Coronavirus Pandemic Exposes Digital Divide in Our School system  
A Case Study Bartow County Schools

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Executive Summary

I am a final year student of IT/Informatics at Mercer University, Atlanta Campus. As a condition before graduating, all final year students are to present a research paper to address a topic of interest as it relates to their course of study. Digital Divide has always been an area of interest to me. It is very concerning that in this current age and time not everyone who needs and require the use of information technology can access or afford it.

The current virus pandemic in the world, further exposes the level of digital inadequacies and failure in our educational system. Schools across the country are scrabbling to create an online portal to engage students during this time, for schools that were able to create an online portal are starting to realize that majority of their pupils do not have access to fast speed internet service nor do they have devises to use. As the coronavirus pandemic forces the closing of more schools and workplaces, the health crisis has exposed the "digital divide" which allows some to stay on task remotely, with others left out.

This project will focus mainly on how to bridge this gap by analyzing the current situation and suggesting ways by which this issue can be resolved or mitigated.
Introduction.

As the coronavirus pandemic forces the closing of more schools and workplaces, the health crisis has exposed the "digital divide" which allows some to stay on task remotely, A growing number of students from grade school to university are moving to virtual classrooms, and while millions of office workers are being asked to work from home as a result of the expanding public health emergency But a lack of adequate online access will make it difficult if not impossible for the digital "have nots" to keep up with their peers, highlighting the need for ways to bring more people up to speed.

A 2019 Pew Research Center survey found 73 percent of American adults had high-speed internet access at home, but the figure is lower -- 63 percent for those in rural areas. For low-income families the situation is more dire: census figures show as many as half the households in major US cities with incomes under $35,000 annually lack home internet access. "As companies & schools consider telework options, one thing to note is that access to tech is still correlated to a number of factors -- including household income," tweeted Monica Anderson, associate director of internet research for Pew.

Federal Communications Commission member Jessica Rosenworcel told at a congressional hearing this week the coronavirus outbreak should make digital inclusion a priority. "I think it's time for the FCC to talk about coronavirus disruption and how technology can help," she said.

"Nationwide we are going to explore the expansion of telework, telehealth and tele-education. In the process, we are going to expose hard truths about the digital divide. The FCC should be convening broadband providers right now to prepare." But a lack of adequate online access will make it difficult if not impossible for the digital "have nots" to keep up with their peers, highlighting the need for ways to bring more people up to speed.

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Research Questions for Students

1. How were you affected by the school closure during this time?
2. Were you able to complete or take classes online?
3. Did you attend virtual classroom lectures during this time?
4. Do you have internet access at home?
5. If Virtual lectures were offered by the school, did you have all you needed to participate?
6. Do you own a laptop/tablet or smart phone?
7. How was your overall experience during this time?

Research Questions for Parent.

8. Do you have a fast speed internet?
9. During this period was the school able to offer virtual classrooms to students?
10. Were you able to provide devices for your kids as needed to take virtual classes?
11. If the school couldn’t offer classes online how disappointed are you about this?
12. Can you afford internet services and devises for your children?
13. What role do you think the government should take in this situation?

Research Questions for School Administrators

14. Did the school prepare for a situation like this?
15. Why couldn’t the school offer virtual lectures to students?
16. How many IT trained educators are currently in the school?
17. Could the school afford a virtual classroom?
18. Is the school thinking about creating a virtual classroom?
19. What will be the role of the Department of Education in ensuring that situation like this do not cripple educational activities in the future?
20. Are the students ready and able to be successful in a virtual learning environment?
Propose research methodology.

The purpose of this research is to provide information about the growing concern of Digital Divide in rural schools in Georgia.

I propose to use quantitative methods to measure, rank and categorize data collected from the department of education, county school boards, stakeholder website such as internet and broadband providers, also information gathered from educators, parents and the communities by identifying patterns and making generalized recommendations.

Quantitative analysis is the best approach to use for this research because it helps to investigate phenomena by gathering quantifiable data and performing statistical, mathematical, or computational techniques.

Data collection methodology.

Quota Sampling: Using quota sampling, researchers can select elements using their knowledge of target traits and personalities to form strata. Members of various strata can then be chosen to be a part of the sample as per the researcher’s understanding.

Quota Sampling Definition

Quota Sampling is a non-probability sampling method in which researchers can form a sample involving individuals that represent a population and are chosen according to traits or qualities. Researchers can decide the trait as per which the sample subset selection will be conducted so that the sample can be effective in collecting data that can be generalized to the entire population. The final subset will be decided only according to the interviewer or researcher’s knowledge of the population.

In the initial stages of a study, researchers can collect representative data from a sample formed using the quota sampling method. It is very similar to stratified random sampling, which is a probability sampling method. The main difference between these two techniques is that, in quota sampling, the elements of the sample are not chosen randomly from each stratum like it is done in stratified random sampling.

