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DIGITIZATION OF EDUCATION AND ITS SOCIO-ECONOMIC IMPACTS WITH SPECIAL REFERENCE TO TRIVANDRUM

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"We need technology in every classroom and in every student and teacher's hand, because it is the pen and paper of our time, and it is the lens through which we experience much of our world." ***- David Warlick***

I. Abstract

This study is makes a comparative analysis of the rural-urban divide in digital education and examines the benefits and challenges of e-learning. A total of 124 respondents consisting of students, teachers and parents residing in the rural and

urban areas of Trivandrum were surveyed using a well-structured questionnaire administered in both English and Malayalam. The sample population was identified through stratified random sampling. The study finds that disruption of internet connectivity due to signal unavailability is a major challenge of e-learning. Also, majority of the stakeholders were unwilling to make a conscious shift to a digitised education mode. Mostly students favoured online education because of its ease of usage, convenience, remote accessibility and system response speed. But most of the parents and teachers preferred offline education.

Keywords: *Digital education, e-learning*

II. Introduction

Digital education is the norm of this era. The world has advanced technologically and education sector has thoroughly benefitted from it. Times of digital education has emerged. Thanks to the e-learning system, the education sector was not heavily affected during the pandemic. Now, any person residing in remote areas anywhere in the world, with adequate internet connectivity, can explore the wide world of education provided by the top universities across the globe. Though digital education had already started taking the lead in education sector, Covid-19 made the whole world realise it as a necessity.

III. Objectives

1. To make a comparative analysis of the rural-urban divide in digital education.
2. To analyse the benefits and challenges of e- learning.

IV. Methodology

This study has made use of both primary and secondary data. The primary data was collected through stratified random sampling technique covering a total of 124 respondents consisting of 42 students and teachers and 40 parents from both rural and urban areas of Thiruvananthapuram district. The sample population was collected through a well-structured questionnaire by using google forms distributed in convenient languages (both English and Malayalam).

V. Review of literature

(Paul & Pillai, 2017) in their case study “On the road to Digitisation: The case of Kerala” has made an expert analysis of the e-learning opportunities in Kerala along with the

other digital arenas sprouted in Kerala. In their analysis of e-learning, they targeted to study digital literacy in the state, with surveys focusing on understanding the proportion of the people benefitting from opportunities like E-Jaalakam, Mikavolsavam, etc.

(Varghese, 2019) tried to find the relationship between E-learning Experience and Academic achievement of prospective teachers of secondary schools of Kerala. E learning experience consists of components like teaching presence, social presence and cognitive presence. Result of the study revealed that there was negative correlation between E- learning and Achievement of prospective secondary school teachers of Kerala.

(Gaurav, 2020) explores the extent of digital divide between the users of online education among college students in Kerala from different socioeconomic backgrounds amidst the Covid 19 pandemic. This study indicated that there existed class, caste and rural-urban disparity in the extent of digital divide but not that high a gender inequality in online educational systems for college students in the state.

(Gandhi) has made an analysis on how digitalisation of education made an impact upon teachers who had experienced a sudden drift towards technology. The entire education system moved out from the traditional classroom with the onset of the pandemic. The study thus aims to explore the positive and negative impact of digitalisation of education on teachers in India along with providing some recommendations in order to improve online learning models.

VI. Data analysis and interpretation

A. Profile of the respondents

Out of the total of 124 respondents, 34 percent were students, another 34 percent were teachers and 32 percent were parents. Out of the 21 students from rural domicile, 7 of them belonged to the income category of 10,000- 25,000 and 5 each for the less than 10,000 and more than 1,00,000 categories. 3 people belonged to the 50,000-1,00,000 income group and only 1 had a monthly income of 25,000- 50,000. Out of the 21 students and 29 parents from urban, none of them belonged to the monthly income cap of below 10,000. Most of them belonged to the income group of more than ₹1,00,000 per month.

B. Preference of the mode of education

Rural area: In rural areas, 5 students preferred online education while 13 students preferred classroom or offline education. 1 student selected home-schooling. While analysing the data about the teachers in rural areas, only 2 teachers preferred online education while 16 teachers favoured classroom education. Most of the parents preferred classroom education.

Urban area: While considering the preference of the method of education in urban areas, 7 students selected online education and 13 students opted for classroom education. No one was interested in home-schooling. While analysing the data of the teachers in urban areas, 4 teachers preferred online education while 15 teachers were interested in classroom education. 5 parents chose online education whereas 22 parents preferred classroom education.

