Research Paper

Information and communication technology (ICT-DRIVEN) learning practices as a factor of social inequality among youth in Jammu City, Jammu & Kashmir, India

Ruchika Sharma and Pragya Khanna*
Govt. College for Women, Parade Ground, Jammu & Kashmir, India
Govt. Degree College, Chenani, Udhampur, Jammu & Kashmir, India
*Corresponding author E-mail:principalgdcchenani@yahoo.com

Abstract: The COVID 19 pandemic has significantly affected the education sector worldwide. It has accelerated the digital transformation of whole education system. No doubt it paved the way for much needed innovations but it also has widened the gaps among learners belonging to different backgrounds. Information and Communication Technology (ICT) and Social in equalities has always been the subject of discussion due to their interrelatedness. This study seeks to analyse the role of ICT driven learning tools in bringing social inequality among the youth of Jammu region. The study was conducted online on more than 200 youth of Jammu region belonging to age group of 16 to 23 years.The average age of the respondents was 19 years. They hailed from both rural (49%) and urban (51%) areas. Regarding parents' occupation of the youth, there were farmers, drivers, shopkeepers, businessman, carpenters, labour class, teachers, professors, doctors, bank employees. Thus, the parents of the respondents were from diverse fields and their income varied according to their respective professions. The data concluded that socio economic background of the respondents play major role in their learning process via online mode thus creating inequalities among the youth of this region.

INTRODUCTION:

Human race has already witnessed pandemics in the course of its history from the Great plague to Spanish flu (Taubenberger et al., 2019). Yet, the pandemic of this magnitude is faced first time by the whole world (Guitton, 2020). More than three billion people are in confinement and with the closing of schools, colleges and universities, education as a result, has largely moved online. Technology, particularly online tools are the key to survive this crisis. Information and communication technology driven learning practices have become the building blocks of the education system in a short span of time. The use of ICT driven tools is now an inseparable part of our education, seeing the pulse of the present times, however there are constraints to achieving the main purpose of it. There have been certain barriers associated with the accessibility of these tools. Most challenging are those

related to the residential place of the students, income of parents, connectivity at residential place, availability of modern devices. Lack of confidence, lack of competence and lack of access to resources are the major hurdles for successful integration of ICTs in teaching and learning environments (Bingimlas, 2009). Effect of Poor infrastructure and weak wireless network is quite often a constraint in rural communities due to which students cannot use the emerging technologies to access learning resources (NtloedibeKuswani, 2017).Individual capabilities of the students differs which inturn create inequality in knowledge acquisition by means of online learning. Some require close supervision of their teachers and would like to have emotional contact with their instructor which is quite difficult in ICT driven learning practices (Markova and Zaborova, 2019). Moreover, a sense of isolation during online learning also results in decreasing the satisfaction of the students. The differences exist between individuals and social groups not only in terms of access to technologies but also in terms of their capacity to obtain benefits from their use of technology (Buchi et al., 2018; DiMaggio & Hargittai, 2001; Hargittai, 2010). According to Young (2002) and Noor-Ul-Amin (2013) wider availability of best ICT driven practices can stimulate improved academic achievement of students. However, its use in education does not necessarily lead to improved quality of learning outcomes. This study is designed to raise various issues related to online learning in Jammu region where there is poor internet connectivity. Most of the students who are residing in rural areas always have slow and patchy internet and they face difficulties in loading or downloading the study materials, moreover majority of the students didn't have smart devices and those who did could not connect due to poor connectivity. The authors argue that use of ICT-driven learning practices in

education is unavoidable but the process as a whole can be estimated as indeterminate and contradictory in terms of its influence on social equality.

METHODOLOGY:
Area of the study
The present study is based on the online survey which is carried out by the authors (2020) in Jammu city, J&K. The Union territory of Jammu and Kashmir constitutes the northern most extremity of India. It is situated between 32.17 degree and 36.58 degree north latitude and 37.26 degree and 80.30 degree east longitude, the total area of this region is 22,22,236 sq. Kms. The population of Jammu and Kashmir according to 2011 census is 12,541,302. Males 6,640,662 and females 5,900,640. There are several government and private higher education institutes in Jammu. The population selected for the present study comprises of youth of Jammu city studying in different colleges and universities of Jammu division.

