Relationship of Students' Academic Achievement Related Issues with Certain Demographic Variables during COVID-19 Pandemic

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Abstract

This research was intended to explore the relationship of students' academic engagement related issues with gender, residential background and types of educational institutions during COVID-19 pandemic. The descriptive survey method was used to achieve the objectives of research. A total of 134 parents of students studying in the upper primary levels of schools were participated to fill a self-constructed questionnaire on children's daily activities during pandemic. The data was analyzed using frequencies, percentages, and Pearson's chi-square statistics. The result reveals that 33.6% of the students couldn't be engaged academically; one-third students couldn't be connected with the schools for receiving home assignments; 29% of the parents admitted that their children found difficulties in accomplishing assignments through the ICT gadgets; one-fourth of the parents couldn't be rescheduled the time-table for their children; one-third of the parents couldn't be able to installed any educational app for their children; 80% rural students couldn't be engaged in academic activities.

Keywords: Academic Engagement Related Issues, Upper Primary, Online Learning, COVID-19 Pandemic, Residential Background

1. Introduction

COVID-19 pandemic has been the most growing concern, attracting the attention and researching area in each and every field of study since the last two years because, in some way, it has influenced all human beings globally. The elongated closure of many institutions caused by this pandemic— that we have witnessed since the latter half of March, 2020 (UNESCO, 2021; UNICEF, 2021) till the second half of the year 2021— have disrupted almost all the activities of people across the world and education has no exception (ECLAC, 2020; Gordon & Burgess, 2020; Schleicher, 2020; UN, 2020; Ribeiro et al., 2021). The extended closure of schools, enforced to avoid the spread of virus (UNESCO, 2020b) among the children, in many countries (Ribeiro et al., 2021) has pushed up the marginalized, disadvantaged & vulnerable groups (UN, 2020) and lower socio-economic class of the society towards more risk (Schleicher, 2020) and affected them the most thereby widening the gap and disparities (UN, 2020). According to UNESCO (2020a) "over 1.5 billion learners – 91% of the world's school population – were affected at the peak of the crisis". It created the threat to "learning loss, disengagement and dropout" of the student community (UNESCO, 2020b). Their progress is stagnated and they are likely to be lagging behind. Consequently, it increased the responsibilities of families and thereby their importance (Bonal and Gonzalez, 2020). During this period, day to day activities of many families; pre and after school activities of their children suffered a lot, especially students whose

routine in the pre-COVID era was well defined and they were supposed to go to the schools or play or picnic or meet the friends and free to wander at their will, but amid pandemic they were restricted within the four walls of the house; not to interact with peers and thus got confused (UNICEF, 2020); all these restrictions were against the human nature and tendency. As a result of this, children's physical (ECLAC, 2020), social, emotional and mental (Carvalho et. al., 2020) developments including socialization (UNICEF, 2020) get hampered (OECD, 2020; UNICEF, 2021). Initially, they were irritated and most of the time they had nothing to do. From these perspectives, the researchers of the study too, as a parent, empathize with the children's feelings, mentality and problems. This propelled the researchers to undergo a study and find out what other families and parents do perceive regarding their children's activities during the extended closure of schools?

At the onset of the pandemic, the schools were unable to develop the teaching strategies (Bonal and Gonzalez, 2020) but, later on, to maintain the continuity in teaching-learning process (ECLAC, 2020), and in compliance with the directions of many governments (Carvalho et. al., 2020), online teaching or remote/ distance learning was commenced (ECLAC, 2020) and this compelled the education community to learn new technologies and remote teaching-learning skills (Bhamani et al. 2020; Coman, et al. 2020; Dhawan, 2020; Garbe, et al. 2020; OECD, 2020; UNESCO, 2020b). Now, though the entire world including educational institutions are recovering from COVID-19 impact (Schleicher, 2020) and trying to resume in a phased manner; but its deep impact may likely leave marks. By this, the entire world is ready to enter into the new era and renew the practices. Subsequently, some innovative approaches have been witnessed (UN, 2020).

1.1. Objectives of the study

The study has been focused on the following objectives:
  (1) To study the Upper Primary Students' Academic Engagement related issues during Extended Closure of Schools in Pandemic.
  (2) To study the Parents' Role in Upper Primary Students' Academic Engagement related issues during Extended Closure of Schools in Pandemic.
  (3) To find the Association of Upper Primary Students' Academic Engagement related issues with Gender, Residential Background and Types of Educational Institution during Extended Closure of Schools in Pandemic.

1.2. Hypothesis of the study

For objectives (1) and (2), no hypotheses were required to formulate, however a hypothesis was formulated to meet the third objective of the study which is: "There will be no significant association of Upper Primary Students' Academic Engagement related issues with Gender, Residential Background and Types of Educational Institution during Extended Closure of Schools in Pandemic".

