# SYSTEMIC SOCIAL WORK AND DIGITAL INNOVATION: BUILDING RESILIENT EDUCATION MODELS IN POST-COVID VISAKHAPATNAM

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# ABSTRACT

The COVID-19 pandemic severely disrupted educational access and quality in Visakhapatnam, India, with students in rural and tribal regions disproportionately affected. This study examined the role of applied educational technologies and school social work interventions in restoring resilience in post-pandemic learning environments. Using a mixedmethod approach, data were collected from 320 students across diverse localities and analyzed through ANOVA, chi-square tests, and exploratory data analysis. The study result indicates that although blended learning helped to understand broader instructional access and its impact remains notably diminished among marginalized populations due to challenges in infrastructure and inadequate digital literacy. The study's statistics reveal an important correlation between psycho-social support interventions and enhancements in student motivation with emotional well-being, and sustained learning engagement. Findings indicate that while blended learning expanded instructional access, infrastructural deficits and digital literacy gaps limited its effectiveness among marginalized groups. Teachers who assumed dual roles as counsellors and school social work facilitators remain pivotal in preserving student community motivation and psychological stability. At the same time, initiatives like peer-group counseling, mental health outreach, and coordinated community efforts proved particularly impactful in marginalized regions in Visakhapatnam. The results highlight the need for inclusive educational strategies that integrate psychosocial support to ensure equitable learning outcomes.

**Keywords:** school social work; blended learning; digital divide; educational resilience; school mental health; Visakhapatnam.

#### **INTRODUCTION**

The outbreak of COVID-19 in late 2019, which was confirmed to be a global pandemic by the World Health Organization in early 2020 (Chopup, 2020), triggered a profound transformation in the global education system. Across regions, the abrupt closure of schools and the emergency shift to digital learning platforms exposed systemic inequities, particularly in under-resourced contexts such as Visakhapatnam, India. Tribal, rural, and semiurban students experienced increased challenges with limited digital device access, unreliable internet connection, and poor digital literacy, thus exacerbating the already wide educational gap.

Here, social work functioned as a key vehicle for educational continuity. Gupta and Sharma (2021) noted that school-based social workers occupied a strategic position to enable digital inclusion through ensuring that disadvantaged students had access to and could participate

in online education. At the school level in Visakhapatnam, educators often fulfilling dual roles as teachers and social workers for the community—played a pivotal role in flagging vulnerable learners, providing psycho-social distance learning support, and promoting academic motivation in the face of infrastructure-related challenges. Raj and Singh (2022) also stressed that such psycho-social supports were critical in averting stress, loneliness, and school disengagement among pupils and families due to prolonged closures. the social worker's role extended to advocacy student assistance, Apart from direct and coordination with policymakers to support inclusive education policy. Narayan et al. (2023) emphasized integrating social work with educational governance, allowing for responsive policies responsive to the needs of marginalized groups. Social group work also became a foundation for developing student resilience and peer solidarity. This participatory approach supported emotional recovery and enhanced adaptability and motivation, critical components long-term educational of resilience. The current study examines how implemented technologies and school social work interventions jointly helped in the post-pandemic restoration of educational resilience in Visakhapatnam. Through the analysis of field data from varied demographic areasurban, rural, and tribal-the study examines the dual role of educators as instructional leaders and social support providers. With a mix of digital tools and traditional in-person methods, blended learning models remain used to create an inclusive and adaptable educational experience. The present study aims to shape policies and practices tailored to specific contexts, showing how social work and tech innovation can work together to support fair and sustainable educational recovery in this new normal.

UNESCO (2018) and Heugh (2020) stress the importance of using native languages in education to ensure equity and deeper learning. In Andhra Pradesh, the prioritization of English often sidelines Telugu, reinforcing linguistic inequalities. Social work interventions can support multilingual education, especially in marginalized regions.

Literacy today includes digital adaptability and emotional resilience, especially post-COVID-19 (Ghahramani, 2020; He et al., 2020). In Visakhapatnam, hybrid literacy programs blending offline and digital tools emerged to bridge socio-economic learning gaps.

Blended learning, which combines online tools with traditional methods, became necessary during school closures (Padro, 2021; Refaat, 2021). In Visakhapatnam, local digital content

improved engagement and preserved cultural identity. The NEP (2020) supports such flexible, inclusive models.

Social workers were key during the pandemic, ensuring resource access, supporting families, and sustaining learning (Eaton, 2020; Nana et al., 2020). In rural and tribal areas, teachers also served as social support agents.

Although digital education and school social work have been studied separately, **no research has explored their combined role** in addressing learning disruptions during COVID-19 in regional India. This study bridges that gap by examining how technology and social work jointly support educational resilience in Visakhapatnam's diverse communities.

#### **RESEARCH METHODOLOGY**

#### **Purpose and Scope of the Study**

This research explores how applied technologies and school social work interventions collaboratively restore educational resilience in Visakhapatnam, focusing on digital tools and equitable policy measures to combat pandemic-driven learning disparities.

#### **Research Design**

The research study opted for a mixed-methods approach, combining quantitative and qualitative data to triangulate findings and enhance the validity and depth of the results.