Data Gathering
The data was collected from the students (N=215) belonging to various higher education institutions (both rural and Urban) of Jammu who were enrolled in variouscourses (Bachelor and Master Degree Courses). Apart from that there were some respondents who belonged to Jammu but study in institutes outside Jammu. (Ambedkar University, Delhi; Allen Institute, Kota; Chandigarh University). The online questionnaire was made available through a link distributed via social sites (WhatsApp, Facebook)

Tools used
The Questionnaire contained a total of 32 questions, among which there were ten 10 questions asking the personal information and background, 12 questions were regarding the access and availability of the devices and general view of respondents regarding virtual tools. 10 questions were with a 5 point Likert scale, giving students an opportunity to give assessment ranging

from 1="stronglyagree"to 5="strongly disagree". The Statistical package for the Social Sciences (SPSS) latest version V27 was utilized to analyzeLikert scale data. The topics covered in the questionnaire included access and connectivity at their place of residence, technological skills of the students, choices and frequency and intensity of use of particular platforms. Data was collected from students belonging to various areas, diverse backgrounds and different colleges of Jammu seeking to maximize the differences between individual and family socioeconomic situations. The data was downloaded and a database generated was subjected to analysis.Among the respondents, 88 percent were females and 12 percent were males. Their age ranged from 16to 23 years (mean age 19.0 years, SD ± 1.6 years). Regarding qualification, 88% were doing Graduation in Sciences and 12% included the respondents with Engineering, Veterinary Sciences, Arts, Commerce and Computer Sciences backgounds. The position of youth who are under the age of 25 is defined with respect to the position or occupation of their parents (Sianou - Kyrgiou and Tsiplakides, 2012).So here to define the socioeconomic status we considered the occupation of their parents. In our study we used the modified kuppuswamy scale to assign the socioeconomic status based on the occupation and education of the head of the family (Wani, 2019). In our study, 46% of the students belonged to lower middle class, 36% are upper lower class and 18% include lower class. Based on their socio economic position, their family face financial challenges while paying fee and day to day expenses, 30% faces financial challenges, 36% only up to some extent, 25% do not face financial challenge and 9% are not aware about their family financial problems.

ANALYSIS

Devices and Internet access

Students were asked about the availability of digital devices at their homes.82% don't have desktops, 6% have it but they don't use it, 6% have it and they also use it. About Personal Laptop, 65% don't have it, 19% have it and they also use it. 10% are those who don't use it besides having it.6% responded not relevant in both cases. 89% of the students don't have tablet computer. Only 5% responded they have it but they don't use it. 1% among them have the tablet computer and they also find their use. From here it is concluded maximum youth do not have the devices at their homes. If we examine the relationship between availability of these devices at home and students' socioeconomic background. Research data showed that those who are in possession of these devices belonged to middle class families. When asked about Cell phones with internet access, 97% have cell phone with internet access and only 3% don't have it. This is not unexpected keeping in view the prices and range of smart phones in the market, the prices have fallen to the extent that the children belonging to lower class can also easily afford them. So maximum students use cell phones with internet connectivity for attending their online classes. Mobile phones do provide access to technology in the most disadvantaged areas and democratizes education by providing easy access anytime anywhere (NtloedibeKuswani, 2008).There is no doubt that mobile can perform everything which a personal computer can do but there are some works like making power point or doing work on excel,which can be done on a personal computer only in a comfortable way. The screen size, document preparation on actual keyboards make laptops or desktops an ideal choice for doing online studies. Moreover, there is often a disturbance of social networks on mobile phones. Notifications coming now and then are the major cause of distraction while studying on mobile phones.

Internet Use and competency among youth of Jammu

There is a connection between the students' socioeconomic background and Internet use (Sianou - Kyrgiou and Tsiplakides, 2012).Our research indicates that the youth in Jammu is more inclined towards downloading, uploading or browsing material from the institute's website, online submission of forms,56% do it once or twice a week, 14% almost everyday and 28% never or hardly ever. It is inferenced that it depends on the place of residence and the access of internet in that place. Chatting online, playing online video games, downloading music are the activities in which 14% of students are involved everyday and 27% never or hardly ever. 38% are involved in using social media like Facebook, Twitter, Whatsapp almost everyday whereas 14% never or hardly ever usedthese sites.19% uses them once or twice a week and 29% uses everyday.Regarding using e-mail, reading online newspapers, reading online books, 36% does it once or twice a week, 26%almost everyday, 16% everyday and 22% never or hardly ever does these activities. When asked for browsing the internet for assigned homework, 33% does almost everyday, 35% once or twice a week, 23% never or hardly ever browse the internet for doing assigned homework and 9% does it everyday. 56% of thestudents never or hardly ever used computers for group work, communication with other students and discussion forums, 28% does it once or twice a week, 9% almost everyday and 7% everyday. 29% of the students never or hardly ever used internet in order to find information from scientific journals, scientific articles and for buying books from online stores, 39% does once or twice a week, 25% does it almost everyday and 7% does it on everyday basis.

