the Q-Q plot mainly lie along the reference line, indicating that the distribution of the satisfaction levels is approximately normal. Some deviations from the line are at the lower and upper ends, suggesting minor deviations from normality at the tails of the distribution. The Q-Q plot suggests that the data follows a near-normal distribution,

exhibiting minimal indications of skewness or kurtosis. This examination contributes to a thorough grasp of the data's distribution, drawing the reader into the analysis. Figure -9.

BOX PLOT: Based on Level of satisfaction with virtual learning:

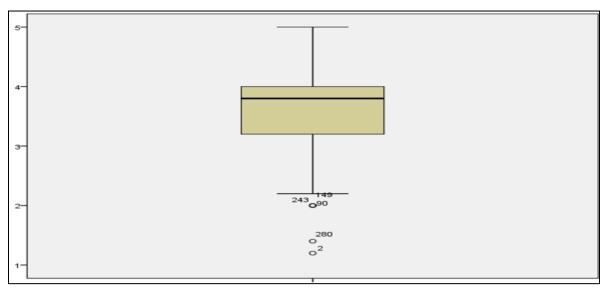


Fig 9: Level of satisfaction with virtual learning

The median satisfaction level, 3, is represented by the central line within the box. The interquartile range, a statistical measure indicating the spread of the middle 50% of response data, extends from approximately 2 to 4. Outliers are observable at both the lower and upper ends of the data, with values around 0 and 5. The overall

distribution indicates that most responses remain centred around moderate satisfaction levels, with fewer responses at the extremes.

Question: Do you think that a single curriculum should be adopted across the nation?

Table 13: A single curriculum should be adopted across the nation

| Variable | Category | No | Neutral | Yes | Total |
|-------------------------------|-------------|--------|---------|--------|--------|
| | Male | 31 | 41 | 71 | 143 |
| Gender of | Iviaic | 21.6% | 28.7% | 49.7% | 143 |
| the respondent | Female | 25 | 68 | 84 | 177 |
| | remaie | 14.1% | 38.4% | 47.5% | 177 |
| | 15-20 years | 47 | 100 | 112 | 259 |
| | 13-20 years | 18.1% | 38.6% | 43.3% | 239 |
| | 21-30 years | 1 | 2 | 6 | 9 |
| | 21-30 years | 11.1% | 22.2% | 66.7% | 9 |
| Age of | 31-40 years | 1 | 2 | 8 | 11 |
| the respondent | 31-40 years | 9.1% | 18.2% | 72.7% | 11 |
| | 41-50 years | 2 | 3 | 21 | 26 |
| | 41-30 years | 7.7% | 11.5% | 80.8% | 20 |
| | 51-60 years | 5 | 2 | 8 | 15 |
| | | 33.3% | 13.3% | 53.4% | 13 |
| | Teacher | 8 | 6 | 29 | 43 |
| | Teacher | 18.6% | 14.0% | 67.4% | 43 |
| Category of | Parent | 2 | 2 | 11 | 15 |
| the respondent | | 13.3% | 13.3% | 73.4% | |
| | Student | 46 | 101 | 115 | 262 |
| | Student | 17.6% | 38.5% | 43.9% | 202 |
| Managamant | Government | 34 | 81 | 68 | 183 |
| Management (Type of School or | Government | 18.58% | 44.26% | 37.16% | 165 |
| College of the respondent) | Private | 22 | 28 | 87 | 137 |
| Conege of the respondent) | Tiivate | 16.06% | 20.44% | 63.50% | 137 |
| | Tribal | 10 | 53 | 13 | 76 |
| Locality | Tilbai | 13.15% | 69.74% | 17.11% | 70 |
| (Area of the | Rural | 14 | 8 | 27 | 49 |
| respondent) | Kurar | 28.57% | 16.33% | 55.10% | 49 |
| respondent) | Urban | 32 | 48 | 115 | 195 |
| | | 16.41% | 24.62% | 58.97% | |
| | Total | 56 | 109 | 155 | 320 |
| | Total (%) | 17.5% | 34.1% | 48.4% | 100.0% |

Table 14: Chi-Square Tests

| Area of the respondent | Value | df | Asymp. Sig. (2-sided) | |
|--|---------------------|----|-----------------------|--|
| Pearson Chi-Square | 62.735 ^a | 4 | .000 | |
| Likelihood Ratio | 62.079 | 4 | .000 | |
| Linear-by-Linear Association | 6.147 | 1 | .013 | |
| N of Valid Cases | 320 | | | |
| a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.58. | | | | |