#### **Population and Sampling**

The study, involving 320 participants from diverse urban, rural, and tribal schools in Visakhapatnam, used purposive sampling to ensure representation from marginalized communities impacted by the pandemic.

#### **Research Objectives**

1. To examine the impact of applied technologies on education delivery and continuity from the perspectives of teachers, students, and administrators.

2. To explore the contribution of school social workers in addressing emotional and educational challenges during remote learning, particularly in marginalized regions.

3. To assess the combined effectiveness of technological and social work interventions in enhancing educational equity and system resilience in Visakhapatnam.

#### Hypotheses

**H**<sub>0</sub>: There is no statistically significant variation in the perception of educational challenges faced by students from urban, rural, and tribal regions during the COVID-19 pandemic, regardless of the extent of technology integration.

**H**<sub>1</sub>: There are statistically significant differences in perceived educational challenges among students across urban, rural, and tribal areas, influenced by the level and nature of technology use during the pandemic.

**H**<sub>0</sub>: The combined implementation of school social workers and digital technologies did not improve educational support services during remote learning.

 $H_2$ : Integrating school social workers alongside digital technologies substantially enhanced the delivery and effectiveness of educational support services in the context of virtual learning.

#### **Data Collection:**

The researcher used structured surveys for quantitative data on digital access and learning perceptions, complemented by expert interviews, case studies, and group discussions to explore psychosocial challenges and intervention impacts.

#### **Data Analysis:**

#### Quantitative data analysis includes

Chi-Square: To explore the relationship between demographics and digital access.

ANOVA: To examine regional differences in challenges and outcomes.

**Descriptive Statistics**: To highlight trends in technology use and support services.

Exploratory Data Analysis (EDA): To identify patterns in educational engagement.

The researcher analyzed qualitative data through thematic content analysis, uncovering key themes on psycho-social support, access barriers, and collaboration in education recovery.

#### **Ethical Considerations:**

The research study adhered to ethical standards, ensuring informed consent, confidentiality, and secure data storage, with respondents' rights and privacy fully protected throughout the research process.

#### RESULTS

The study revealed significant regional disparities in educational experiences across urban, rural, and tribal communities in Visakhapatnam during the COVID-19 pandemic. Chi-square analysis highlighted strong associations between geographic context and challenges related to digital access, emotional health, and learning continuity. ANOVA and LSD tests showed that rural students faced dissatisfaction due to unreliable internet and lack of academic support, tribal students experienced physical strain from prolonged screen time, and urban students, despite better infrastructure, suffered emotional stress. School social workers supported motivation, emotional regulation, and academic perseverance across these settings. Exploratory Data Analysis revealed that private school students had more consistent access to digital infrastructure and psychosocial services, while government school students in underserved regions lacked support. Expert interviews ( Dr. Hari Krishna Maram, Chairman of Vision Digital India and Vice Chancellor of Global Digital (USA)University, and International STEM education expert Rania Lampou) and field-level discussions emphasized the need for region-specific, equity-driven interventions. Institutional leaders recognized progress in digital adaptation, but grassroots voices from Bhupeshnagar and Seva Nagar highlighted ongoing educational barriers and emotional challenges, underscoring the absence of school-based social work structures.