It is concluded that internet access and uses of the internet are heterogenous and unequal among youth from middle class and lower class. While the youth belonging to middle class families have grown up using the digital devices, lower class youth got the access later. There are several studies which confirmed that lower class student tend to have their contact with computers and internet mainly in social places (BenitezLarghi et al., 2011) which inturn affect their learning and mark social inequality as a key factor behind their slow pace in the competitive environment.However, the competency level of internet among the respondents varied from being very competent (26%), fairly competent (53%), expert (7%) to novice (14%).

COVID-19 and Online Learning

It is pertinent to mention here that 56% of the youth agreed with the fact that learning is affected as online model cannot replace the physical classroom. However 8% reported that learning is not affected as classroom teaching has been replaced by distance teaching and learning. 24% went with the fact that most activities are currently suspended but the institution is working on developing solutions to continue teaching and learning through digital mode. 12% reported that teaching has been cancelled. As there were mixed responses but the maximum respondents supported that the learning is affected due to COVID 19 and digital mode cannot replace traditional method of teaching. Regarding comfort, only 10% were comfortable doing online studies whereas for 43% it is stressful to look at the phone or computer screen all day long. For 37% it is hard to study online with family and other distractions, 10% even hate doing studies from online mode.It was also found that student's zone of comfort with digital tools and technology plays significant role in satisfaction of students with virtual learning(Palmer and Holt, 2009).Secondary factors included clarity of expectations and the student's self-assessment of how well they were doing in the online environment. Moreover, time

management skills while learning through virtual tools from home are not so good of49% of the students, 39% were only good at time management, 6% are poor and again only 6% are excellent at these skills. Lack of time management while learning from homeconsequently affects the learning outcomes (Markova and Zaborova, 2019).

Table 1: Frequencies of students' perception regarding ICT driven learning practices

S.No.	Frequencies of students perception regarding online learning	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
		(%)	(%)	(%)	(%)	(%)
1	Learning through ICT tools is challenging because it requires high degree of self instruction	18	49	28	4	1
2	Self study through online mode is as satisfying as learning through traditional face to face mode of education.	4	23	33	32	8
3	Close supervision of instructors is required while learning which is difficult to arrange in ICT driven learning practices	14	47	33	5	1
4	Emotional contact with the instructor is also an important factor while learning which is not there in ICT driven learning practices	19	47	28	5	1
5	Confusion and frustration created by online environments results in reducing learning.	27	50	17	6	-
6	ICT driven learning is equally effective compared to traditional modes.	8	26	32	28	6
7	Do you think studying online from your place of residence hampers your learning outcomes?	13	38	38	11	-
8	ICT can provide access to information sources, enable communications, create interacting learning environment and promote change in methods of teaching. How far do you agree?	16	42	34	6	2
9	Many possibilities and opportunities would be visible once online learning becomes the order of the day.	14	41	34	9	2
10	Keeping in view your experience with digital media and digital devices:to					

	what extent do you disagree or agree with the following statements					
(i)	It is very useful to have social networks on the Internet	31	47	17	5	0
(ii)	I really feel bad if no internet connection is possible	48	38	9	5	0
(iii)	I like using digital devices	30	34	23	13	0
(iv)	I feel much benefitted while learning online as there are more courses of my choice apart from the regular courses of college	16	33	28	14	9
(v)	I feel using Information and Communication Technology tools (digital devices) are more a financial burden on family	25	28	30	12	5

