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Experiences in Teaching and Learning

Exploring an integrated curriculum in pharmacy: Educators' perspectives

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ABSTRACT

Background and purpose: Lack of consensus regarding the benefits of an integrated curriculum, and ambiguity concerning what is being integrated within a pharmacy curriculum exists, but how an integrated curriculum is viewed, epistemologically, and subsequently incorporated into teaching practice has not been investigated. This study explores how educators conceptualize, experience and enact curricula integration both pedagogically and organizationally.

Educational activity and setting: In-depth qualitative interviews with faculty members purposively sampled for maximum variation in disciplinary background and teaching experience were undertaken at a single site. Interviews addressed two research questions: how pharmacy educators understand an integrated curriculum and educators' experiences of it.

Findings and discussion: Analysis of the interview data suggests four essential meanings of integration: integration as a method for organizing teaching and learning; integration as enacted by self and others; integration as tension between conflicting knowledge domains; and integration as an impossible concept to apply to teaching practice. Analysis suggests that integration is an abstract rather than enacted concept and although integration is viewed as learner-centered, integration is complex and associated with a loss of in-depth learning.

Summary: Differences in how faculty members conceptualize the purpose and effects of integration mean that the level and type of integration reported varied. A clearer understanding of the rationale for change, and methods for better applying theory of integration to teaching practice, may be needed to achieve curriculum standards required by bodies accrediting undergraduate pharmacy programs.

Background and purpose

Following the Health Education England (HEE) review of pharmacist education and training in 2010¹, the General Pharmaceutical Council (GPhC) (the professional regulator for pharmacists and pharmacy technicians within the United Kingdom (UK)) introduced “future pharmacists”. This document is a revised set of ten outcomes-based standards for the initial training and education of pharmacists, with an accompanying indicative syllabus.² A core principle in the revised standards for education is curriculum integration, whereby theory is connected to authentic practice, so that knowledge becomes connected, applied, understood and obtainable.⁴ The revised standards require pharmacy schools to replace traditional fragmented curricula “front loaded”⁴ with isolated

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modules of science and where there is little or no correlation between science and practice content.^{3,4} Transformation of traditional curricula is called for in order to blur the lines between disciplines, address problems with graduates lacking confidence, instill professional ownership and understanding of knowledge, and maximize opportunities for professional socialization.^{3,5} An integrated curriculum is conceptualized as producing graduates who can understand, evaluate, and manage patients with complex drug regimens by drawing on a solid foundation in the basic and clinical sciences as applied to practice. Hence, the intended learning outcomes of integrated curricula are “future pharmacists” equipped with the skills, knowledge and behaviors required for pharmacists’ new and emerging clinical roles.

While there is a growing body of literature, particularly from medical and social work education,^{6–20} as well as from pharmacy, that integration is an effective method for curriculum design,^{21–24,32} fewer studies have reported the anticipated learning outcomes of integrated curricula.^{14,15,25,26} For example, it has been reported that integration trivializes difficult concepts, sidelines aspects of understanding, can be unachievable for teachers, learners and institutions, and has little or no impact on learning outcomes,^{14,15,25} with a study comparing graduates of an integrated and modular pharmacy curriculum finding little difference in terms of preparation for practice.²⁶

As well as a lack of consensus regarding the benefits of integration, there is also some ambiguity regarding what integration is, with the result that there are multiple ways that integration may be conceptualized within pharmacy curricula. Since it was first proposed by Dewey as a method of connecting distinct but relatable subject disciplines,⁴⁵ the ambiguity regarding integration can be traced back to its multiple definitions, conceptualizations, representations and models of “integration”. Following its early usage, integration gained prominence in the late 1980’s as a solution to issues associated with incoherent formal schooling systems in North America, and was subsequently developed conceptually by Fogarty,²⁷ Drake,²⁸ Jacobs,²⁹ and Beane^{8,9} in the 1990s.^{12–14} Harden³⁰ consolidated conceptualizations and representations of “integration” from these writers within his “integration ladder,” which provides a hierarchy of models and types of integration ranging from isolation of disciplines (the lowest level of integration associated typically with modular curricula) to the highest levels of integration where knowledge is connected and explored in a learner’s mind, and where disciplinary boundaries are transcended to allow learners to navigate knowledge in organic ways, with no compartmentalization of knowledge.⁸ It is the highest levels of integration that the GPhC requires of pharmacy curricula, stating, “The three models of integration that meet clearly the expectations of future pharmacists are ‘trans-disciplinary’ [a curriculum based around knowledge from real world experiences and relies on active integration in student’s mind over taught course content from teachers], ‘inter-disciplinary’ [a curriculum based around themes, however emphasis shifts towards commonalities between disciplines] and ‘multi-disciplinary’ [a curriculum based around numerous themes which collates together various subject areas]. It is less clear how ‘correlation’ and ‘complementary’ [lower levels of integration] meet the expectations in future pharmacists ...[and] do not meet the requirements of the standards.”³¹

With multiple levels at which integration may be conceptualized as a method and structure for program delivery,³³ how educators make sense of, and then enact these different conceptualizations, is likely to have an impact on the extent to which students develop as integrative thinkers, and on the extent to which the political and theoretical ambitions intended by curriculum change may be achieved. This research explores how educators understand and personally conceive integration, and how these conceptions inform their enactment of different levels of integration.

Focusing on a single pharmacy school with a long tradition of modular pharmacy education, and taking an in-depth, case study approach³⁴ to investigating a paradigm shift in curriculum design and delivery within this school, we describe what integration is within a real-life pharmacy education context, and the impact this paradigm shift has on the teaching and learning experience, through how it is perceived by educators. While based on experiences of educators at a single site, findings are likely to resonate with pharmacy curriculum designers internationally, with the Accreditation Council for Pharmacy Education in the United States and the Canadian Council for Accreditation of Pharmacy Programs also promoting integrated curricula³⁵ with the result that many pharmacy schools will be introducing integrated approaches to teaching and learning.

In choosing to focus on faculty (educator) members’ experiences and understanding of integration, this study explicitly focuses on the epistemological challenges of translating integration into teaching practice – a focus that is best explored qualitatively as the study is concerned with investigating the social world in a natural setting using rich description and explanation. Moreover, given this study is concerned with understanding how educators’ social reality – or experience of integration – is based on their definition of integration, the research team adopt an interpretivist stance aimed at theory building through an inductive thinking process, rather than a positivist deductive approach that would be more suited to quantifying commonly used methods for addressing curricular integration nationally.³⁶ We recognize that in focusing on educators’ perceptions and experiences we have also not attempted to capture students’ experiences of integration or how a curriculum supports their development as integrative thinking. While beyond the scope of this study, further work will focus on how students experience integration and their conceptions of it.

Educational activity and setting

How educators interpret, understand, and identify with pharmacy education is not well understood, but ultimately defines what is taught, and how this is taught. In the context of a pedagogical and organizational paradigm shift that challenges prior teaching practice, we collected data from educators within a single educational institution, who have experienced integration to gain insight into the curriculum paradigm as experienced by them at that institution. The study focussed on what integration means to the participants, how this is related to their experiences of teaching, and the influence this had on their teaching practices. The nature of the inquiry allowed the researchers to further explore relationships educators had with each other, and with the institution in which they work, as influences on these meanings and interpretations. As such, the following research questions were developed: (1) how do

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