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CSE 4314-004

Assignment #5

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**Impacts Of Computing On Education During Pandemic**

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Professional Practices

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This Assignment is submitted towards and in support of the partial completion of the requirements for the Professional Practices Course.

**Table of Contents--------------------------------------------------------------------------------page 2**

**1. Introduction -----------------------------------------------------------------------------------page 3**

**2.History of Computing in Education-------------------------------------------------------page 3**

**3. Positive impacts of computing on education--------------------------------------------page 4**

**4. Negative impacts of computing on education-------------------------------------------page 5**

**5. What our future holds and how can we make it better?-----------------------------page 6**

**6. Conclusion ------------------------------------------------------------------------------------page 7**

**7. Appendix A -----------------------------------------------------------------------------------page 8**

**8. References-------------------------------------------------------------------------------------page 8**

**9. Appendix B------------------------------------------------------------------------------------page 9**

**Introduction**

We entered the digital age in the mid-20th-century. Since then, the use of computing and technology has gradually risen in every field like health, education, transportation, defence etc. All the increase in computing has happened to improve the general lives of people. But, since the start of the pandemic, there has been a dramatic shift in the use of computing in almost every job. During the pandemic, the online job search has increased by the 460% and it is going to go up.1 Most of the big companies are shifting platforms to work to either hybrid work or work from home. Similarly, we have seen an increase in computing in the education sector since the pandemic in every age group of students.

**History of computing in education**

The first known calculating device, Abacus, dates to 2700BC. At that age, the use of the abacus was only to do faster calculations i.e., addition, subtraction, and multiplication. After that, a lot of devices were developed to do faster, correct, and different kinds of calculations like logarithmic function, exponential function, or power function. Scientists and engineers kept developing new machines. But till the late 1960s, it was mostly restricted to scientific research and development. The common use of computers among students started in the late 1960s and early 1970s, when the first operating system, PLATO or programmed logic for Automatic Teaching Operations, for general use by students and professors was developed at the University of Illinois2. After that, every year, a new operating system, new software was developed targeting students and the use of computer in public. After that, a lot of desktop computers were developed for personal use. Universities started to adapt to the new digital age by using computers as a method of teaching. In 1989 AD, the University of Phoenix became the first institution to launch a fully online collegiate institution that offered both bachelors and master’s degree.3 Even before the pandemic, our university (The University of Texas at Arlington) had a hybrid education system with echo360 installed in most of the classes and online nursing programs. This all happened because companies like Apple, Microsoft, Dell, etc started to build new computers every year to increase the processing speed and efficiency with a lot more features and Companies like AT&T, Spectrum, Verizon build the fastest internet network. Right now, we are in the age where we don’t even need universities or regular classes to learn something and a lot of people are learning something every day without going to university on platforms like YouTube, SkillShare. Books and articles are easily accessible from home. There are online programs where anyone can get help from any teacher, professor or public from anywhere in this world. Computing in education has increased so much that we cannot imagine educating ourselves without them.

**Positive impacts of computing on education**

The first country hit by pandemic was china in December 2019.4 First case in the US was reported on January 20, 2020.5 At the beginning of March, We started to feel the real impact of covid-19. I remember we were on spring break when the federal government announced to decrease physical contact in any way possible. The state government announced rules and regulations on how we can contain and virus. By following the guidelines and protocols by CDC and our government, our university announced that we will be transitioning to completely online classes. The first and best part about this is not one student had to stop learning because of the pandemic. Yes, it took time to transition to online learning (Like a week) but no students had to completely stop their education because of it. A lot of countries outside of the US had to completely stop classes and education for months to transition to the online platform. Second, our education system transformed into the future. Yes, it was hard to adjust but suddenly, we had systems where we can watch pre-recorded or recorded lectures from home. Thirdly, it gave free time to students to use the available resources to cope with the pandemic. Honestly, if I was in Nepal, I am not sure what would have happened and how my education would have continued. It helped students to be mentally available and not to worry about what is going to happen to their future. Lastly, we can see the surge of new technologies and software primarily focused on education like Zoom, echo360, Microsoft teams/viva, etc. I do not think that all this technological advancement would have come in education without the pandemic.