There were ten questions of five point Likert scale to know the actual view of students regarding various aspects of digital learning. The percentage of the effectiveness of online learning and its drawbacks was generated. Table 1 shows the frequencies of students' perception regarding their learning via online mode. 49% agreed with the fact that it is challenging to learn via online mode as high degree of self instruction is required, 47% feels that close supervision and emotional contact with the instructor is required while learning which is difficult to achieve via online mode.50% agreed and 27% strongly agreed that there lies a confusion and frustration in online environments which results in reducing the learning; however 6% disagreed and 17% were neutral. This means there is a sense of dissatisfaction among students. According to Cole etal., (2014),students felt the lack of interaction with the instructor and with their classmates in virtual platforms which ultimately can lead to more confusion and frustrations. Moreover, 28% disagreed and 6% strongly disagreed that ICT driven learning is equally effective compared to traditional modes, 32% do have neutral response and 26% agreed and 8% strongly agreed with this which means there is a stratum of

students which is satisfied also. It is because of the access of the internet at their place of residence. 47% agreed that it is very useful to have social networks, 31% strongly agreed whereas only 5% disagreed, 48% strongly agreed that they feel bad if no internet connection is possible, 38% agreed, 5% disagreed and 9% were neutral. It is a fact that internet connectivity plays major role in learning process but apart from learning students also find social network useful. Two important aspects of this study includes benefits the students get from the digital devices and at the same time these devices and tools are a financial burden for some which create a gap between the learning process. 33% students agreed that they feel benefitted by online learning as they can opt more courses of their choice apart from regular courses of college. 16% strongly agreed, 14% and 9% disagreed and strongly disagreed with this whereas 28% were among neutral. Students feel benefitted if they have all the resources they require else they refrain from this mode of learning. 28% agreed that Information and technology tools (Digital devices) are more a financial burden on family. 25% strongly agreed, 30% were neutral, 12% and 5% disagreed and strongly disagreed with this. We can relate

dissatisfaction among students with their socio economic backgrounds which has a major impact on their learning outcomes. Although social inequalities were already there but the current crisis magnified thesetechnology related social inequalities (Beaunoyer et. al., 2020) and created a wide gap among the learners.38% respondents agreed that studying from their place of residence hampers their learning outcomes, 38% were neutral and 13% strongly agreed however 11% disagreed with this.

Respondents had agreed (42%, 41%) and strongly agreed (16%, 14%) in item no.

8&9 that ICT can provide access to information sources, enable communications, create interacting learning environment and promote change in methods of learning and many possibilities and opportunities would be visible once online learning becomes the order of the day. Only minority of respondents disagreed (6%, 9%) and strongly disagreed (2%, 2%). This means there is a strong urge among students to incorporate these tools in their learning process but the hindrances that come their way holds them back.

Table 2: Statistical distribution about the opinion of respondents regarding ICT tools

S.No.	Variables	Mean	Standard Deviation	Standard Error Mean	Skewness	Statistic Std Error	Kurtosis	Statistic Std Error
1	Learning through ICT tools is challenging because it requires high degree of self instruction	2.23	0.838	0.057	.548	.166	.588	.330
2	Self study through online mode is as satisfying as learning through traditional face to face mode of education.	3.15	1.014	0.069	-.122	.166	-.611	.330
3	Close supervision of instructors is required while learning which is difficult to arrange in ICT driven learning practices	2.36	0.853	0.058	.504	.166	.527	.330
4	Emotional contact with the instructor is also an important factor while learning which is not there in ICT driven learning practices	2.20	0.816	0.056	.346	.166	-.040	.330

5	Confusion and frustration created by online environments results in reducing learning.	2.03	0.826	0.056	.602	.166	-.007	.330
6	ICT driven learning is equally effective compared to traditional modes.	2.96	1.047	0.071	-.064	.166	-.684	.330
7	Do you think studying online from your place of residence hampers your learning outcomes?	2.50	0.869	0.059	.050	.166	-.456	.330
8	ICT can provide access to information sources, enable communications, create interacting learning environment and promote change in methods of teaching. How far do you agree?	2.36	0.882	0.057	.454	.166	.427	.330
9	Many possibilities and opportunities would be visible once online learning becomes the order of the day.	2.43	0.903	0.062	.352	.166	.023	.330
10	Keeping in view your experience with digital media and digital devices:to what extent do you disagree or agree with the following statements							
(i)	It is very useful to have social networks on the Internet	1.98	0.848	0.058	.685	.166	.230	.330
(ii)	I really feel bad if no internet connection is possible	1.71	0.839	0.057	1.317	.166	1.920	.330
(iii)	I like using digital devices	2.08	0.911	0.062	.553	.166	-.112	.330
(iv)	I feel much benefitted while learning online as there are more courses of my choice apart from the regular courses of college	2.63	1.180	0.080	.385	.166	-.656	.330

