Barriers in STEM during the Pandemic

Vanessa Lucia Sida

The COVID-19 pandemic has without a doubt caused many problems not merely in the healthcare field but also in education, as many things were highlighted and brought to the surface such as social and economic inequality within education. Mrs. Sharita Ware, Indiana Teacher of the Year for 2022, explored these problems in her keynote lecture at Purdue’s Honors College, and discussed how she has personally been affected. Mrs. Ware explained that she has always felt overlooked and under-respected in her field despite any accomplishments that she has achieved and how that has made her a more prepared and well researched person [1]. During her lecture she explained how the pandemic created barriers for students who lacked proper internet access and that the pandemic may have led to less motivated students and what she did to combat that.

Changes during the Pandemic

Regarding the pandemic, there have been many setbacks as to how to teach the new generation, given all the new restrictions and protocols. Rick Erickson, a middle school science teacher, explained that the pandemic has dramatically changed how teaching can be performed since there are now so many new factors that need to be considered, like how much access and equity each child has at home [2]. This has caused him, and more like him to include more creative ways to get student to participate while staying at home. Likewise, Mrs. Ware talked about how difficult it was to connect with her students when everything was online because many students did not feel it was necessary to put in the same amount of effort into their projects as before, since for many of them school did not seem as important during a pandemic [3]. She combated this by really emphasizing how important their work was to her and how they should care for it too. This was very natural to her as she had always been described as a “mother” to her students. For example, during her lecture she mentioned how important it is for her to have students to talk openly to her and how she makes it a priority to carve out a time in her classroom for her students to talk about themselves and share stories. She does this, regardless of other
teachers’ criticism that it’s a waste of time, because she believes that this open dialogue will help kids believe in themselves and that will carry on to other areas of their schoolwork, significantly improving it, which she claims she has seen time and time again. However, during the pandemic Mrs. Ware noticed the negative aspect to the more with the fact that the students started becoming lazier, since so much free time was allotted to them. She fears that the pandemic may have caused students to not be able to persevere through different challenges. This greatly affects the future of STEM, because these majors require students to face a great deal of challenges.

**Lack of tools**

While teachers have had to keep this in mind, the other factor that could be affecting young kid’s education of STEM is a lack of tools to participate in online class [4]. STEM classes tend to require some type of computer and a reliable internet connection and there are many low-income students who may not be able to access it. To accommodate for this, certain districts have offered free iPads for students who would otherwise not be able to afford one and have no other working computer at home [5]. This is a positive step forward, but it may not be enough since providing an iPad will only solve half of the problem if the child’s home does not have internet. All these factors need to be pondered and explored if we do not want students to fall behind in STEM related subjects.

The pandemic poses a grave threat to a decreased interest in STEM related fields as contemporary students will not have the same opportunities as students in the past. Most students were confined to e-learning for most of 2020 and 2021; consequently, some students may be a whole grade or two behind because they could not afford a computer and their district did not provide them with one. In Mrs. Ware's district they were only on lockdown for the spring of 2020, so thankfully these issues were not as severe as for other districts.

Overall, this pandemic has created many problems for current and future STEM majors, but because of teachers like Mrs. Ware who works daily to encourage students of their ability to achieve whatever they set their minds to, there is hope that the future of STEM will be as strong as ever.
Notes


[3] Sharita Ware, “The Lost Ones (Identity Lost)- Redefining Education to Empower Our Children.” Visiting Scholars, Lecture presented at the Visiting Scholars Series with Sharita Ware, April 14, 2022.