C. Possession of technological appliances

When we categorise the respondents on the basis of income, among the total 124 respondents, 6.09 percent earned a monthly income of upto Rs. 10,000. In the income category of Rs 10,000 to Rs. 25000, belonged 10.97 percent of the respondents. 18.29 percent of the respondents earned an income ranging from Rs. 25000 to Rs. 50,000. The next 25.60 percent had an income of Rs. 50,000 to Rs 1,00,000. The rest 39.02 percent of the respondents were of the income category of more than Rs. 1,00,000.

Rural area: In rural areas, respondents with less than ₹10,000 income mostly possessed mobile phones and only a small proportion of people possessed laptops, they did not possess any other digital appliances. People with more than ₹1,00,000 monthly income had access to almost all kinds of digital tech appliances. People in the income group of 50,000- 1,00,000 had mostly all kinds of digital appliances. The rest of the two-income groups had access to mobile phones and tablets.

Urban area: In urban areas, the respondents with an income cap of more than ₹1,00,000 and ₹50,000- 1,00,000 monthly family income mostly possessed all kinds of digital appliances like Mobile Phones, laptops, tablets, Personal computers, and Tablet. There were no respondents in urban areas who had an income cap of less than ₹10,000. The other two income groups mostly possessed mobile phones and laptops only.

D. Preference towards online and offline education on the basis of income

Rural area: In rural areas, respondents belonging to all income categories mostly preferred classroom education over online learning. Comparatively people belonging to more than ₹1,00,000 income preferred online over offline.

Urban area: In urban areas, the same kind of situation prevails as that of rural areas. The only difference is that none belonged to the income category below ₹10,000. The only people who preferred online over offline are the people belonging to the income group of ₹10,000- 25,000 and more than ₹1,00,000.

E. Benefits of e-learning or digital education

The amount or the kind of positive impact that e-learning provides to students, parents and teachers is different. the positive impact of e-learning was studied based on various aspects like, accuracy of earning textbooks, content quality of the textbooks, system response speed, ease of usage, short time period enhancement of knowledge and skills, convenience and remote accessibility.

Students consider the ease of usage and convenience of online education as the most significant positive impacts of e-learning. In the opinion of teachers, short period enhancement of knowledge and skills was the most influencing factor of e-learning. Though most of the parents do not consider e-learning as an effective platform, majority who supported e-learning, voted for accuracy of e-learning textbooks. The various benefits of e-learning as perceived by different stakeholders are as follows:

F. The increase in several courses and workshops attended by students as well as teachers

When the classroom education was in practice students mostly devoted their time to the workbook and activities associated with the class. But digital education offers wide opportunities for students to learn the activities of their interest and enhance skills. As far as teachers are concerned the online workshops and webinars encouraged them to come out of outdated traditional teaching practices.

7 students from urban areas attended 3 or more e-learning courses; 5 attended 2 and 1 course each and 4 had attended none. 11 rural students attended 3 or more courses; 2 attended 2 courses and 1 course each and 6 had not attended any such courses.

Teachers in urban and rural areas both received webinars or workshops given by their respective institutions. Only a small number of teachers said they didn't receive any webinars or workshops.

G. Challenges to online education

There are certain challenges to online education which act as a hindrance to online education. The kind of challenges differ concerning students, parents and teachers since each of these stakeholders' usage of online interfaces for education is different.

H. Not having access to internet

In rural areas, 40 percent of students did not have access to the internet because of poor signal availability. 20 percent of students did not have online education access because of its high cost and 20 percent of students did not have previous experience about the online platforms.10 percent of the students were uneducated about online platforms.

Unlike rural areas, urban areas students don't face any difficulty in accessing the internet. Most of them are well-off to have stable and uninterrupted internet connections.

There are certain reasons for which parents can't provide students access to the internet in urban areas and rural areas. The main reason is the absence of previous experience of using these types of digital platforms. This was the opinion of 60 percent of parents. 20 percent of the parents found the cost unaffordable. The poor signal strength or the availability of signal strength is the reason faced by the remaining 20 percent of parents in urban areas.

The problem faced by the teachers in rural areas as well as urban areas is the signal availability owing to the location. This serves a major impact on online education. The cost of digital education and poor knowledge about the same does not affect the teachers in general.

