Technology and Occupation: Contemporary Viewpoints

Occupational Therapy Education in a Technological World

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Curricula across the country are grappling with how to teach technology in occupational therapy professional education programs. Although the Standards for an Accredited Educational Program for the Occupational Therapist (Accreditation Council for Occupational Therapy Education, 1999) stipulate the inclusion of technology content, this requirement does not provide guidelines of what to include or a framework for pedagogy. Because technology includes both low-tech adaptations and high-tech electronic solutions (Moyers, 1999), students must learn adaptive technologies, assistive technology, telecommunications, and data management in order to be adequately prepared. Additionally, students must be prepared for other technological advances to meet future challenges as therapists.

Technology is linked to occupational therapy practice through occupation. This link helps to guide a modern curriculum. The profession recognizes that occupational therapy practice revolves around the everyday occupations and roles of clients (Christiansen & Baum, 1997). Social and cultural norms, including the use of technology, often dictate those occupations. Over the years, technology has become essential to occupational therapy practice and in the preparation of future therapists.

Technology and Occupational Therapy

Occupational therapists have been writing about computers and technology for decades (Angelo & Smith, 1993). In 1983, the Occupational Therapy Computer Club first met in Portland, Oregon, and begun a grassroots journal (e.g., Breines, 1985). From then on, therapists have considered curriculum issues for technology learning (Angelo, 1997; Angelo, Buning, Schmeler, & Doster, 1997; Anson, 1997; Breines, 1985; Hammel & Luebben, 1996; Kanny, Anson, & Smith, 1991). However, the technological interests that guided the profession from its outset are rarely if ever cited and have seemed to be taken for granted. The foundational technical skills in which occupational therapists have customarily been trained has not yet been well integrated into the learning of modern technology-based skills.

History of Technology in Occupational Therapy

Occupational therapists have always been technologists, adapting themselves and their clients to the environments in which they live and work. At the outset of the profession, societies worldwide were transitioning from agriculture to industry. The notions of activity analysis and adaptation helped to define occupational therapy and remain important as this process results in the continuous updating of practice (Breines, 1986; Gilbreth, 1911). To prepare therapists to facilitate healthful adaptation within any changing era, students are taught to use familiar tools and materials, learning handcrafts or industrial activities as contextually appropriate (Breines, 1995).

Today, people use computer-operated devices in their work, schools, supermarkets, banks, transportation, and leisure. What is not clear, however, is which technology instruction should be included within an occupational therapy curriculum (Hammel & Angelo, 1996; Hammel & Smith, 1996).

An Integrated Technology Curriculum for Occupational Therapy Education

Seton Hall University (SHU) is recognized nationally for its high level of expertise in technology as a learning tool (Lowe, 1999; Sheeran, 2001; Winters, 1998; Yahoo Internet Life, 2002). Within this academic environment, the occupational therapy program has created a graded technology curriculum. Incoming students receive laptop computers through a ubiquitous computing program (“Wired for Success,” 1999). Before the first semester begins, students attend a workshop to introduce them to the computer so that they can participate in learning assignments that grow in complexity throughout the 3 years of the program. Numerous optional campus-wide workshops teach various skills for computer use, making it possible for students to approach computer learning as an individualized skill set. Given the varied preparation with which students enter graduate education, this self-directed approach works well. All students receive standard software preloaded onto their computers. The software bundle includes WordPerfect, Excel, PowerPoint, Front Page, and Publisher; Statistical

1Microsoft Corporation, One Microsoft Way, Redmond, Washington 98052-6399.
and low-tech tools while analyzing the impact of work on health. They complete a course in splinting, using low-temperature thermoplastics and wiring techniques. They prepare PowerPoint presentations, use the Internet as a research tool, and learn to recognize the limitations of Web-based research.

During the third year of the program, students’ modern technology education intensifies. They visit hardware purveyors, such as Home Depot® or Radio Shack, to identify source materials. They collaborate to assemble a Web-based document on leisure activity while individual students create Web pages. Students learn about electricity and the basic construction and use of adaptive switches. They learn the mechanical aspects of computer hardware, view the interior of computers, and practice installing internal and external mechanisms. They study adaptive technologies and apply their uses in case simulations and clinical situations. To build their skills as educated consumers, students identify vendors and invite them to present various aspects of assistive technology, ranging from seating systems to voice-activated software and environmental controls. They explore the uses of technology in public systems and private enterprises. For advanced activity analysis exercises, students analyze software and hardware. In the curriculum’s management course, students create promotional materials, such as business cards, brochures, and fliers, with creativity software. They use the scanner to transfer copy and designs, develop budgets with Excel, and use SPSS for data management in the research courses.

Discoveries

Because technology changes rapidly, its availability to the curriculum has changed since its inception. Originally, SHU’s Teaching, Learning and Technology Center supported a Learning Space platform, which advanced to Blackboard after a trial period. Although faculty members required retraining and reconfiguration of their course materials, moving to wireless computing enhanced what we were able to introduce in class. Students’ computers no longer needed to be plugged to a cable.

Some of the most inexpensive instructional software has been found in the sales buckets at Staples® and Marshalls.® We were able to purchase a wide variety of games and other software with this method for students to perform activity analyses. One of these purchases assists students with architectural design layouts when studying accessibility issues. We also found that vendors were generally open to providing equipment demonstrations, which saved substantially on purchasing costly equipment and avoided concerns about obsolescence. This strategy has been helpful for both information technology and assistive technology instruction.

Overall, we discovered that the students themselves serve as an exceptional technology resource. Each subsequent class brings greater technology skill than the one preceding it, mirroring society’s advances. Students are eager to share what they know and bring one another along in their competencies.

Summary

As occupational therapy curricula prepare students to meet the needs of clients living in a technological world, at SHU we have chosen to emphasize professional survival and practice in a technology learning context. The curriculum is guided throughout by the pedagogy of learning through doing (Dewey, 1916), using technology-based learning that increases in complexity and application as the program advances. This education results in the professional preparation of therapists who are equipped to apply their skills in the treatment of clients living in a modern world. Aspects of this
approach, which ties technology to occupation, might be considered by other training programs in different settings.

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References