**Question -1:** Was there any change in students' daily schedule because of virtual classrooms following the pandemic?

# Table: 1Descriptive Statistics

						95% Confidence Interval for			
N         Mean         State base         State changed due to the Scometimes         Minimum         Maximum           Q:         Student fundesNo         41         20732         64770         10115         18.687         2.2776         1.00         3.00           pandemic in both Verges         226         2.3850         4.8090         0.2313         2.2160         2.4483         1.00         3.00           ways.         0.01         2.0013         52849         0.2954         2.4502         2.4012         1.00         3.00           genetic on the motional Verge         226         2.4252         54.83         0.0542         2.0923         1.00         3.00           state and feelings of Total         320         2.0927         581.33         0.3254         2.0928         2.1566         1.00         3.00           stinetand feelings of Yers         326         1.8767         970.63         1.8767         2.8767         1.8967         1.00         5.00           prolong the motional Verge         2.26         1.888         8735         0.517         2.9540         2.2585         1.00         5.00           prolong the motional Verge         2.26         7.2432         6.94461         1.3946 <t< th=""><th></th><th></th><th></th><th></th><th></th><th>Mean</th><th></th><th></th><th></th></t<>						Mean			
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$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Q:During the pandemicNo	41	3.0976	.92344	.14422	2.8061	3.3890	1.50	5.00
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	and post - pandemic,Sometimes	53	2.9906	.92762	.12742	2.7349	3.2463	1.00	5.00
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	students' families and $Y_{es}$	226	2.5796	.90078	.05992	2.4616	2.6977	1.00	5.00
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	resources had access to								
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	school social workers	320	2.7141	.92947	.05196	2.6118	2.8163	1.00	5.00
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	and counsellors:								
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Q: Stress levels amongNo	41	2.3902	.41805	.06529	2.2583	2.5222	1.22	3.00
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	students andSometimes	53	2.1929	.41123	.05649	2.0795	2.3062	1.22	2.89
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	psychosomatic illnesses Yes	226	2.5177	.45329	.03015	2.4583	2.5771	1.22	3.00
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Total	320	2.4476	.45727	.02556	2.3973	2.4979	1.22	3.00
educational outcomes:         learningSometimes         53         3.6388         57731         .07930         3.4797         3.7979         2.14         5.00           outcomes:         Yes         226         3.8982         .60641         .04034         3.8187         3.9777         1.57         5.00           Total         320         3.8580         .62929         .03518         3.7888         3.9272         1.57         5.00           Q:         COVID-19-relatedNo         41         3.6951         .48577         .07587         3.5418         3.8485         2.75         5.00           evaluation challenges         Sometimes         53         3.4340         .43343         .05954         3.3145         3.5534         2.50         4.50           Yes         226         3.4923         .57368         .03816         3.4171         3.5675         1.00         5.00	O: Strategies to enhanceNo	41	3.9199	.76134	.11890	3.6796	4.1602	2.00	5.00
Ves         226         3.8982         .60641         .04034         3.8187         3.9777         1.57         5.00           Total         320         3.8580         .62929         .03518         3.7888         3.9272         1.57         5.00           Q:         COVID-19-relatedNo         41         3.6951         .48577         .07587         3.5418         3.8485         2.75         5.00           evaluation challenges         Sometimes         53         3.4340         .43343         .05954         3.3145         3.5534         2.50         4.50           Yes         226         3.4923         .57368         .03816         3.4171         3.5675         1.00         5.00	educational learningSometimes	53	3.6388	.57731	.07930	3.4797	3.7979	2.14	5.00
Total         320         3.8580         .62929         .03518         3.7888         3.9272         1.57         5.00           Q:         COVID-19-relatedNo         41         3.6951         .48577         .07587         3.5418         3.8485         2.75         5.00           evaluation challenges         Sometimes         53         3.4340         .43343         .05954         3.3145         3.5534         2.50         4.50           Yes         226         3.4923         .57368         .03816         3.4171         3.5675         1.00         5.00	outcomes: Yes	226	3.8982	.60641	.04034	3.8187	3.9777	1.57	5.00
Q:         COVID-19-relatedNo         41         3.6951         .48577         .07587         3.5418         3.8485         2.75         5.00           evaluation challenges         Sometimes         53         3.4340         .43343         .05954         3.3145         3.5534         2.50         4.50           Yes         226         3.4923         .57368         .03816         3.4171         3.5675         1.00         5.00	Total	320	3.8580	.62929	.03518	3.7888	3.9272	1.57	5.00
evaluation challenges         Sometimes         53         3.4340         .43343         .05954         3.3145         3.5534         2.50         4.50           Yes         226         3.4923         .57368         .03816         3.4171         3.5675         1.00         5.00	Q: COVID-19-relatedNo	41	3.6951	.48577	.07587	3.5418	3.8485	2.75	5.00
Yes 226 3.4923 57368 .03816 3.4171 3.5675 1.00 5.00	evaluation challenges Sometimes	53	3.4340	.43343	.05954	3.3145	3.5534	2.50	4.50
	Yes	226	3.4923	.57368	.03816	3.4171	3.5675	1.00	5.00

	Total	320	3.5086	.54583	.03051	3.4486	3.5686	1.00	5.00
Q:	GovernmentNo	41	3.9085	.84365	.13176	3.6422	4.1748	2.00	5.00
initiatives duringSometimes		53	3.5519	.80168	.11012	3.3309	3.7729	1.75	5.00
pandemic	Yes	226	3.4723	.74166	.04933	3.3751	3.5696	1.00	5.00
	Total	320	3.5414	.77634	.04340	3.4560	3.6268	1.00	5.00
Q:	Students'No	41	2.2988	.49440	.07721	2.1427	2.4548	1.25	3.00
Satisfaction	Sometimes	53	2.0755	.40604	.05577	1.9636	2.1874	1.25	3.00
	Yes	226	2.1704	.41868	.02785	2.1155	2.2252	1.00	3.00
	Total	320	2.1711	.42986	.02403	2.1238	2.2184	1.00	3.00

The study highlights mixed responses post-pandemic, with growing support for digital tools (mean 1.79) and inclusive education (mean 3.81). Strong approval for social work (mean 2.71) and reformed teaching methods (mean 3.86) shows their role in fostering educational recovery and resilience in Visakhapatnam.

# Table: 2

**Frequency Table** 

		Frequency	Percent	Cumulative
				Percent
Valid	No	41	12.8	12.8
	Sometimes	53	16.6	29.4
	Yes	226	70.6	100.0
	Total	320	100.0	

#### Figure:1



## Figure:2





Statistical analysis linked disrupted routines to negative behaviors in virtual classrooms ( $\chi^2 = 13.926$ , p = 0.008), with unequal tech access worsening emotional health ( $\chi^2 = 23.474$ , p = 0.000). The findings highlight the need for systems combining digital access and social work support to boost well-being and resilience.

# Table: 3

Change in students' daily schedule because of virtual classrooms following the pandemic.