2. Review of Related Literature

The COVID-19 Pandemic has a longitudinal, exhaustive and deep impact on every sect of society and education too. The closure of schools reduces the learning opportunities, social interaction (UN, 2020) and thereby learning too (Bagley, 2021) for the children but compelled the parents to be involved more hence, strengthened their relationship with children (UNICEF, 2020). Parental involvement in children's academic engagement at home enhances academic achievement (Bonal and Gonzalez, 2020). Academic support provided by the school administrations even though facing some problems and issues during the extended closure of schools. Parents reported difficulties in carrying out their children's academic activities (Garbe et

al. 2020). Parents with low academic qualifications were relatively more supported and monitored the boys' school related activities during the closure of public schools (Ribeiro et al., 2021). Eva, Jian & Kerry (2021) revealed that the amount of assignments given by the teachers was related to parents' satisfaction. This was positive for the students who have ICT competency.

Findings of the report of UNICEF (2021) shows that besides teachers were engaged in teaching learning activities through online, most of the parents thought students' learning has been reduced during the extended closure of schools. The major concern in online teaching-learning is the lack of student teacher live interaction. About 42% of the Primary school children were not in contact with their teachers at all. Majority of parents (45%) spent more time assisting the children in academic activities as compared to their pre-COVID engagement. Almost 63% of the primary school students used ICT enabled tools for their online learning followed by Whatsapp 47% and textbooks 46%. The major issues and challenges that all families faced during the closure of schools were affordability and connectivity to online teaching learning resources. More than one third of Parents (37%) pointed out the data affordability; while 31% of them mentioned device affordability; and 27% of them reported poor network connectivity as the key issues and challenges during online teaching learning activities. Most of the primary school students (73%) had no awareness regarding online teaching-learning resources whereas around 62% Students of urban locality and 57% of rural locality used them (UNICEF, 2021). Findings of UNICEF (2021) also revealed that, almost 70% of elementary school teachers; 62% of teachers from rural schools and 72% of teachers from urban schools felt that students were lagging behind in their overall achievement as compared to the pre-COVID situation. Also, according to this report, many parents wanted their children to be supported with textbooks and other printed materials. The study suggests that ICT challenges should be minimized for students as well as for teachers by subsidizing the cost of data and devices. It also suggests compensating the loss of learning experiences of children during the extended closure of schools; and to explore the strategies for enhancing the effectiveness of ICT tools and these practices should be continued in the schools after post-COVID era.

Findings of the study of Gordon and Burgess (2020) showed that 67% of parents/ guardians mentioned that their children had no contact at all with their teachers. Winthrop (2020) reported an increased parental involvement in children's academic activities during the extended lockdown. This engagement was related to school-family relationships and students' achievement. The lowest level of parental engagement was to ask about the children's academic work. Allo (2020) explored that students had a favourable attitude and perception towards online learning.

Huang et al. (2020) suggested seven key components that may lay the foundation for online teaching-learning in such a type of pandemic. These components are "managing and developing internet infrastructure in order to avoid interruptions, especially during video-conferences; using friendly tools that help students assimilate and understand information; providing reliable, interactive and diverse electronic resources; using social networks to build online communities for students to reduce the students' feelings of isolation; using various effective techniques such as debates, or learning based on discovery and experience; providing services that help students and teachers learn about the latest policies adopted by universities and the government, and encouraging collaboration between these institutions".

The findings of research of Bonal and Gonzalez (2020) showed that learning opportunities, access to ICT gadgets, time spending in academic work at home, family support and engagement in activities differed depending on the 'type of schools' 'family size', families' educational background, children's age level and 'Socio-economic-status' of the family. Further, the study reported that families with low SES participated in more activities. Watching educational programme on Television and Playing video games was the most common activity: 52% of families with low-qualification and 30% of families with a higher-qualification reported that their children were engaged in watching TVs and in performing educational activities through ICT every day; whereas 37% of families with low-qualification and 21.5% of families with a higher-

qualification said that their children engaged in playing video games every day or several times a week. Lower-income families were more reliant on outside resources to support their children's learning activities, whereas higher-income families were more confidence in their own capacities to meet their children's educational demands. High educated families had an average of 3.3 after-school activities as compared to average 1.5 activities for those with low educated. Sports, foreign languages, and artistic hobbies were the most popular after-school activities. Students from low socio-economic-status were more likely to participate in athletics and compensatory education activities, whereas children from high socio-economic-status were more likely to learn a foreign language and music as after-school activities. Furthermore, parents with lower educational qualifications were less likely to support in after-school activities (such as sports and creative activities) than parents with higher educational qualifications. Because of the difficulties in managing costs during the crisis, families with low SES were more likely to terminate after-school activities voluntarily.

3. Methodology of the study

The mixed Descriptive survey method was used for this study. Students studying in Upper Primary levels of schools in north India constituted the population and the sample comprised 134 students of them. Random sampling technique was used to select the sample. Researchers' self-constructed questionnaire (Google Form) was administered to the parents for obtaining the data. The tool comprises 24 closed-ended items relevant to Academic Engagement related issues during Extended Closure of Schools due to COVID-19 Pandemic. These items were spread over three aspects namely; Parents' Perception, Parents' Role and Children's Academic Engagement. The link of the finally developed questionnaire in Google Form was shared through the emails and whatsapp contacts to the parents connected with the researchers and other persons whose children were studying in Upper Primary classes. Statistical techniques included Frequencies, percentages and Pearson's chi-square employed for analysis and interpretation of the collected data.