I. Absence of willingness to shift towards online education modes except for COVID 19 reasons

This can be considered as another major challenge since there is widespread unwillingness among teachers and students in shifting to online education methods if no pandemic had occurred.

In rural areas, 2 teachers have the will to shift towards online education except for covid-19 reasons and the remaining 16 teachers prefer shifting to offline or classroom education mode. While considering the case of students, 7 students prefer continuing their online mode of education for other than covid 19 reasons while the remaining 13 students wish to move towards offline mode.

In urban areas, nine of the teachers are interested in shifting towards online education except for covid-19 reasons. But 5 students are willing to shift towards online education except for the covid-19 reasons while the remaining 15 students are not in favour of the shifting of education.

J. Reasons for reluctance to shift to online mode of education

In urban areas, about 10 people do not favour online or digital education because of the health issues caused by the frequent usage of digital appliances or electronic devices. The remaining 21 people are not interested in digital media for education as they do not need that. In rural areas, 2 people are not interested in online education because of the addiction issues caused by the frequent usage while 8 people are barely interested in online education because of the health issues caused by that. 7 people specified that they do not need to use these types of digital platforms for education.

K. Comfortability in preparing for offline exams after online classes

This is an important challenge faced by students, especially in the Indian context. When classes were shifted to fully online mode, the major concern among teachers and students is online classes with offline exams, since the greatest number of students according to the analysis did not properly attend online sessions.

As to whether the students preparing for offline exams are comfortable doing the same after having online classes, 14 students from rural areas did not feel comfortable whereas 7 did feel comfortable. 12 teachers from rural areas think their pupils will not be comfortable writing offline exams whereas 7 thought it would be comfortable.

8 students from urban areas felt comfortable giving offline exams while 13 did not. 6 teachers felt comfortable having their pupils write offline exams whereas 14 did not.

L. Health issues due to frequent online classes

The health issues due to excessive use of digital and tech devices causes serious issues to all users. This is widely discussed also because work from home culture and online classes have consistently increased over the years. An almost equal number of urban parents agree that their wards do and do not experience health issues. However, in rural areas, a greater number of parents mentioned that their wards do not experience any health issues. Teachers in both rural and urban areas say children experience health issues because of online education.

M. Power-cuts during online classes

Students in rural and urban areas face power-cuts frequently. In urban areas, 17 respondents said that they have power outages in their area against a total of 21 respondents, whereas 13 respondents experienced power cuts in rural areas against a total of 21 respondents. The majority of the teachers from both rural and urban areas say that they do not experience power cuts during online classes.

VII. Suggestions

- Credits: Transfer credits from online courses to graduate courses so as to encourage utilizing online courses.
- Training: Give special in-person training for online classes to socially and economically weaker sections of society.
- Online education removes the barrier of age discrimination and hence encourage older people to pursue online classes.
- Technical Support: Educational institutions should maintain and provide a 'Digital Library' comprising an adequate number of Personal Computers and laptops, which can be borrowed by their students for their needs.
- State support: Governments can provide free laptops to economically weaker students or provide laptops and gadgets on loan.

VIII. Conclusion:

The pandemic made e-learning an essentiality to gain education. Though it was a totally new experience to the vast student – teacher community in our nation, we took it in a positive sense and well accustomed to this challenging yet rewarding system of education. In short, digital education has made our world smaller and smarter. It will not be surprising if the days of classroom learning becomes history in the near future.

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Figure 1

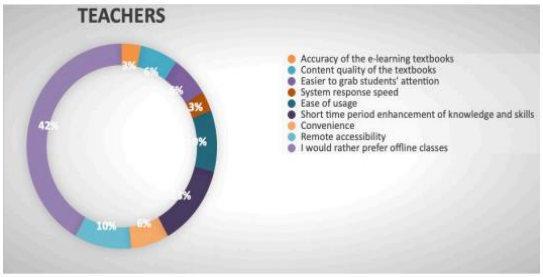

Figure 2

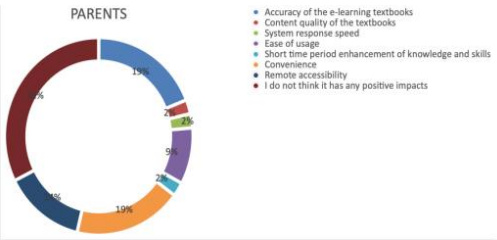

Figure 3