Variable	Category	No	Sometimes	Yes	Total	
		20	22	101	143	
	Male	14.0%	15.4%	70.6%		
Gender of the respondent	-	21	31	125	177	
	Female	11.9%	17.5%	70.6%		
	I chiaic					
		21	10	102	2.50	
	15-20 years	34	43	182	259	
		13.1%	16.6%	70.3%		
	21-30 years	0	0	9	9	
		0.0%	0.0%	100.0%		
Age of the respondent	31-40 years	1	5	5	11	
		9%	45.5%	45.5%		
	41-50 years	3	4	19	26	
		11.5%	15.4%	73.1%		
	51-60 years	3	1	11	15	
		20.0%	6.7%	73.3%		
	Teacher	5	8	30	43	
		11.6%	18.6%	69.8%		
Category of the respondent	Parent	3	2	10	15	
category of the respondent		20.0%	13.3%	66.7%		
	Student	33	43	186	262	
	Student	12.60%	16.41%	70.99%		
Management	Government	16	33	134	183	
(Type of School or College of the	Government	8.8%	18.0%	73.2%		
respondent)	Private	25	20	92	137	
	Tiivate	18.2%	14.6%	67.2%		
	Tribal	1	4	71	76	
	Tilbai	1.3%	5.3%	93.4%		
Locality	Rural	9	9	31	49	
(Area of the respondent)	Kurai	18.4%	18.4%	63.2%		
	Urban	31	40	124	195	
	UIUali	15.9%	20.5%	63.6%		
	Total	41	53	226	320	
	Total (%)	12.8%	16.6%	70.6%	100.0%	

## Table: 4

Chi-Square Tests							
Area of the respondent	Value	df	Asymp. Sig. (2-sided)				
Pearson Chi-Square	25.595 <sup>a</sup>	4	.000				
Likelihood Ratio	31.986	4	.000				
Linear-by-Linear Association	2.019	1	.155				
N of Valid Cases	320						
a. 0 cells (0.0%) have expected	count less than 5. T	The minimu	im expected count is 6.28.				



Online learning reshaped routines in Visakhapatnam, with tribal students showing the highest adaptation (93.4%). The findings stress that tech access alone isn't enough, advocating for localized strategies blending digital equity with social work support.

#### Table: 5

**Crosstabulation:** Change in students' daily schedule because of virtual classrooms following the pandemic / Lack of technical capabilities, face-to-face communication, and collaborating with friends has become difficult when learning online.

**Q**) Was there any change in the daily schedule of students because of virtual classrooms following the pandemic? \* **Q** ) Lack of technical capabilities, face-to-face communication, and collaborating with friends has become difficult when learning online.

							-
Crosstabulation	n	<b>Q</b> ) Lack of	technical	capabilit	ties, fa	ce-to-face	Total
		communication,	and colla	borating	with fri	ends has	
		become difficult	when learn	ning onlin	e.		
		Strongly	Disagree	Neutral	Agree	Strongly	
		Disagree				Agree	
<b>Q</b> ) Was there	No	0	6	10	12	13	41
any change in	Sometimes	5	10	14	16	8	53
the daily schedule of students because of virtual classrooms following the pandemic?	Yes	2	12	31	121	60	226
Total		7	28	55	149	81	320

## Table: 6

Chi-Square Tests							
	Value	df	Asymp. Sig. (2-sided)				
Pearson Chi-Square	42.733 <sup>a</sup>	8	.000				
Likelihood Ratio	37.683	8	.000				
Linear-by-Linear Association	9.247	1	.002				
N of Valid Cases	320						
a. 5 cells (33.3%) have expected	count less than 5	. The mini	mum expected count is .90.				

# Figure:8



The shift to online learning disrupted 226 students' routines, with over 56% facing tech barriers. Chi-Square analysis ( $\chi^2 = 42.733$ , p < 0.001) underscores the need for school social work to support students in navigating digital education and maintaining well-being.

# Table: 7

**Crosstabulation:** Post-pandemic changes to the Indian educational system / Integrating social-emotional learning (SEL) into the classroom would be supported and promoted by a school social worker or counsellor

5611001 5	• • • • • • • •		••••					
$\mathbf{Q}$ ) Do you agree that post-pandemic changes to the Indian educational system are necessary? * $\mathbf{Q}$ ) Do you agree that post-pandemic changes to the Indian educational system are necessary?								
that integ	rating so	cial-emot	ional learning	(SEL) into t	he classroom	would be sup	ported and pre-	omoted by a
school social worker or counsellor?								
Crosstab	ulation		<b>Q</b> ) Do you agree that integrating social-emotional learning (SEL) To					
			into the clas	sroom would	be supported	and promoted	by a school	
			social worker or counsellor?					
			Strongly	Disagree	Neutral	Agree	Strongly	
			Disagree				Agree	
<b>Q</b> ) Do	Stron	Count	0	0	1	1	4	6
you	gly	Expec	.1	.3	1.1	3.0	1.4	6.0
agree	Disag	ted						
that	ree	Count						
post-	Disag	Count	0	2	5	4	5	16
pandem	ree	Expec	.4	.8	3.0	8.1	3.9	16.0
10		ted						
changes		Count						
to the	Neutr	Count	2	6	27	82	4	121

Indian	al	Expec	2.6	5.7	22.7	60.9	29.1	121.0
educati		ted						
onal		Count						
system	Agree	Count	3	3	16	51	45	118
are		Expec	2.6	5.5	22.1	59.4	28.4	118.0
necessa		ted						
ry?		Count						
	Stron	Count	2	4	11	23	19	59
	gly	Expec	1.3	2.8	11.1	29.7	14.2	59.0
	Agree	ted						
		Count						
Total		Count	7	15	60	161	77	320
		Expec	7.0	15.0	60.0	161.0	77.0	320.0
		ted						
		Count						



The study highlights the vital role of school social workers in supporting online education, SEL, and student well-being through virtual counseling and resource distribution. Their integration with technology was key in bridging educational gaps in Visakhapatnam's post-pandemic education system.