4. Result and Discussion

Researchers analysed the data obtained by using frequency, percentage, and Pearson's chi-square. The objective-by-objective results, analysis and discussion are given in the tables below:

The first objective of the study was to look into upper primary students' academic engagement related issues amid extended school closures during the pandemic. Items connected to Students' Academic Engagement related issues were examined using frequencies and percentages to achieve this goal. The following are the item-by-item responses and their analysis:

Item # 12. The child has been engaged full time and navigated the smart-phones independently to view / listen educational stories / rhymes / cartoons etc.

Overall, 134 parents gave the responses to this item, out of these 30 parents (i.e. 22.4%) responded to 'Yes' while 45 parents (i.e. 33.6%) replied to 'No' and 59 (i.e. 44.0%) replied to 'somewhat'. It means that almost one third of the parents replied that their children couldn't be engaged in academic work through smart-phones during the extended closure of schools. This might be due to having lack of ICT gadgets like computers or smart-phones.

Item # 14. Assignment(s) has / have been given by school / madarsa to the child for accomplishing the syllabus during the extended closure of schools due to COVID-19 pandemic.

In all, 134 parents gave the responses to this item, out of these 84 parents (i.e. 62.7%) responded to 'Yes' while 50 parents (i.e. 37.3%) replied to 'No'. It indicates that most of the parents confirmed that assignments

were given to their children in order to complete the syllabi during the closure of schools. Similar findings of the study of Bonal and Gonzalez (2020) revealed that 28.3% of the school children were not given any homework.

Item # 16. The child has taken the help of ICT / Computer/ Smartphone to accomplish the assignments.

In reply to this item, 133 parents gave the responses, out of these 70 parents (i.e. 52.6%) responded to 'Yes' while 36 parents (i.e. 27.1%) replied to 'No' and 27 (i.e. 20.3%) replied to 'somewhat'. It indicates that more than half of the parents admitted that their children took the help of ICT gadgets in doing academic work through computers or smart-phones during the extended closure of schools due to pandemic. It is also evident from the finding of the ECLAC (2020) that prior to COVID students had been using ICT for completing their school assignments. But, more support from families was expected for younger children (Bonal and Gonzalez, 2020).

Item # 17. The child finds difficulties to accomplish the assignments with the help of ICT / Computer/ Smartphone.

In response to the above item, 134 parents gave the responses, out of these 39 parents (i.e. 29.1%) responded to 'Yes' while 60 parents (i.e. 44.8%) replied to 'No' and 35 (i.e. 26.1%) replied to 'somewhat'. This shows that the majority (almost 45%) of the parents denied that their children found any difficulty in accomplishing assignments. While 29% of them accepted, their children found some difficulty in accomplishing assignments with the help of ICT during the pandemic. This shows that either children did not communicate their problems to their parents or parents are unable to resolve their problems especially those related to digital literacy (UN, 2020) and application of ICT. Also, it highlights the urge to initiate the support programmes for younger children as adopted by some countries (Schleicher, 2020).

The second objective of the study was, **"**to study the Parents' Role in Upper Primary Students' Academic Engagement related issues during Extended Closure of Schools in Pandemic".

Item # 13. The child has been engaged full time in smart-phones under the supervision of parents/ elder members of the family to seek guidance in navigating educational story / rhymes / cartoons etc.

In reply to this item, 134 parents gave the responses, out of these 32 parents (i.e. 23.9%) responded to 'Yes' while 44 parents (i.e. 32.8%) replied to 'No' and 58 (i.e. 43.3%) replied to 'somewhat'. It indicates that almost one third of the parents denied that their children engaged in smart-phones in their supervision for doing academic work during the extended closure while near about one fourth of them accepted it. This might be due to lesser access of primary students to ICT gadgets as compared to higher level of education (ECLAC, 2020). Also, parents' involvement in children's academic activities was significantly related with their levels of educational qualifications (Bonal and Gonzalez, 2020).

Item # 20. As a Parent/ Grand-Parent/ Sibling/ Relative, I rescheduled the time-table for the child to balance the routine activities.

In reply to this item, 134 parents gave the responses, out of these 102 parents (i.e. 76.1%) responded to 'Yes' while 32 parents (i.e. 23.9%) replied to 'No'. It reveals that more than three fourth of the parents had rescheduled the time-table for their children to balance the routine activities during the extended closure while almost one fourth of them were unable to do so. The probable reason behind this is that most of the parents devoted their time in the house to perform the household chores. Increased parental support and involvement was found to be crucial for enhancing achievement especially in younger children (UN, 2020; Winthrop,

2020).

Item # 22. As a Parent/ Grand-Parent/ Sibling/ Relative, I installed an Interactive / Educational App on my smart-phone/ computer for her/ him.

In response to the above item, 134 parents gave the responses, out of these 91 parents (i.e. 67.9%) responded to 'Yes' while 43 parents (i.e. 32.1%) replied to 'No'. It reveals that more than two third of the parents install an educational app on their device for children while almost one third of them were unable to do so. Whereas, in the pre-pandemic era, the number of families who had educational software were less than those who possessed it (ECLAC, 2020). It shows the highest concern of parents that during the pandemic the use of educational apps and software has increased remarkably. The lowest level of parents' concern in children's school related activities was asking them about their work (Winthrop, 2020).

