Book Review

Taxonomy for the Technology Domain

Lawrence Tomei. Hershey, PA: Information Science Publishing, 2005. ISBN-13: 978-1591405252. 270 pages, $84.95 US.

Tomei's *Taxonomy for the Technology Domain* and the proposed taxonomy it describes was originally written for teachers and educational administrators in any educational discipline. Today it takes on a new meaning for medical professionals in an era of rapidly expanding technology usage. A particularly noteworthy technology, the electronic medical record (EMR), has required extensive education and training at every level in the medical environment. Prior to the use of EMR, a health care professional's interaction with technology was perhaps passive or merely receptive. With the rapid infusion of EMR into all aspects of medical practice, those in health care must become technology savvy. It is now imperative that they become active users, manipulators, and educators of the technology before them. The very well-being of their patients will rely increasingly on their progressive competency in this domain. Those who teach chiropractic have a double challenge, their own patient care and the training of the next generation. Tomei has the expertise to guide us through this domain, given his role as Dean of Academic Services at Robert Morris University and his extensive publications in the areas of technology education, online and distance learning, and technology-driven curricula.

Tomei's *Taxonomy for the Technology Domain* serves as a series of sequential educational milestones for health care professionals tasked with teaching students and seasoned professionals the skills necessary to learn from, interact with, develop, and manipulate technologies to achieve educational, research, and patient care goals. The text has a very tightly organized structure that makes it easy to follow. The organized levels for the technology domain also make this book a practical reference for those tasked with teaching technology-driven lessons to any level of learner. Tomei notes that his taxonomy "uses the behavioral learning objective, constructed to embody the characteristics of an observable task, measurable learning condition and established standard of performance."

The text's first four chapters serve as a refresher course on the cognitive, affective, and psychomotor domains of teaching as previously delineated by Bloom, Krathwohl, and Kibler as well as the psychologies of learning: behaviorism, cognitivism, and humanism. A reader well versed in these rubrics can safely skim these chapters. That said, Tomei repeatedly refers back to these concepts in relation to his newly described technology domain, so familiarity with them is a must for readers. Chapter 5 provides a concise overview of the six levels of the technology taxonomy: literacy (understanding technology), collaboration (sharing

ideas), decision making (solving problems), infusion (learning with technology), integration (teaching with technology), and, finally, techology (the study of technology).

Each level is well defined in the concisely organized chapters. An historical origin of each level is provided along with practical applications for the skills defined in each. Every chapter contains numerous clearly labeled tables, which provide the reader with a number of action statements from which objectives for each level of the technology domain can be built. Examples of such statements from the literacy domain include "Copy, move and delete files, capture digital pictures, access online data. . . ." Additional tables list the technologies required to succeed in mastering a given domain. For example, in Tomei's discussion of the collaboration domain he lists "audio-conferencing," "cell phones," "virtual classrooms," and "newsgroups" as technologies used for skill.

Tomei uses the traditional cognitive, affective, and psychomotor educational domains to further describe how skills in the various technology domain levels fit into this rubric for education. An affective objective in the setting of the collaboration domain might be the use of an online electronic sign-out to transfer patient care within a team of providers. Health care professionals will find Tomei's abundant examples, albeit not health care based, very useful in composing their own objectives in the various technology domains. In this fashion this very readable book will continue to act as a reference tool long after it is first perused.

The chapters on each domain conclude with an integration of the technology domains into the psychologies of learning: behaviorism, cognitivism, and humanism. Tomei's largely successful efforts to integrate the new technology domains into more traditional taxonomies bring an immediate legitimacy to these novel learning constructs. This chapter structure quickly engages the reader familiar with older learning taxonomies.

All chapters conclude with the research implications of the new domains. Studies by the author examining over 300 lesson plans containing over 1400 learning objectives provide insight into the distribution of objectives within his newly described technology taxonomies. Not surprisingly, current objectives rarely deal with the higher level taxonomies of integration and technology.

For any health care professional tasked with teaching learners who must interact with technology, this text will be an essential tool for developing goals and objectives for the curricula. "Super-users," who guide other professionals through the platforms involved in technologies such as EMR, will find Tomei's text useful in assessing their own level of technology mastery and the book can serve as a capable guide for self-directed learning.

Tomei is quite successful in defining, presenting, and ultimately defending his six new technology domains to the reader, who is rewarded with a well organized text that describes an entirely new taxonomy supported by a strong foundation of educational theory. It is highly recommended for any health care professional involved in teaching.

Michael D. Brown, MD
Professor of Medicine
Gastroenterology Program Director
Rush University Medical Center
Chicago, IL