Researchers usually prefer non-probability sampling techniques such as convenience sampling and quota sampling in situations where there are financial or time restrictions for
research. Also, in some cases where the speed of research is more precious than the precision of the obtained results, this sampling method is relied upon.

There are two main points that a researcher should be aware of, for accurate strata creation:

1. Understanding of all the elements of a population
2. Intention of research

Project planning.

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Literature review

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This study will use national data to determine whether the “digital divide” in America is significant enough to cause concerns and if so, how do we close the gap. This research finding will show that one’s income, age and education are more closely associated with the use and availability of technology than was geographical location.

This study tends to examine models of adoption and the use of technologies among schools during a global pandemic. Despite the pledge of tech society to bridge the digital gap by erasing the structural barriers posed by geographic isolation, inequalities’ exit still in the use and availability of technological resources.

The stakes are high. The use of technology—particularly the Internet—has become a necessity for education, employment and information dissemination. As the gap between the technological “haves” and “have-nots” continues to widen, more and more people will lose out on jobs, economic development and civic participation. By providing free access to computers and the Internet, community access centers can provide minority groups, lower income, and less educated individuals with the same information tools as other connected Americans.

POLITICAL BACKGROUND

In 1995, the Commerce Department published its first report detailing disparities in computer and modem ownership. By early 1996, the term “digital divide” had become part of the lexicon. The first aspect of the divide to be addressed in the political arena concerned providing Internet access in public schools. During the Presidential election, President Clinton and Vice President Gore campaigned for a program that would subsidize school and library Internet access. This program, now known as E-rate, was signed into law as part of the Telecommunications Act of 1996 which preserved universal service.

Americans living in urban areas are three times more likely to have access to Next Generation broadband than Americans in rural areas. An estimated 15 million Americans, primarily in rural
communities, don’t even have access to entry-level broadband in their homes. Forty-one percent of American’s rural schools couldn’t get a high-speed connection if they tried.

The FCC can play an important role in bridging these gaps, and today, I’m circulating two items that will expand access to robust broadband across rural America.

Bringing High-Speed Broadband to Rural Schools and Libraries

One proposal would close the digital divide in rural schools and libraries by modernizing the FCC’s E-rate program. Since 1997, the program has helped connect schools and libraries to the Internet, but it’s falling short of delivering the bandwidth required for 21st Century learning. That’s particularly true in rural America, where 41% of schools lack access to the fast fiber connections required compared to 31% in urban areas.

Why does this Rural Fiber Gap exist? Fiber connection costs are much higher for rural schools and libraries. As a result, either there is no fiber, or that level of connectivity is only available at an unreasonably high price. It may not be unusual, but it is unacceptable that these realities can hurt students.

Thus, my proposal includes targeted updates to E-rate rules to help defray the high costs rural libraries and schools face in achieving high-speed Internet connectivity, particularly the one-time infrastructure upgrade costs that many simply can’t afford today. For many low-income schools and libraries, the challenge is one of affordability, so my proposal also includes rule changes designed to increase the number of competitive options to these schools and libraries to ensure they have access to the most cost-effective solutions.

In July, there was an inquiry into the future funding needs of the E-rate program. After the analysis, as well as studies submitted to the record, it was concluded that additional investment is required to bring 21st Century digital learning to all schools and libraries. The E-rate’s budget, set in 1997 and not adjusted for inflation until 2010, isn’t up to the task. Now, we are rebooting E-rate for the digital age by proposing an increase in the size of the program to reflect the investment required to close the rural divide and keep American education competitive nationwide.

Closing this connectivity gap will require raising the E-rate spending cap. Now, let me be clear. We have looked long-term to forecast the funding needs going forward and based the spending cap on those forecasts. What will be spent – and the rate Americans will be asked to contribute – will vary from year-to-year. Most certainly, the contributions from Americans won’t immediately jump to the cap.
I am proposing that we increase the cap on what all Americans contribute to the E-rate fund by 16 cents a month for a telephone line. Let’s put that in perspective. Over the course of the year that represents one cup of coffee or a medium soda at McDonald’s. Per year.

E-rate is funded by fees on consumers’ phone bills. I take the fiduciary responsibility to invest those contributions wisely and very seriously. That’s why we placed an emphasis on improving cost-effectiveness earlier this year. But the fact is that the E-Rate budget hadn’t received an annual inflation adjustment for 13 years. Most of the the proposed new cap accounts for the lack of inflation adjustments, with the rest going to new growth if needed.

This is the reality: while many schools and libraries have benefitted from the E-rate program, rural and low-income schools and libraries have not shared proportionally in the opportunities. The investment I am proposing enables the FCC to fulfill its responsibility to advance digital learning in all American schools and libraries.

Reference:


https://www.theguardian.com/technology/2016/may/16/rural-america-internet-access-navajo-nation.