The third objective of the study was, "to find the Association of Upper Primary Students' Academic Engagement related issues with Gender, Residential Background and Types of Educational Institution during Extended Closure of Schools in Pandemic". The concerned Null Hypothesis (H0) to this objective was, "There will be no significant association of *Upper Primary Students' Academic Engagement related issues* with Gender, Residential Background and Types of Educational Institution during Extended Closure of *Schools in Pandemic"*. This H0 further divided into three H0 to test the Association of Students' Academic Engagement related issues with Gender, Residential Background and Types of Institution during Extended Closure of Schools in Pandemic. Therefore, the three H0 are:

a) *"There will be no significant association of Upper Primary Students' Gender with Academic Engagement during Extended Closure of Schools in Pandemic."*

b) *"There will be no significant association of* Upper Primary *Students' Residential Background with Academic Engagement related issues during Extended Closure of Schools in Pandemic."*

c) *"There will be no significant association of Upper Primary Students' Types of Educational* Institution with Academic Engagement related *issues during Extended Closure of Schools in Pandemic."*

Pearson's Chi-square test was employed to test these H0, and the results are reported in tables with their interpretation.

a. *Association of Students' Gender with Academic engagement related issues durin***g extended closure of schools in Pandemic**

In order to test this association, the Chi-square technique was used to evaluate responses on relevant items. The responses on 'Engaging in Educational content through smart-phones', 'Help taken from parents to complete Assignments through ICT', and 'Difficulty in completing Assignments through ICT' were considered as components of Academic engagement related issues to determine if there was an association between Gender (i.e. Boys and Girls) and Academic engagement related issues. The item-by-item counts of responses and output have been presented in the respective tables followed by their discussion:

Item # 12. The child has been engaged full time and navigated the smart-phones independently to view / listen educational stories / rhymes / cartoons etc. Table 1(a) shows the responses to this item, followed by table 1(b) which shows the results of the Chi-square analysis:

Table 1(a). Cross-tabulation (2X3 contingency table) of Gender X Engaging in Educational content through smart-phones

		Yes	No	Somewhat	Total
Gender	Girls	16	30	38	84
	Boys	14	15	21	50
Total		30	45	59	134

Table 1(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.501[a]	2	.472
Likelihood Ratio	1.477	2	.478
Linear-by-Linear Association	.749	1	.387
N of Valid Cases	134		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.19.			

The table 1(b) shows that the value of χ^2 (df=2) is 1.50 and p = .472 which is insignificant. Therefore, the H0 that, "*There will be no significant Association of Students' Gender with responses on Engaging in* Educational content through smart-phones during Extended Closure of Schools in Pandemic." is failed to reject. It can be deduced that students' gender and responses to engaging in educational content via smart phones are not significantly related to one another, or that they are both independent of one another. During the epidemic, both sorts of gender, i.e. boys and girls, engaged in instructional content via smart phones in similar ways.

Item # 16. The child has taken the help of ICT / Computer/ Smartphone to accomplish the assignments. Table 2(a) shows the responses to this item, followed by table 2(b) which shows the results of the Chi-square analysis:

Table 2(a). Cross-tabulation (2X3 contingency table) of Gender X Help taken from parents to complete Assignment through ICT

		Yes	No	Somewhat	Total
Gender	Girls	45	20	18	83
	Boys	25	16	9	50
Total		70	36	27	133

Table 2(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.034[a]	2	.596
Likelihood Ratio	1.024	2	.599
Linear-by-Linear Association	.001	1	.970
N of Valid Cases	133		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.15.			

From the table 2(b), the value of χ^2 (df=2) is 1.034 and p = .596 which is insignificant. Hence, we failed to reject the H0 that, "There will be no significant Associati*on of Students' Gender with responses on Help* taken from parents to complete Assignment through ICT during Extended Closure of Schools in Pandemic". It can be concluded that students' gender and parental assistance in completing assignments using ICT are unrelated to one another, or that both are independent of one another. During the epidemic, both boys and girls received similar forms of assistance from their parents in completing assignments using ICT.

Item # 17. The child finds difficulties to accomplish the assignments with the help of ICT / Computer/ Smartphone. Table 3(a) shows the responses to this item, followed by table 3(b) showing the results of the Chi-square analysis:

Table 3(a). Cross-tabulation (2X3 contingency table) of Gender X Difficulty in completing Assignment through ICT

		Yes	No	Sometimes	Total
Gender	Girls	22	36	26	84
	Boys	17	24	9	50
Total		39	60	35	134

Table 3(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.855[a]	2	.240
Likelihood Ratio	2.954	2	.228
Linear-by-Linear Association	2.432	1	.119
N of Valid Cases	134		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 13.06.			

