

Chapter 1

The Top 12 Technologies for Teaching and Learning in the Post-Pandemic Era

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ABSTRACT

This chapter examines a suite of contemporary technologies used to deliver instruction – initially in a traditional classroom environment, and, most recently, in a virtual home-bound setting. Most readers were likely introduced to these tools well before the advent of the 2020-2022 COVID-19 pandemic. However, for these particular technologies, the demand for remote distance learning, student-centered instruction, and online delivery most certainly impacted the manner in which they were temporarily adopted or permanently infused into the curriculum. And, for most of these technologies, their continued use in both traditional and untraditional ways continues even now that the pandemic is behind us. The top twelve technologies explored in this chapter most certainly had their beginnings prior to the pandemic years. Yet, they were suddenly and without warning reinforced during the challenges of teaching from 2020-2022. Still, each technology has found its broadest appli-

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ation once students were welcomed back into the post-pandemic classroom. The examinations that follow begin with a description of each technology, its primary features, advantages and disadvantages, and additional resources that promoted its use before the pandemic reached critical mass forcing students and teachers alike to abandon the traditional classroom. This familiarization is followed by how each technology was integrated by sometimes hesitant faculty into the routine delivery of instruction when students were forced to remain at home for the better part of two years. Finally, with the pandemic now behind us, the chapter discusses ways in which faculty might continue to use these technologies to better deliver individualized instruction even in a predominantly traditional, face-to-face classroom.

BACKGROUND

In Volume 9, Number 3 of the International Journal of Information and Communications Technology Education (IJICTE) (July-September 2013), *Top 10 Technologies for Designing 21st Century Instruction (2013)*, introduced a first look at classroom technologies that were advancing teaching and learning in the new millennial classroom (See Table 1).

Table 1. Top ten technologies (circa 2013)

| Rank Order | Technology |
|------------|-----------------------------------|
| 1. | Interactive Smartboard |
| 2. | Web Cameras (Webcams) |
| 3. | Videoconferencing |
| 4. | Podcasting |
| 5. | Digital Cameras |
| 6. | Digital Video |
| 7. | Wikis and Blogs |
| 8. | Social Networking |
| 9. | Digital Electronic Books (eBooks) |
| 10. | Student Response Systems |

In the second iteration of that initial research, the (*Revised List of*) *Top 10 Technologies for Designing 21st Century Instruction (2017)*, the list of technologies had already evolved extensively. Five of the original technologies had been replaced with newer applications (See Table 2).

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