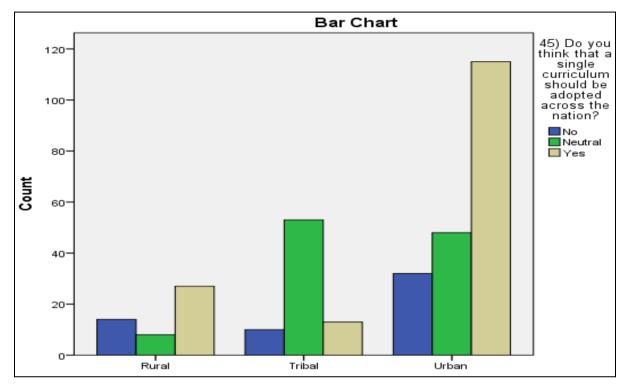


Fig 10: Area of the respondent

The study reveals varied support for a single national curriculum across different demographics. The highest favourability is shown out of 320 respondents aged 31-40 and 41-50 years, with 72.7% and 80.8% supporting it, respectively. Gender-wise, males and females are similarly inclined, with 49.7% of males and 47.5% of females in favour. Parents (73.3%) and teachers (67.4%) exhibit strong support, whereas students are more divided (43.9% in favor). Among institutional respondents, private institutions show the highest support (63.5%), while government institution respondents are more neutral (44.3% neutral). Regional differences are notable: rural (55.1%) and urban (59.0%) respondents show strong support, while tribal respondents are predominantly neutral (69.7%).

These findings indicate significant variation in opinions based on the respondents' area. Rural and urban respondents show higher support for adopting a single curriculum nationwide, with 55.1% and 59.0% in favor, respectively. In contrast, tribal respondents are predominantly neutral, with 69.7% expressing neutrality, indicating less clear support or opposition within the group.

Question: During the pandemic and post - pandemic, students' families and community-based resources had access to school social workers and counsellors

Homogeneous Subsets Category of the respondent

Table 15: Multiple Comparisons

| LSD | | | | | |
|-----------------------------------|-----------------------------------|-----------------------|------------|------|--|
| (I) 3) Category of the respondent | (J) 3) Category of the respondent | Mean Difference (I-J) | Std. Error | Sig. | |
| Parent | Teacher | 1372 | .26234 | .601 | |
| Falent | Student | .0053 | .23226 | .982 | |
| Tr. 1 | Parent | .1372 | .26234 | .601 | |
| Teacher | Student | .1426 | .14394 | .323 | |
| Ctudent | Parent | 0053 | .23226 | .982 | |
| Student | Teacher | 1426 | .14394 | .323 | |

Table 16: Multiple Comparisons

| LSD | | | | |
|------------------------------------|------------------------------------|-------------------------|-------------|--|
| (I) 3) Category of the respondent: | (J) 3) Category of the respondent: | 95% Confidence Interval | | |
| (1) 3) Category of the respondent: | | Lower Bound | Upper Bound | |
| Parent | Teacher | 6536 | .3792 | |
| Parent | Student | 4518 | .4625 | |
| Teacher | Parent | 3792 | .6536 | |
| Teacher | Student | 1408 | .4259 | |
| Student | Parent | 4625 | .4518 | |
| | Teacher | 4259 | .1408 | |

Area of the respondent

Table 17: Multiple Comparisons

| LSD | | | | |
|-------------------------------|-------------------------------|-----------------------|------------|------|
| (I) 5) Area of the respondent | (J) 5) Area of the respondent | Mean Difference (I-J) | Std. Error | Sig. |
| Rural | Tribal | .4498* | .16028 | .005 |
| Kurai | Urban | 2419 | .13980 | .085 |
| Tribal | Rural | 4498* | .16028 | .005 |
| Iribai | Urban | 6917* | .11830 | .000 |
| Linhan | Rural | .2419 | .13980 | .085 |
| Urban | Tribal | .6917* | .11830 | .000 |

Table 18: Multiple Comparisons

| LSD | | | | |
|-------------------------------|-------------------------------------|-------------------------|-------------|--|
| (T) 5) A of the don't | (I) 5) A was of the wassen and such | 95% Confidence Interval | | |
| (I) 5) Area of the respondent | (J) 5) Area of the respondent | Lower Bound | Upper Bound | |
| D 1 | Tribal | .1343 | .7653 | |
| Rural | Urban | 5171 | .0333 | |
| Tribal | Rural | 7653 | 1343 | |
| Tribai | Urban | 9246 | 4588 | |
| Urban | Rural | 0333 | .5171 | |
| | Tribal | .4588 | .9246 | |

^{*}Based on observed means.

The study shows that people's views on having school social workers and counselors differ depending on who they are, like parents, teachers, or students. These differences are usually minor. However, there are more significant differences regarding where people live. People in rural areas say they have more access to these services than those in tribal or urban areas. These findings highlight social workers' role in fixing unequal access to help services. Social workers can improve how well students handle education by ensuring everyone has fair access to

counseling services in different places and pushing for more resources in areas that do not have enough. This way of working can help student's mental health and happiness, especially during tough times or after problems, and help create a more accepting and strong education system.

Question: Agreement with changing teaching and learning environment.