Table 3(b) depicts that, the value of χ^2 (df=2) is 2.86 and p = .240 which is insignificant. Therefore, H0 that, "*There will be no significant Association of Students' Gender with responses on Difficulty in completing* Assignment through ICT during Extended Closure of Schools in Pandemic" is failed to reject. It can be concluded that students' gender and difficulty in completing assignments using ICT are not related to one another, or that they are independent of one another. Both boys and girls face comparable challenges when it comes to completing assignments using technology. Even though in developing countries, younger children had language problems they were unable to get the instructions (UN, 2020).

b. *Association of Students' Residential Background with Academic engagement related issues during* **extended closure of schools in Pandemic**

The concerned H0 was, "T*here will be no significant Association of Students' Residential Background with their Academic engagement related issues during extended closure of schools in Pandemic".* The Chi-square approach was used to evaluate responses on relevant items in order to test this H0. The responses on 'Engaging in Educational content through smart-phones,' 'Assignments given by Schools,' 'Help taken from parents to complete Assignments through ICT,' and Difficulty in completing Assignments through ICT were considered as components of Academic engagement related issues in order to find any associations with three types of Residential Backgrounds (i.e. Rural, Urban, and Metro-City). The following table shows and discusses the item-by-item counts of responses and output:

Item # 12. The child has been engaged full time and navigated the smart-phones independently to view / listen educational stories / rhymes / cartoons etc. Table 4(a) shows the responses to this item, followed by table 4(b) which shows the results of the Chi-square analysis:

Table 4(a). Cross-tabulation (3X3 contingency table) of Residential Background X Engaging in Educational content through smart-phones

		Yes	No	Somewhat	Total
Residential Background	Rural	14	36	42	92

	Urban	12	7	14	33
	Metro-city	4	2	3	9
Total		30	45	59	134

Table 4(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.949[a]	4	.041
Likelihood Ratio	9.571	4	.048
Linear-by-Linear Association	3.950	1	.047
N of Valid Cases	134		
a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 2.01.			

As the table 4(b) reveals that, the value of χ^2 (df=4) is 9.95 and p = .041 which is significant at .05 level. Therefore, H0 that, *"There will be no significant Association of Students' Residential Background with* responses on Engaging in Educational content through smart-phones during extended closure of schools in *Pandemic"* is rejected. Residential background and response of engaging in educational information via smart phones can be inferred to be related or not mutually exclusive. Three different types of residential backgrounds have varied types of responses when it comes to using smart phones to engage in educational content. We can conclude that responses of 'Yes,' 'No,' or 'Somewhat' on Engaging in Educational Content through Smart-phones are related to specific residential backgrounds, as evidenced by the fact that the majority of Rural School children (36 out of 45) were not academically engaged through smart-phones (refer Cross-tabulation Table 4(a). This is because of the digital divide (ECLAC, 2020) and more technological challenges and barriers faced by the people of rural locality (Bagley, 2021).

Item # 14. Assignment(s) has / have been given by school to the child for accomplishing the syllabus during the extended closure of schools due to COVID-19 pandemic. Table 5(a) shows the responses to this item, followed by table 5(b) showing the results of the Chi-square analysis:

Table 5(a). Cross-tabulation (3X2 contingency table) of Residential Background X Assignment given by school

		Yes	No	Total
Residential Background	Rural	55	37	92
	Urban	20	13	33
	Metro-city	9	0	9
Total		84	50	134

Table 5(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.750[a]	2	.056
Likelihood Ratio	8.795	2	.012
Linear-by-Linear Association	3.111	1	.078
N of Valid Cases	134		
a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 3.36.			

Table 5(b) shows that, the value of χ^2 (df=2) is 5.75 and p = .056 which is insignificant. So, we fail to reject the H0, i.e. *"There will be no significant Association of Students' Residential Background with responses on Assignment given by school during extended closure of schools in Pandemic"*. It can be inferred that Residential Background and response on Assignment given by Schools are not associated with each other or both are independent. Three types of Residential Background have similar types of responses on Assignment given by Schools. We can say that responses of 'Yes' or 'No' on Assignment given by Schools are not related to any specific residential background.

Item # 16. The child has taken the help of ICT / Computer/ Smartphone to accomplish the assignments. Table 6(a) shows the responses to this item, followed by table 6(b) which shows the results of the Chi-square analysis:

Table 6(a). Cross-tabulation (3X3 contingency table) of Residential Background X Help taken from parents to complete Assignment through ICT

		Yes	No	Somewhat	Total
	Rural	43	27	21	91
Residential Background	Urban	20	9	4	33
	Metro-city	7	0	2	9
Total		70	36	27	133

Table 6(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.094[a]	4	.192
Likelihood Ratio	8.552	4	.073
Linear-by-Linear Association	2.906	1	.088
N of Valid Cases	133		
a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 1.83.			

From the table 6(b), the value of χ^2 (df=4) is 6.094 and p = .192 which is insignificant. Hence, H0 that, *"There will be no significant Association of Students' Residential Background with responses on Help taken* from parents to complete Assignment through *ICT during extended closure of schools in Pandemic"* is failed to reject. It can be inferred that Residential Background and response on Help taken from parents to complete Assignment through ICT are not associated with each other or both are not independent. Three types of Residential Background have similar types of responses on Help taken from parents to complete Assignment through ICT during Pandemic. We can say that responses of 'Yes' or 'No' or 'Somewhat' on Help taken from parents to complete Assignment through ICT are not related to any specific residential background. This might be due to the similar types of threats, anxiety and fear faced by the people of all the regions.