## Table: 8

**Crosstabulation:** Change in the daily schedule of students because of virtual classrooms following the pandemic / COVID-19 school closures would influence learning differences between girls and boys, students from wealthy and low-income families, and communities with various economic levels post-pandemic.

**Q**) Was there any change in the daily schedule of students because of virtual classrooms following the pandemic? \* **Q**) Do you agree that the COVID-19 school closures would influence learning differences between girls and boys, students from wealthy and low-income families, and communities with various economic levels post-pandemic?

Crosstabulation	<b>Q</b> ) Do you agree that the COVID-19 school	Total
	closures would influence learning differences	
	between girls and boys, students from wealthy	
	and low-income families, and communities with	
	various economic levels post-pandemic?	

			Strongl	Disagre	Neutral	Agree	Strongl	
			у	e			y Agree	
			Disagre					
			e					
<b>Q</b> )	No	Count	2	4	6	15	14	41
Was		Expecte	1.4	3.6	8.6	18.6	8.8	41.0
there		d Count						
any	Sometim	Count	3	11	17	14	8	53
chang	es	Expecte	1.8	4.6	11.1	24.0	11.4	53.0
e in		d Count						
the	Yes	Count	6	13	44	116	47	226
daily		Expecte	7.8	19.8	47.3	102.4	48.7	226.0
sched		d Count						
ule of								
stude								
nts								
becau								
se of								
virtua								
1								
classr								
ooms								
follow								
ing								
the								
pande								
mic?								
Total		Count	11	28	67	145	69	320
		Expecte	11.0	28.0	67.0	145.0	69.0	320.0
		d Count						

# Table: 9

Chi-Square Tests							
	Value	df	Asymp. Sig. (2-sided)				
Pearson Chi-Square	27.432 <sup>a</sup>	8	.001				
Likelihood Ratio	25.218	8	.001				
Linear-by-Linear Association	1.442	1	.230				
N of Valid Cases	320						
a. 4 cells (26.7%) have expected count	t less than 5	. The minim	um expected count is 1.41.				



The study reveals a significant link between disrupted student routines and perceived educational inequality during school closures ( $\chi^2 = 27.432$ , p = 0.001), underscoring the need for context-specific strategies to address diverse student experiences in Visakhapatnam.

# Question -2: Please rate your level of satisfaction with virtual learning.

- A) Teaching through Google meet, Zoom, Microsoft Team and other sources.
- B) Through video recording by the teacher.
- C) With an audio recording by the teacher.
- D) Sharing Online presentations & study materials.
- E) Written communication through Whats App and Telegram.

# Table: 10

### ANOVA

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

ANOVA results show gender-based differences in virtual learning satisfaction (F(1, 282) = 4.714, p = .031), with rural students less satisfied than tribal peers (p = 0.014). With an R<sup>2</sup> of 0.152, the findings highlight the need for gender-sensitive, region-specific social work support.

# Table: 11

#### **Statistics**

		Q) Level of satisfaction with virtual learning.
Ν	Valid	320
	Missing	0
Mean		3.6244
Median		3.8000
Skewness		438
Std. Error of Skewness		.136

50	3.8000
75	4.0000

The data shows strong satisfaction with virtual learning (mean = 3.62, median = 3.8), with a narrow IQR (0.80) and mild negative skew (-0.438), suggesting its potential to reduce educational disparities in Visakhapatnam.

#### Table: 12

EXPLORATORY DAT	EXPLORATORY DATA ANALYSIS (EDA) Statistic							
Q) Level of satisfaction	n withMean	3.6244						
virtual learning.	95% Confidence Interval forLower Bour	nd 3.5548						
	Mean Upper Boun	id 3.6940						
	5% Trimmed Mean	3.6333						
	Median	3.8000						
	Variance	.401						
	Std. Deviation	.63288						
	Minimum	1.20						
	Maximum	5.00						
	Range	3.80						
	Interquartile Range	.80						
	Skewness	438						
	Kurtosis	.835						

The data indicate moderate yet consistent satisfaction with virtual learning (mean = 3.62), with slight left skewness and varied responses, highlighting generally positive but diverse experiences.

# Table: 13Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Q: Level of satisfaction with virtual learning.	.175	320	.000	.957	320	.000

Normality tests (p < 0.001) confirm significant deviation from normal distribution, reflecting uneven satisfaction with virtual learning among Visakhapatnam's student groups.





A mean score of 3.62 (SD = 0.833) indicates generally positive satisfaction with virtual learning among 320 respondents, though slight variations suggest the need for tailored digital and social work support.





The Q–Q plot shows near-normal satisfaction distribution with slight tail deviations, highlighting balanced perceptions and endorsing tech-social work integration to address post-pandemic educational gaps in Visakhapatnam.





