Balancing Technology and Teaching in the Classroom — How Do We Do It?

Nihal Krishan

Schools all over the country are going through the growing pains of digital adoption, connectivity in classrooms, and figuring out the instructional use of devices and online resources. Within this context, how do we balance learning through teachers and learning through online devices?

Two recent papers offer a glimpse into the nitty gritties of grappling with this on-going challenge in the world of education policy. One is a study by the New America Foundation, which went about trying to gain a greater perspective on how increasing demand for broadband infrastructure is playing out in schools. Another is an article published by the Brookings Institution on the importance of teachers in today's technology-driven world, "where teachers may no longer be the sole keepers of knowledge in the classroom."

Both papers make it very clear that contrary to popular speculations, technology does not replace teaching, it enhances it, and computers are simply a tool that teachers can use but that teachers themselves still play a critical role in helping students learn.

One of the authors of the New America study, Lindsey Tepe, spoke with InsideSources about her findings and highlighted the need to have two ongoing conversations in education circles about technology and teaching. She said that regardless of the balance that we want to strike between online tools and face-to-face learning, if we want any level of technology built into our curriculums, then a "robust technological infrastructure" needs to exist first.

"Often policymakers and politicians skip straight into conversations on how much technology and screen time we should have and questions on pedagogy and the balance between technology and no technology, but if we want any technology in the classroom then we need to have a technical conversation about the infrastructure, buying devices, having all the tools we need, training teachers–at the same time as we're discussing the appropriate balance of technology in classrooms," Tepe said.

Tepe stressed the importance of this technical conversation because she said that if it's not had then potentially millions of dollars spent on technological resources and tools (like computers and tablets) could be wasted if the broadband speeds aren't where they need to be for hundreds of students to use at the same time.

"If a small, two-lane road in a tiny town suddenly had 300 cars on it on one day, in one hour, what would happen? If the tools are freezing and computers aren't working or things are slow, then teachers stop using the tools at their disposal," Tepe said.

However she also highlighted that presenting the larger problem of learning from a computer and learning from a teacher "as a dichotomy is false," and that the two "are not mutually exclusive. Remember that computers are just a tool for teachers to use to engage their students," Tepe said.

She said that self-teaching on computers by students having all their learning from watching online videos was not recommended and not likely to happen.

Anne Olson, Director of State Policy for KnowledgeWorks who wrote the Brookings paper supported many of Tepe's assertions regarding the role of technology in classrooms. She told InsideSources that although increased access to technology and online tools means "teachers are no longer the sole 'information keepers' in a classroom," this only allowed teachers to "be more creative" in better guiding their students' learning experiences.

Olson also emphasized that new technologies help "teachers support each individual student's academic needs and passions," highlighting the fact that students often go at different speeds and have different inclinations and online tools make it easier for teachers to meet these multitude of needs in a classroom.

Teachers using technology for students to use for set amount of time for personal projects that interest them and to allow for individual exploration and experimentation was an effective use of technology, Olson said. She cited an example of a student in Wisconsin, at a school called FLIGHT Academy where students are allowed to have "passion projects" to spend a quarter of their school year researching something of interest and then presenting on it.

"I saw one young man present on potato chips last year. He used multiplication to determine how many chips the United States consumes each year, memorized and narrated a YouTube video about the technology of making potato chips, and fed us his homemade version of potato chips having experimented with them at home, where he discovered vinegar is the key ingredient to making them crispy. Although this student used technology in his project, his teacher was incredibly important in facilitating his learning experience and providing space to integrate different subjects into his process."

For technology to be integrated seamlessly and efficiently into schools, one of the most important components — that seems obvious, but doesn't always occur, according to Tepe — is consulting teachers and students when decisions and purchases about technology are being made.

"If an administrator makes a decision about technology without considering teachers, teachers might not just use what's been bought for them or become frustrated, and the spending becomes useless. If teachers and students aren't invested in whatever technology is being purchased, the technology might not actually get used," Tepe said.

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