Item # 17. The child finds difficulties to accomplish the assignments with the help of ICT / Computer/ Smartphone. Table 7(a) shows the responses to this item, followed by table 7(b) showing the results of the Chi-square analysis:

Table 7(a). Cross-tabulation (3X3 contingency table) of Residential Background X Difficulty in completing Assignment through ICT

		Yes	No	Sometimes	Total
	Rural	28	37	27	92
Residential Background	Urban	10	18	5	33
	Metro-city	1	5	3	9

Total		39	60	35	134

Table 7(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.504[a]	4	.342
Likelihood Ratio	5.011	4	.286
Linear-by-Linear Association	.010	1	.921
N of Valid Cases	134		
a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is 2.35.			

From the table 7(b), it is evident that the value of χ^2 (df=4) is 4.50 and p = .342 which is insignificant. Therefore, the H0 that, *"There will be no significant Association of Students' Residential Background with* responses on Difficulty in completing Assignment through ICT during extended closure of schools in *Pandemic"* is failed to reject. It can be deduced that Residential Background and response to Difficulty in Completing Assignments through ICT are either unrelated or unrelated. In other words, responses to Difficulty in Completing Assignments Using ICT are similar across three types of residential backgrounds. We can say that responses of 'Yes' or 'No' or 'Somewhat' on Difficulty in completing Assignment through ICT during the extended closure of schools due to COVID-19 pandemic are not related to any specific residential background. Children belonging to all types of residential backgrounds faced similar Difficulty in completing Assignment through ICT during the lock-down. Report of the UN (2020) also revealed that in developing countries, younger children had language problems and were not able to comprehend the instructions.

c. ***Association of Students' Types of Educational Institution with Academic engagement related issues during extended closure of schools in Pandemic***

The concerned H0 was, "*There will be no significant Association of Students' Types of Educational Institutions with their Academic engagement related issues during extended closure of schools in Pandemic".* The Chi-square approach was used to evaluate responses on relevant items in order to test this H0. The responses on 'Engaging in Educational content through smart-phones,' 'Assignments given by Schools,' 'Help taken from parents to complete Assignments through ICT,' and 'Difficulty in completing Assignments through ICT' were considered as components of Academic engagement related issues for the purpose of determining its association with eight types of Educational Institutions (i.e. Government Aided Madarsa, Private Management Madarsa, State Government School, Central Government School, Private Aided School, Private Unaided School, Convent School and Boarding School/ Madarsa). The following tables show the item-by-item counts of responses and discuss the output:

Item # 12. The child has been engaged full time and navigated the smart-phones independently to view / listen educational stories / rhymes / cartoons etc. Table 8(a) shows the responses to this item, followed by table 8(b) which shows the results of the Chi-square analysis:

Table 8(a). Cross-tabulation (8X3 contingency table) of types of Educational Institutions X Engaging in Educational content through smart-phones

		Yes	No	Sometimes	Total
Types of Educational Institutions	Govt. Aided Madarsa	0	0	1	1
	State Govt. School	7	1	7	15
	Central Govt. School	0	1	3	4

	Pvt. Aided School	3	3	4	10
	Pvt. Unaided School	15	36	41	92
	Convent School	5	4	2	11
	Boarding School/ Madarsa	0	0	1	1
Total		30	45	59	134

Table 8(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	18.619ᵃ	12	.098
Likelihood Ratio	20.730	12	.054
Linear-by-Linear Association	.011	1	.917
N of Valid Cases	134		
a. 16 cells (76.2%) have expected count less than 5. The minimum expected count is .22.			

Table 8(b) depicts the value of χ^2 (df=12) is 18.62 and p = .098 which is insignificant. Therefore, the H0 that, *"There will be no significant Association of Students' Types of Educational Institutions with responses* on Engaging in Educational content through smart-*phones during extended closure of schools in Pandemic"* is failed to reject. It can be inferred that Types of Educational Institutions and response on Engaging in Educational content through smart-phones are not associated with each other or both are independent. Different eight types of Educational Institutions have similar types of responses on Engaging in Educational content through smart-phones. We can say that responses of 'Yes', 'No' or 'Somewhat' on Engaging in Educational content through smart-phones are not related to any specific type of school.

Item # 14. Assignment(s) has / have been given by school to the child for accomplishing the syllabus during the extended closure of schools due to COVID-19 pandemic. Table 9(a) shows the responses to this item, followed by table 9(b) which shows the results of the Chi-square analysis:

Table 9(a). Cross-tabulation (8X2 contingency table) of types of Educational Institutions X Assignment given by school

		Yes	No	Total
Types of Educational Institutions	Govt. Aided Madarsa	0	1	1
	State Govt. School	7	8	15
	Central Govt. School	4	0	4
	Pvt. Aided School	7	3	10
	Pvt. Unaided School	58	34	92
	Convent School	7	4	11
	Boarding School/ Madarsa	1	0	1
Total		84	50	134

Table 9(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.540ᵃ	6	.365
Likelihood Ratio	8.471	6	.206
Linear-by-Linear Association	1.330	1	.249
N of Valid Cases	134		
a. 8 cells (57.1%) have expected count less than 5. The minimum expected count is .37.			

