

## TECHNOLOGY IN PHARMACY EDUCATION

### Information Technology and Pharmacy Education

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Information technology permeates pharmacy education. Attempts to succinctly describe and analyze the complete range of information technology in use would be met with considerable challenges as the technology array is diverse in complexity and capability. Acknowledging the near ubiquity of information technology in pharmacy education, and recognizing the inherent challenges of presenting an exhaustive analysis of technology use, this supplement is devoted to several key information technology topics for pharmacy education.

Colleges of pharmacy are challenged with making decisions regarding investments in information technology to support their work. These investments can take many forms, including monetary and personnel resources. In the health information systems marketplace, site visits are a de facto must-do when implementing a new clinical information system. Site visits allow potential adopters to see the technology under consideration in a live environment, and allow frank discussion between current and potential users. Monaghan and colleagues<sup>1</sup> present the results of a nationwide survey describing information technology use in pharmacy education. Specifically, their paper details the creation of an open, searchable database that allows pharmacy faculty members and administrators to conduct virtual site visits to identify what information technology is being used, where it is being used, and who to contact for more information. Their work provides valuable information for those seeking to learn about real-world experiences with technology in pharmacy education.

Social media is one category of information technology that is receiving attention for its possible use in education. Examples of social media include blogs, social networking sites, and online communities. Among the social media category of microblogs, Twitter.com is a popular service that is being explored for utility in education. Fox and Varadarajan<sup>2</sup> describe experiences of 143 pharmacy students using Twitter in a pharmacy management course. Their experiences shed

valuable insight into the potential challenges and benefits of using Twitter in a course that is primarily taught in lecture format.

While the use of Twitter and other information technology tools is an instructional decision made by the faculty member, colleges and schools of pharmacy are increasingly being encouraged by the Accreditation Council for Pharmacy Education (ACPE) to use portfolios for assessment of both students and faculty members.<sup>3</sup> Electronic portfolios offer many potential improvements over paper-based portfolios, but they also present many challenges. Lopez and colleagues<sup>4</sup> describe their experiences implementing a commercial ePortfolio application, including a description of the incorporation of curricular outcomes within their program as well as a discussion of management and logistical considerations for implementation.

Two additional papers in the supplement also focus on information technology implementation. Our colleagues in institutional practice are often charged with demonstrating their clinical and financial impact. The academy faces similar challenges in demonstrating the impact and value of students and practice faculty members at experiential sites. The first paper, by Stevenson and colleagues,<sup>5</sup> addresses this challenge in describing one pharmacy program's process and results of implementing a clinical intervention documentation system, including clinical and financial data from several years of usage. The second paper addresses implementation of a decidedly different technology: video conferencing. Fox and colleagues<sup>6</sup> describe technology-related planning, construction, implementation, and ongoing use of resources to support a satellite campus through synchronous video conferencing.

Because of the proliferation of multi-campus pharmacy programs,<sup>7</sup> video conferencing is actually addressed in 3 papers in this supplement, including the Monaghan<sup>1</sup> and Fox<sup>6</sup> papers above. Additionally, Stolte and colleagues<sup>8</sup> present student perspectives on video conferencing (among many technologies) in their description of student pharmacists' perceptions of the impact of technology on education. Readers are encouraged to consider the findings in these papers<sup>6,8</sup> related to the impact of video conferencing and student perspectives<sup>8</sup> on several

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of the technologies described in the paper by Monaghan and colleagues.<sup>1</sup>

The last paper in the supplement addresses the knowledge and skills that pharmacy graduates should possess related to pharmacy informatics. Despite ACPE requirements,<sup>3</sup> work remains to be done before colleges and schools of pharmacy fully incorporate pharmacy informatics content into their curricula.<sup>9,10</sup> This last paper frames pharmacy informatics content in the context of the medication use process and includes specific readings, learning activities, and resources to assist pharmacy programs to incorporate informatics into their programs.<sup>11</sup>

Through the inclusion of a broad set of contemporary topics, this supplement is intended to help colleges and schools of pharmacy prepare for the future. This future will include information technology and pharmacy informatics as important components of pharmacy education.

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