**Negative impacts of computing on education**

Everything that comes with a positive impact also has a negative impact. It is just the way of nature. We have had a lot of technologically advanced and we have had a lot of technological failures as well. Here, due to the excessive use of technology in education since March 2020, we have seen some serious problems among students. First, Cheating has increased.6 Since, the start of online learning, a lot of professors, from different universities has complained about the rise of cheating during exams, homework, and quizzes. One of the favorite quotes of Prof. Ronald Cross is “Grades are earned not given”. But here when students should be more serious about education and career, we have seen the rise of subscription of Chegg, heavy traffic on stack overflow and a lot of similar websites. Secondly, Tracking and collection of data have increased. Previously, we used to go to classes, makes notes, focus on lecture, and come home. Since all the classes have gone online, and we spend most of the time on platforms like Microsoft teams or zoom. They are tracking our every move. What we do on the website, what we are using on our background, what we are watching, I mean everything. This is going to be very harmful. Let’s imagine, I am studying CSE-4314 online on an online platform like zoom or teams. And in the background, I just checked some jackets for winter and watched a YouTube video. They will sell these data to companies like Netflix or Google to target students like me during these hours. I started to get a notification during class hours about Nike shoes. It is very concerning if companies like Google or Apple can decrease our concentration during class hours. Thirdly, A lot of students is suffering from false punctuality. We feel like we are on time, but we are not. For a lot of students, it feels like we have everything recorded, we can always watch them and learn but every time we do this, we push ourselves one step back. It has happened to me, and I feel a lot of students can be related. There was one class which I felt is quite easy and I can always watch the lecture videos on weekends and be on time but every weekend. I got busy with some other works and in the end, I did not do as I felt I could do in that class. I missed A by around 5 points out of 300. Lastly, it has impacted the social and mental health of a lot of students. Since the pandemic, it is very hard to get to know classmates. It is very hard to share ideas, have a professional conversation, be social and not feel awkward. It will have a horrifying impact on children’s or young student’s mental and social health

**What our future holds and how can we make it better?**

It is very much true that we are never going back to the way we were. Yes, we saw a large shift in education and almost every sector during the pandemic, but I don’t think in any sector we are going to go back to before pandemic days. I believe our future will be completely hybrid. A huge number of students, teachers and parents prefer hybrid learning for the students. It is also a better way for everyone to choose what they prefer. Yes, we will need to have some rules and regulations in place to be hybrid. Some of the things that universities and schools can do are to ban websites like Chegg or Course Hero and make TAs more available. Invest more in programs to deal with the mental and social health of students. Increase more on-campus social programs and invite students and parents to participate.

**Conclusion**

Humans has always been finding ways to improve our lives in every sector and we will continue to do it. In the education sector, we have come a long way and we will go much further with new technology like Oculus and VR headsets. The only thing that will matter is how can we cope with it, and how can we reduce the negative impact of technology in our life. As a computer science and engineering student, I will be making sure that new technology and software will help students to acquire more accurate and reliable information and help them save time and increase the efficiency in gaining knowledge.

**Appendix A**

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**Appendix B**

**CSE - 4314**

**Professional Practices**

**Academic Integrity**

**In order for your Assignment/Homework/Project to be accepted you must read the following, sign this form and attach it to your papers (as the last page of your assignment).**

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

Student Signature: Text, letter, whiteboard

Description automatically generated

Student Id Number: 1001663720

*Note: Must be read, signed and attached (stapled) as last page of homework or assignment. If it is a team assignment then all team members must read, sign and attach a single copy of the Academic Integrity form to the team’s paper as the last page. If not properly attached as last page a 2 point penalty will be assessed after grade assigned.*