From the table 9(b), it is evident that the value of χ^2 (df=6) is 6.54 and p = .365 which is insignificant. So,

the H0 that, *"There will be no significant Association of Students' types of Educational Institutions with* responses on Assignment given by school during *extended closure of schools in Pandemic"* is not rejected. It can be deduced that the sorts of educational institutions and the responses to assignments provided by schools during extended school closures in pandemics are unrelated or unrelated to each other. In other words, eight different types of educational institutions had comparable types of responses to school assignments during extended school closures due to pandemic. We can say that responses of 'Yes', or 'No' on Assignment given by school during pandemic are not related to specific types of Educational Institutions.

Item # 16. The child has taken the help of ICT / Computer/ Smartphone to accomplish the assignments. Table 10(a) shows the responses to this item, followed by table 10(b) showing the results of the Chi-square analysis:

Table 10(a). Cross-tabulation (8X3 contingency table) of types of Educational Institutions X Help taken from parents to complete Assignment through ICT

		Yes	No	Sometimes	Total
	Govt. Aided Madarsa	0	1	0	1
	State Govt. School	8	3	4	15
	Central Govt. School	4	0	0	4
Types of Educational Institutions	Pvt. Aided School	5	3	2	10
	Pvt. Unaided School	47	25	19	91
	Convent School	6	4	1	11
	Boarding School/ Madarsa	0	0	1	1
Total		70	36	27	133

Table 10(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.920[a]	12	.452
Likelihood Ratio	12.781	12	.385
Linear-by-Linear Association	.044	1	.834
N of Valid Cases	133		
a. 15 cells (71.4%) have expected count less than 5. The minimum expected count is .20.			

As the table 10(b) reveals that, the value of χ^2 (df=12) is 11.92 and p = .452 which is insignificant. Therefore, the H0 that, *"There will be no significant Association of Students' types of Educational Institutions* with responses on Help taken from parents to complete Assignment through ICT during extended closure of *schools in Pandemic"* is failed to reject. It can be deduced that the types of educational institutions and the reaction to parents' requests for assistance in completing assignments using ICT during extended school closures due to pandemic are not related. In other words, eight different types of educational institutions show similar responses to parental assistance in completing assignments via ICT during COVID-19 pandemic. We can say that responses of 'Yes', or 'No' or 'Somewhat' on Help taken from parents to complete Assignment through ICT during the pandemic are not related to specific types of Educational Institutions.

Item # 17. The child finds difficulties to accomplish the assignments with the help of ICT / Computer/ Smartphone. Table 11(a) shows the responses to this item, followed by table 11(b) which shows the results of the Chi-square analysis:

Table 11(a). Cross-tabulation (8X3 contingency table) of types of Educational Institutions X Difficulty in completing Assignment through ICT

		Yes	No	Sometimes	Total
Types of Educational Institutions	Govt. Aided Madarsa	1	0	0	1
	State Govt. School	8	4	3	15
	Central Govt. School	0	3	1	4
	Pvt. Aided School	3	6	1	10
	Pvt. Unaided School	24	41	27	92
	Convent School	3	5	3	11
	Boarding School/ Madarsa	0	1	0	1
Total		39	60	35	134

Table 11(b). Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.181[a]	12	.431
Likelihood Ratio	13.471	12	.336
Linear-by-Linear Association	3.400	1	.065
N of Valid Cases	134		
a. 17 cells (81.0%) have expected count less than 5. The minimum expected count is .26.			

From the table 11(b), it is evident that the value of χ^2 (df=12) is 12.18 and p = .431 this is insignificant. Hence, the null Hypothesis (H0) that *"There will be no significant Association of Students' types of* Educational Institutions with responses on Difficulty in completing Assignment through ICT during extended *closure of schools in Pandemic"* is not rejected. It can be inferred that Residential Background and response on Difficulty in completing Assignment through ICT during extended closure of schools in Pandemic are not associated with each other or both are independent. Eight types of Educational Institutions have similar types of responses on Difficulty in completing Assignment through ICT during the pandemic. We can say that responses of 'Yes', 'No' or 'Somewhat' on Difficulty in completing Assignment through ICT during the COVID-19 pandemic are not related to any specific types of schools. Report of the survey showed that younger children have faced some language difficulties in developing countries (UN, 2020).

5. Findings of the study

The objective-wise findings of the study are given in three sections namely A, B and C as under:

A) *Students' Academic Engagement related issues during Extended Closure of Schools in Pandemic*

(1) Around 22.4% of the parents accepted that during online learning their child was engaged full time and navigated the smart-phones independently to view / listen educational stories / rhymes / cartoons etc. whereas 33.6% of parents admitted that their children couldn't be engaged academically. This might be due to they lack the advanced ICT devices.