Q7: Level of satisfaction with virtual learning

Despite minor outliers, virtual learning satisfaction remained moderate (median = 3, IQR = 2-4), with over 50% endorsing platforms like Google Meet and Zoom. Initiatives like Mana Badi Nadu-Nedu and PM eVidya boosted equity, highlighting the need for stronger digital access, training, and support.

# Question- 3: Strategies to enhance educational learning outcomes: Table: 14

Descriptive Statistics								
Q)	Ν	Minimum	Maximum	Mean	Std.			
					Deviation			
QA) school should have a social	320	2	5	4.21	.873			
worker or counsellor who can								
support, look out for, and advocate								
for the students who matter to our								
community. Do you agree?								
QB) Social workers and school	320	1	5	3.53	.860			
counsellors have been identified as								
alternative educational service								
providers for underprivileged								
students. Do you agree?								
QC) A demand exists for qualified	320	1	5	3.99	.994			
social workers familiar with rural								
areas' unique requirements and								
difficulties working in schools. Do								
you agree?								
QD) Do you agree that the school	320	1	5	3.88	.928			
social worker or counsellor improves								
communication and increases the								
visibility and involvement of parents								
in the student's education?								

QE) Do you agree that integrating social-emotional learning (SEL) into	320	1	5	3.89	.897
the classroom would be supported					
and promoted by a school social					
worker or counsellor?					
QF) Do you agree that the COVID-	320	1	5	3.73	1.007
19 school closures would influence					
learning differences between girls					
and boys, students from wealthy and					
low-income families, and					
communities with various economic					
levels post-pandemic?					
QG) Do you agree post-pandemic	320	1	5	3.78	.884
Indian school closures affect					
students' learning and academic					
progress, particularly those from					
low- and middle-income students?					

Findings highlight the vital role of school social workers in post-pandemic recovery, with strong support (mean = 4.21) for their presence—especially in rural (3.99) and underserved areas (3.53). High ratings for parent engagement (3.88) and social-emotional learning (3.89) further validate their impact on equity and resilience.

	Frequency	Percent	Cumulative Percent
1.57	1	.3	.3
2.00	1	.3	.6
2.14	1	.3	.9
2.43	2	.6	1.6
2.71	3	.9	2.5
2.86	5	1.6	4.1
3.00	30	9.4	13.4
Valid 3.14	18	5.6	19.1
3.29	19	5.9	25.0
3.43	19	5.9	30.9
3.57	17	5.3	36.3
3.71	14	4.4	40.6
3.86	19	5.9	46.6
4.00	31	9.7	56.3
4.14	77	24.1	80.3

# Table: 15Frequency Table

4.29	6	1.9	82.2
4.43	7	2.2	84.4
4.57	8	2.5	86.9
4.71	7	2.2	89.1
4.86	20	6.3	95.3
5.00	15	4.7	100.0
Total	320	100.0	



Table: 16 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Q) Strategies to educational	enhanceBetween learningGroups	12.253	2	6.127	17.025	.000
outcomes:	Within Groups	114.073	317	.360		
	Total	126.326	319			

ANOVA (F = 17.025, p < 0.001) reveals significant regional and gender differences in educational improvement perceptions, with tribal respondents showing more support. The study findings highlight the need for tailored interventions using technology and social work to address disparities.

Table: 17Strategies to enhance educational learning outcomes.

Q	Statement	Strongly	Disagree	Neutral	Agree	Strongly	Total
		Disagree			8- ••	Agree	
	A school should have a social	0	9	68	90	153	
	worker or counsellor who can						
А	support, look out for, and						320
	advocate for the students who	0%	3%	21%	28%	48%	(100%)
	matter to our community. Do						
	you agree?						
В	Social workers and school	5	17	147	105	46	
	counsellors have been identified						320
	as alternative educational service	2%	5%	46%	33%	14%	(100%)
	providers for underprivileged						

	students. Do you agree?						
	A demand exists for qualified	4	17	84	88	127	
С	social workers familiar with rural areas' unique requirements and difficulties working in schools. Do you agree?	1%	5%	26%	28%	40%	320 (100%)
	Do you agree that the school	9	12	70	148	81	
D	social worker or counsellor improves communication and increases the visibility and involvement of parents in the student's education?	3%	4%	22%	46%	25%	320 (100%)
	Do you agree that integrating	7	15	60	161	77	
Е	social-emotional learning (SEL) into the classroom would be supported and promoted by a school social worker or counsellor?	2%	5%	19%	50%	24%	320 (100%)
	Do you agree that the COVID-	11	28	67	145	69	
F	19 school closures would influence learning differences between girls and boys, students from wealthy and low-income families, and communities with various economic levels post- pandemic?	3%	9%	21%	45%	22%	320 (100%)
	Do you agree post-pandemic	5	17	87	146	65	
G	Indian school closures affect students' learning and academic progress, particularly those from low- and middle-income students?	2%	5%	27%	46%	20%	320 (100%)

# Table: 18

# **Chi-Square Tests:**

A) Area of the respondent	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	43.666 <sup>a</sup>	6	.000		
Likelihood Ratio	43.811	6	.000		
Linear-by-Linear Association	.991	1	.320		
N of Valid Cases	320				
a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 1.38.					

B) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	45.547 <sup>a</sup>	8	.000			
Likelihood Ratio	48.075	8	.000			
Linear-by-Linear Association	2.883	1	.090			
N of Valid Cases	320					
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .77.						
C) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	70.311 <sup>a</sup>	8	.000			
Likelihood Ratio	76.602	8	.000			
Linear-by-Linear Association	6.848	1	.009			
N of Valid Cases	320					
a. 5 cells (33.3%) have expected count less than 5. The	minimum (	expect	ed count is .61.			
D) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	60.107 <sup>a</sup>	8	.000			
Likelihood Ratio	63.087	8	.000			
Linear-by-Linear Association	.445	1	.505			
N of Valid Cases	320					
a. 4 cells (26.7%) have expected count less than 5. The	minimum	expect	ed count is 1.38.			
E) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	52.855 <sup>a</sup>	8	.000			
Likelihood Ratio	56.003	8	.000			
Linear-by-Linear Association	1.094	1	.296			
N of Valid Cases	320					
a. 5 cells (33.3%) have expected count less than 5. The	minimum (	expect	ed count is 1.07.			
F) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	61.894 <sup>a</sup>	8	.000			
Likelihood Ratio	63.241	8	.000			
Linear-by-Linear Association	2.073	1	.150			
N of Valid Cases	320					
a. 3 cells (20.0%) have expected count less than 5. The minimum expected count is 1.68.						
G) Area of the respondent	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	62.969 <sup>a</sup>	8	.000			
Likelihood Ratio	69.129	8	.000			
Linear-by-Linear Association	2.237	1	.135			
N of Valid Cases	320					
a. 5 cells (33.3%) have expected count less than 5. The minimum expected count is .77.						





ar Chart

# Figure: 16



Figure: 17













Findings show 76% support for school social workers, particularly for rural and low-income students. Chi-square tests highlight significant demographic links, reinforcing the need to institutionalize social work in post-pandemic education reforms.

#### Table: 19 Statistics

		Q) Strategies to enhance educational learning outcomes:
N	Valid	320
	Missing	0
Mean		3.8580
Median		4.0000
Skewness		210
Std. Error of	Skewness	.136
Percentiles	25	3.3214
	50	4.0000
	75	4.1429

Based on 320 responses, the study shows strong support for post-pandemic education strategies (mean = 3.86, median = 4). With 75% of participants rating interventions 4 or higher, the findings highlight community backing for integrating school social work and technology to address learning gaps in Visakhapatnam.

### Table: 20 Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Q) Strategies to enhance educational learning outcomes:	.129	320	.000	.960	320	.000	

Normality tests revealed significant deviation in responses on learning strategies (Kolmogorov–Smirnov D = .129, p < .001; Shapiro–Wilk W = .960, p < .001), indicating diverse perceptions of tech and social work interventions across the surveyed population.

EXPLORATO	RY	DATA ANALYSIS (EDA):		Statistic
Q) Strategies	to	enhanceMean		3.8580
educational		learning95% Confidence In	terval forLower Bound	3.7888
outcomes:		Mean	Upper Bound	3.9272
		5% Trimmed Mean		3.8636
		Median		4.0000
		Variance		.396
		Std. Deviation		.62929
		Minimum		1.57
		Maximum		5.00
	Range		3.43	
		Interquartile Range		.82
		Skewness		210
		Kurtosis		117

Table: 21

Survey results (M = 3.86; Mdn = 4.00; SD = 0.63) show broad support for educational improvement strategies, with slight variability and a negative skew, highlighting strong community backing for social work and technology-driven solutions to address post-pandemic learning gaps in Visakhapatnam.

# Figure: 22 HISTOGRAM : Based on strategies to enhance educational learning outcomes:



With a mean of 3.86 and SD of 0.629, most respondents expressed strong support for post pandemic educational strategies in Visakhapatnam, centering around a rating of 4.0. The distribution shows broad consensus with minimal extreme ratings.



The Q-Q plot for educational improvement strategies shows near-normal distribution, with slight deviations confirming data credibility. This supports the validity of assessing postpandemic educational practices in Visakhapatnam.





The box plot for educational strategies shows a symmetric distribution with a median of 4.0 and an IQR of 3.5-4.3. Most responses cluster around the mean, with only a few outliers, indicating minimal variation.

#### DISCUSSION

The findings of this study bring to light pronounced disparities in access to and participation in virtual education across the urban, rural, and tribal belts of Visakhapatnam. Tribal communities faced the most acute obstacles, compounded by linguistic diversity, limited health literacy regarding the pandemic, and a glaring lack of digital infrastructure. These factors collectively disrupted the continuity of learning and heightened psychosocial stress among students, educators, and parents during the emergency shift to online modalities.

Persistent technological shortcomings-including patchy internet coverage, electricity interruptions, and the scarcity of trained digital facilitators-further marginalized rural and tribal learners. These observations align with existing scholarship that identifies the digital divide as a key determinant of educational exclusion during crises (Tripti et al., 2014; Singh, 2016).