Homogeneous Subsets Category of the respondent

Table 19: Multiple Comparisons

| Multiple Comparisons | | | | | | |
|-----------------------------------|-----------------------------------|-----------------------|------------|------|--|--|
| | LSD | | | | | |
| (I) 3) Category of the respondent | (J) 3) Category of the respondent | Mean Difference (I-J) | Std. Error | Sig. | | |
| Parent | Teacher | 2948 | .15856 | .064 | | |
| Parent | Student | 2190 | .14038 | .120 | | |
| Teacher | Parent | .2948 | .15856 | .064 | | |
| Teacher | Student | .0758 | .08700 | .384 | | |
| Student | Parent | .2190 | .14038 | .120 | | |
| | Teacher | 0758 | .08700 | .384 | | |

^{*}The error term is Mean Square (Error) = .765.

^{*.} The mean difference is significant at the 0.05 level.

Table 20: Multiple Comparisons

| Multiple Comparisons | | | | | | |
|------------------------------------|------------------------------------|--------------------|--------------------|--|--|--|
| | LSD | | | | | |
| (I) 2) Cotogowy of the magney dent | (T) 2) G-4 95% Confidence Interval | | | | | |
| (I) 3) Category of the respondent | (J) 3) Category of the respondent | Lower Bound | Upper Bound | | | |
| ъ. | Teacher | 6069 | .0173 | | | |
| Parent | Student | 4953 | .0573 | | | |
| Teacher | Parent | 0173 | .6069 | | | |
| Teacher | Student | 0954 | .2471 | | | |
| Student | Parent | 0573 | .4953 | | | |
| | Teacher | 2471 | .0954 | | | |

^{*}Based on observed means.

Area of the respondent

Table 21: Multiple Comparisons

| Multiple Comparisons | | | | |
|-------------------------------|-------------------------------|-----------------------|------------|------|
| | LSD | | | |
| (I) 5) Area of the respondent | (J) 5) Area of the respondent | Mean Difference (I-J) | Std. Error | Sig. |
| Drawel | Tribal | 1379 | .09688 | .156 |
| Rural | Urban | 0551 | .08450 | .515 |
| T.::L -1 | Rural | .1379 | .09688 | .156 |
| Tribal | Urban | .0828 | .07150 | .248 |
| Urban | Rural | .0551 | .08450 | .515 |
| Orban | Tribal | 0828 | .07150 | .248 |

Table 22: Multiple Comparisons

| Multiple Comparisons | | | | | |
|--------------------------------|-------------------------------|-------------|-------------|--|--|
| | LSD | | | | |
| (I) 5) A was of the wagnendant | 95% Confidence Interval | | | | |
| (I) 5) Area of the respondent | (J) 5) Area of the respondent | Lower Bound | Upper Bound | | |
| D1 | Tribal | 3286 | .0528 | | |
| Rural | Urban | 2214 | .1112 | | |
| T.:L-1 | Rural | 0528 | .3286 | | |
| Tribal | Urban | 0579 | .2236 | | |
| Urban | Rural | 1112 | .2214 | | |
| | Tribal | 2236 | .0579 | | |

^{*}Based on observed means.

The data analysis shows that Parents, Teachers, and Students have different levels of agreement about changes in the classroom environment. These differences are only sometimes significant enough to be considered necessary. The same is true for different areas like Rural, Tribal, and Urban places, with some comparisons showing nonsignificant differences, showing the need to enhance educational resilience as they highlight diverse needs and perspectives. Social workers can use this information to create unique plans to help different groups of people. They can give personalized support and speak up to solve their unique problems. They can also help schools, families, and communities work together better and make sure that changes in the school setting happen in a way that includes everyone. This method helps create firm and fair school systems that better support all students and teachers when things change.

4. Discussion

The development of virtual programs that consist of

theoretical courses has outshined their practical counterparts and remains addressed. Flexible curricula remain required for virtual education, which also assists needy regions and employs interactive teaching methods and pedagogies. The study observation reveals that the pandemic has affected the ability of marginalized students, mostly in remote areas, to develop social skills and emotional intelligence.

School social workers and counsellors are trained to identify and address psychosocial matters, and significantly assist disadvantaged and rural students, thereby making it necessary for them to be absorbed into the education system providing students with the necessary support and guidance. Teachers trained to detect and deal with psychosocial matters will find referring students to appropriate interventions easier, creating a more supportive learning environment.

Therefore, the research highlights the need for a progressive and inclusive education system in the post-pandemic era and recommends that the Government of Andhra Pradesh consider social worker intervention in school education

^{*} The error term is Mean Square (Error) = .280.

^{*} The error term is Mean Square (Error) = .280.

setups, as their inclusion remains essential in framing an equitable and inclusive education policy in AP education sector, by creating a sustainable, efficient, and progressive education system in the new normal.

5. Conclusion

The study assessed the impact of COVID-19 on students and found significant problems like differences in online learning, increased dropout rates, and reduced social interactions, highlighting the need for investment in digital infrastructure and teacher training to address these issues; social work intervention remains crucial for recommending policy making as they deal with the student community, parents, and the community at large; even with these difficulties, institutions that supported their communities effectively were well-received, and students felt prepared for future remote learning.

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