(2) Most of the parents (62.7%) confirmed that assignments were given by the schools to their children in order to complete the syllabi during the closure of schools while 37.3% of them denied this statement. So it was not the issue in most of the cases (i.e. 62.7%) that schools were not in touch with the students during the pandemic but for more than one third students there was an issue to be connected with the schools for receiving home assignments during the pandemic.

(3) More than half of the parents (52.6%) admitted that their children took the help of ICT gadgets in doing academic work through computers or smart-phones during the closure of schools whereas 27.1% of them denied this statement.

(4) The majority (44.8%) of the parents denied that their children found any difficulty in accomplishing assignments through the ICT whereas 29% of them affirmed this statement, the reason behind this either lack of ICT devices or lack of ICT application skills.

B) *Parents' Role in childrens' Academic Engagement related issues during Extended Closure of* **Schools in Pandemic**

(1) Almost one third of the parents (32.8%) denied that their children engaged in smart-phones in their supervision for doing academic work during the extended closure while near about one fourth (23.9%) of them accepted it.

(2) More than three fourth (76.1%) of the parents had rescheduled the time-table for their children to balance the routine activities during the closure of schools while almost one fourth (23.9%) of them were unable to do so.

(3) More than two third (67.9%) of the parents had installed an educational app for children on their device while almost one third (32.1%) of them were unable to do so.

C) *Association of Students' Gender, Residential Background and Types of Educational Institutions with* **Academic engagement related issues during extended closure of schools in Pandemic**

I) *Association of students' gender with academic engagement related issues during* extended closure of schools in pandemic

(1) Gender and responses on Engaging in Educational content through smart phones are not significantly associated with each other.

(2) Gender and Help taken from parents to complete Assignment through ICT are not significantly associated with each other.

(3) Gender and Difficulty in completing Assignment through ICT are not significantly associated with each other.

II) *Association of students' residential background with academic engagement related* issues during extended closure of schools in pandemic

(1) Residential Background and response on Engaging in Educational content through smart-phones are significantly associated with each other. Majority (80%) of Rural School children (36 out of 45) were not academically engaged through smart-phones.

(2) Residential Background and response on Assignment given by Schools are not significantly associated with each other.

(3) Residential Background and response on Help taken from parents to complete Assignment through ICT are not significantly associated with each other.

(4) Residential Background and response on Difficulty in completing Assignment through ICT are not significantly associated with each other.

III) *Association of students' types of educational institution with academic engagement* related issues during extended closure of schools in pandemic

(1) Types of Educational Institutions and response on Engaging in Educational content through smart-phones are not significantly associated with each other.

(2) Types of Educational Institutions and response on Assignment given by school during extended closure of schools in Pandemic are not significantly associated with each other.

(3) Types of Educational Institutions and response on Help taken from parents to complete Assignment through ICT during extended closure of schools in pandemic are not significantly associated with each other.

(4) Residential Background and response on Difficulty in completing Assignment through ICT during extended closure of schools in Pandemic are not significantly associated with each other.

(5) Conclusion

Though the pandemic has brought a lot of fear, anxiety, stress, challenges and uncertainty to humanity, one of its positive aspects is that it has compelled the masses to learn and apply the online tools in every spheres of life. There is a need to develop an effective and efficient online education system (Dhawan, 2020) and to improve the education practices (Carvalho et. al. 2020). Teaching profession is one of the areas where such online tools have been used widely by its different stakeholders. It is the need of the hour to link and turn their interest area into learning. Students- especially of elementary levels- are one of its most vulnerable but important stakeholders. They should not be forced to do anything if they don't want to (UNICEF, 2020). They need more support from their parents (UN, 2020) and teachers; if needed counselling may be provided to them (UNICEF, 2020); assistance should be given to them in applying new technologies for specific purposes, i.e. for online learning.

A systematic, deliberate and conscious effort is required for handling the ICT gadgets (Bhamani et al., 2020) and maintaining them; for training the stakeholders and developing the online content. Educational institutions teachers and parents must learn to engage the students in a constructive way especially when they are in homes due to some crisis. Relationships of schools and families should be strengthened and the burden of teachers and parents should be minimized (OECD, 2020; Winthrop, 2020) so that their efficiency can be enhanced. There is an urgent need to support (UNESCO, 2020b) and take care of teachers' and parents' changing roles and increased responsibilities (Garbe et al. 2020). Parents and family members should spend more time with young children. Teachers should guide and help the parents in keeping their children busy in constructive activities as per their psycho-social characteristics (Eva, Jian & Kerry, 2021) and in focused areas so that the children may utilize the time fruitfully and their personality can be developed in a holistic way.

There is much need for teachers' training in thrusting areas like innovative ICT blended pedagogy, maintaining mental and physical health, evolving new support systems (UN, 2020) and coping strategies; and dealing with socio-emotional wellbeing in such an unprecedented crisis. There is an urgent need to enhance the access of ICT and technological assistance for parents and children (Schleicher, 2020) of disadvantaged sections of families and society (ECLAC, 2020). Finally, a separate manual for parents and teachers should be prepared and widely circulated for better and timely utilization.

Acknowledgements

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