Crucially, the study reveals that teachers as school social workers, played a stabilizing role by offering psychosocial support, fostering communication between schools and households, and mediating student distress. The absence of such services, particularly in remote areas, was associated with a concerning surge-approximately 50%-in student-reported mental health issues.

These findings highlight an urgent need to embed professional social work practice within the Indian school system. Policy efforts must prioritize the development of a trained cadre of school social workers through accredited institutions, and expand school-linked mental health services, particularly in underserved regions. This recommendation is in step with the guidance of premier public health institutions such as ICMR, NIMHANS, and AIIMS, which advocate for an integrated approach to mental health within education systems.

However, this study is not without its limitations. The absence of a comparative or control group restricts the scope for causal inference. Moreover, the regional specificity of the data may limit generalizability. Future research should consider multi-regional or national-level investigations and employ mixed methods to deepen the understanding of social work's potential in educational recovery.

#### CONCLUSION

#### **Restoring Educational Resilience in Post-Pandemic Visakhapatnam**

The COVID-19 pandemic significantly disrupted education in Visakhapatnam, highlighting the urgent need for inclusive policies that ensure equal access to education across all social and geographic segments. Teachers as school social workers have proven essential in addressing the psychosocial challenges faced by students, especially in rural and tribal areas, by providing mental health support and facilitating student integration into the education system.

This study advocates for the integration of school social workers within the educational framework as a key strategy for creating an equitable, sustainable post-pandemic education system. Their role should extend beyond immediate recovery, contributing to long-term educational resilience and continued student support.

Future research should focus on evaluating the impact of social work interventions on student outcomes and mental health in rural and tribal contexts, and on exploring the potential for scaling these programs across other regions of India.

#### REFERENCE

- Chopup M. COVID-19 pandemic and its rapid escalation into a global crisis: Implications for education. Health Educ Rev. 2020;14(4):207-15. <u>https://doi.org/10.1108/HER-2020-0156</u>
- Eaton EAH. Science in lockdown: The effects of COVID-19 on research and researchers [Internet]. The Royal Society; 2020 May 4 [cited 2025 May 11]. Available from: <u>https://royalsociety.org/blog/2020/05/science-in-lockdown-part-one/</u>
- Ghahramani S. Education: Post COVID-19 [Internet]. 2020 [cited 2025 May 11]. Available from: <u>https://www.logicalresources.com/2020/04/09/education-post-covid-19/</u>
- 4. Gupta R, Sharma P. Digital divide and the role of social workers during COVID-19 in India. J Soc Work Dev Soc. 2021;5(3):234-47. <u>https://doi.org/10.1016/j.jswds.2021.05.003</u>
- Heugh K, Stroud C. Multilingualism in South African education: A Southern Perspective. Curr Issues Lang Plan. 2020;21(5):559-80. Available from: https://books.google.co.in/books?hl=en&lr=&id=DIHCDwAAQBAJ&pg=PA216
- He G, Pan Y, Tanaka T. The short-term impacts of COVID-19 lockdown on urban air pollution in China. Nat Sustain. 2020;3(12):1005–11. <u>https://doi.org/10.1038/s41893-020-0581-y</u>
- Nana OB, Jennifer TH, Juliet K. Beyond Agenda 2030: Future-oriented mechanisms in localizing the sustainable development goals (SDGs). Sustainability. 2020;12(23):9797. <u>https://doi.org/10.3390/su12239797</u>

- Narayan P, Singh M, Rao R. Social work and policy advocacy during the COVID-19 pandemic: A case study from India. Int Soc Work Rev. 2023;22(1):45-60. <u>https://doi.org/10.1177/0020872823118974</u>
- Padro A. Further education colleges have a vital role to play in rebuilding the economy after COVID and Brexit [Internet]. Building Design; 2021 [cited 2025 May 11]. Available from: <u>https://www.bdonline.co.uk/briefing/further-education-colleges-have-avital-role-to-play-inrebuilding-the-economy-after-covid-andbrexit/5110524.article
  </u>
- Raj S, Singh A. Psychosocial support provided by social workers in the transition to remote learning during the COVID-19 pandemic. J Educ Psychol Stud. 2022;29(2):112-26. <u>https://doi.org/10.1080/02615479.2022.1998650</u>
- 11. Refaat G. How did the COVID-19 pandemic affect higher education learning experience? [Internet]. 2021 [cited 2025 May 11]. Available from: [URL not provided]
- 12. Tripti K, et al. Report of ICMR–MRC Mental Health Scoping Workshop on Aetiology and Life-Course of Substance Misuse and Relationship with Mental Illness [Internet]. UK Science and Innovation Network; 2014 Feb 26–28 [cited 2025 May 11]. Available from: <u>https://www.icmr.gov.in/icmrobject/static/icmr/dist/images/pdf/reports/ICMR-MRC\_Report\_Final\_PDF.pdf</u>
- 13. UNESCO. Mother tongue-based multilingual education: Towards sustainable development. Paris: UNESCO Publishing; 2018.
- 14. Singh R. Report of the Brainstorming on Prioritization of Mental Health Research [Internet]. Indian Council of Medical Research; 2016 May 12 [cited 2025 May 11]. Available from:

https://www.icmr.gov.in/icmrobject/custom\_data/1720337652\_report\_brainstorming.pdf