(v)	I feel using Information and Communication Technology tools (digital devices) are more a financial burden on family	2.40	1.076	0.073	.340	.166	-.561	.330

The five point likert scale represents a rating ranged from 1 (Strongly Agree) to 5 (Strongly Disagree). Division of Agreement level used was (1) Strongly agree x≤1.5, (2) Agree 1.5≤x≤2.5, (3) Neutral 2.5≤x≤3.5, (4) Disagree 3.5≤x≤4.5, (5) Strongly Disagree x≥4.5 as reported in literature (Chen etal., 2020).Chen etal., 2020 applied the division scale to classify the satisfaction level{Very dissatisfied(1) to satisfied (5)}. Descriptive Statistics (Table 2) showed that the mean scores are between 1.5 and 2.5 {S.No. 1,3,4,5,7,8,9, 10(i), 10 (ii),10(iii), 10(v), 2.5 and 3.5(S.No. 2, 6, and 10(iv)) which represent rating as agree and neutral respectively. Skewness and Kurtosis analyses show normality among variables (Table2). Range of -2 to +2 is the required range (Prasojoetal., 2020). Values of Skewness and Kurtosis are within the range recommended. So normal distribution of these scales is assumed.It is concluded from these results that students does not feel satisfied and benefiitted through online mode of learning which may be due to many reasons, socio economic background being one of them.

The role of ICTs and e-learning in the education is unavoidable in the present scenario. The opinion of the respondents regarding online education in Jammu region varied. 53% think restriction on internet speed is a big hindrance, for 36% technological difficulties like weak devices and poor connectivity in remote areas make online classes a challenge. 6% responded there is no disruption in learning due to pandemic whereas 5% think COVID-19 may have been the catalysis for a change that has been long pending. Our studies are in line with other studies which concluded that keeping in view the present scenario where the whole education system has moved to online mode it is necessary to make sure that the population should have optimal access to technology in terms of both network connectivity and availability of the required devices and it is central in reducing the impacts of inequalities caused in COVID-19 times (Beaunoyer etal., 2020)

DISCUSSION AND CONCLUSION:
Our study indicated that access to digital tools and their use is miscellaneous and unequal among youth belonging to middle and lower classes of Jammu region. Youth belonging to middle class have grown up accessing digital devices whereas access for lower class is relatively delayed. Our results are supported by previous studies which also demonstrated that adolescents belonging to lower classes have their first access to computers and internet in schools or cybercafés and that too later in their life as compare to middle class who have their access much earlier (Benitez Larghi et al., 2011). It is inferenced that students from more privileged backgrounds make more frequent use of internet for educational purposes. They are more frequently involved in downloading, uploading or browsing material from their institute's website, browsing the internet for the assigned homework. It can be concluded that they are likely to be much benefitted from online resources which is in accordance with theAttewell (2001), who

also reported that students belonging to higher socioeconomic backgrounds are more tech- savvy whereas students belonging to lower educational backgrounds are ordinary users. This variation is crucial as it demarcates the population with respect to their ability to differentiate the reliability of the information obtained from internet (DiMaggio etal., 2001). It implies that even when there is easy access for the learners if they are not well versed with the usage of the technology, they will not be benefitted as it is also been reported that digital divide is now more preferably a divide in its usage than access (Bucy, 2000;Warschauer, 2003; Peter and Valkenburg, 2006). It supported our findings that unequal access and usage of internet are factors creating inequality amongst youth of Jammu region. It is also concluded from our study that the students low satisfaction level, more confusion and frustrations in online environments, requirement of close supervision and an emotional contact with the instructor and a sense of feeling isolated hampers the learning outcomes. It is believed that disruption in the usability due to failing of connections affects user satisfaction (Asarbakhsh and Sandars, 2013). And it may also be due to COVID 19 effect, learners have emotional problems due to home quarantine which in turn hinder with the online learning (Chen etal., 2020). There are massive inequalities among youth from the perspective of COVID-19 as it provoked an instant shift to digital technologies. It was not a priority before this pandemic but with the global lock down virtual tools becomes necessity and they are bound to magnify the social inequalities as found in our study. It is necessary that learners should be provided with suitable network and the virtual tools.Online education should be discussed from students' point of view. It becomes a prior need to work on alleviating such inequalities among the learners so that the

real purpose of education be achieved which should be equal for all.

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