

## Chapter 4

# Transformative Learning in Osteopathic Medical Education

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### ABSTRACT

*Osteopathic medical education has undergone a transformation in the past century. From the work of Abraham Flexner to present, many lessons have been learned. Today the education of physicians relies on best practices from adult learning theory to allow learners to master the ever expanding biomedical knowledge and skill base needed for competency. Learners are expected to maintain active knowledge of a vast array of facts, be proficient at clinical skills and adapt this knowledge seamlessly to the varied situations they confront with patients. This chapter reviews the past, examines the present and envisions the future, noting how transformative learning is essential to medical training.*

### PAST

Medical education of the 21<sup>st</sup> century is vastly different from a century ago. A review of the evolution of medical education helps frame the state of the reasons the current system exists as it does. Prior to the early 1900s, physicians were trained according to an apprentice model with very little didactic education. Admissions standards were lax and essentially no prerequisite education was required. Notably, there were no accreditation standards and many formal medical schools were created as revenue generators (Ludmerer, 2010). In some ways, aside from the lack of structure, this model was foundationally transformative as learner schemas developed through experience as well as trial and error. Good doctors were able to create learning from these experiences. Unfortunately, this process also produced a huge number of physicians without proper training and without an interest in serving the public (Flexner, 1910). After 1910 the education of physicians saw a tidal shift. Abraham Flexner was commissioned by the Carnegie Foundation for the Advancement of Teaching to traverse the United States and Canada and survey the quality of medical education. His seminal report caused one third of all medical schools

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(many proprietary) to close and moved medical education from the apprentice-only model to a biomedical science model requiring significant foundations in areas such as pathophysiology (Gevitz, 2004; Irby, Cooke, & O'Brien, 2010). The best schools, those most willing to reform, turned away from the prior model of rote memorization from didactic lectures. The focus drifted toward problem solving and critical thinking. Laboratory courses were instituted and students were expected to create meaning from experimental observation with instructors as guides (Beck, 2004). This clearly supports transformative learning theory which is based on the idea that context, what learners know from past experiences, and reflection influence the ways adults adapt new information to build on prior knowledge are essential to deep understanding (Kitchenham, 2008). For the first time, physicians were expected to be scientists and problem solvers. Clinical clerkships became mentored active learning. Admissions standards increased to the requirement of a college degree and the length of time in medical education increased. These changes, however, were costly. Because of the faculty-intensive nature of this model, most stand-alone schools were not sustainable and the majority of surviving schools were university-affiliated (Gevitz, 2009). Of note from the perspective of transformative learning, the one aspect of medical education Flexner fervently defended was the importance of experiential learning which is a key component of transformative education.

Osteopathic medical schools were not excluded from Abraham Flexner's survey. Flexner noted, of the eight osteopathic schools in existence at the time of his survey, all were "fatally defective" in the training needed to become a physician. During the short course of study, students spent time passively listening to lectures without laboratory resources, adequate cadaver availability for dissection and poor or non-existent clinical instruction (Gevitz, 2009). Because of the rural nature of most of the osteopathic schools at that time, change came slowly. In 1916 the American Osteopathic Association (AOA) forced all remaining DO-granting schools (seven at that time) to expand their curriculum to four years. MD-granting schools had already done so.

## **PRESENT**

Today, medical education in both the MD and DO realms is remarkably similar with the primary exception being the integration of osteopathic theory and methods across the curriculum. Matriculation prerequisites differ school-to-school, but all include rigorous undergraduate education in the sciences. Many schools today also require social sciences and humanities coursework, understanding that physicians must be able to communicate well and demonstrate empathy for best patient care. One entrance exam exists and is utilized by the majority of medical schools as a measure of preparedness. The Medical College Admission Test (MCAT) has also changed to recognize the importance of socio-cultural and behavioral determinants of health and health outcomes and now includes a section on critical analysis and reasoning (Cohen, 2013). These changes were prompted by the domino effect of the changing societal needs with regard to healthcare and the subsequent changing focus of medical education. The memorization of scientific facts, laboratory-based understanding of the interrelatedness of body systems, and the didactic delivery of such material, while implored by Abraham Flexner's work, is no longer sufficient. In fact, of the seven Core Competencies endorsed by the AOA, only one focusses on medical knowledge. The remainder bridge from professionalism to patient care and interpersonal communication skills (Tunanidas & Burkhart, 2005). The competencies set forth by the American Council on Graduate Medical Education mirror this (Swing, 2007).

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