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Currents in Pharmacy Teaching and Learning 4 (2012) 72–76

Currents in Pharmacy Teaching & Learning

http://www.pharmacyteaching.com

Opinion

Lecturing: A lost art

Peter E. Penson, MPharm, PhD*

School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Liverpool, UK

Abstract

Lecturing, for many years the typical mode of learning and teaching in university courses, has received much criticism in pedagogic circles in recent years. It has been suggested that lecturing promotes surface learning rather than deep learning, and that there is no real rationale for its use. This commentary intends to provide a rationale for lecturing in relation to professional courses, such as pharmacy, in which students are expected to assimilate learning from a wide range of sources, including clinical placements, laboratory classes, workshops, and their own reading. In this context, a series of lectures form the backbone of a course in which the lecturer brings together disparate elements of the curriculum and puts them into context. This enables learning in higher education to proceed in a constructivist manner in which students see their course as a whole, rather than an accumulation of unrelated activities and classes.

Keywords: Lectures; Pedagogy

Introduction

Nearly 30 years ago, Graham Gibbs wrote "Twenty terrible reasons for lecturing," a short article that took the form of a series of statements in support of lecturing, each followed by a refutation. His conclusion was that lecturing is an inefficient way of encouraging learning and that lectures were used "far more . . . than can be reasonably justified . . . largely due to ignorance, attitudes and institutional constraints, rather than to any inherent virtues of lecturing."[1] Among educationalists, Gibbs' opinions seem to be widely held as correct. This is evidenced by a frequently cited cynical remark by Mark Twain: "College is a place where a professor's lecture notes go straight to the students' lecture notes, without passing through the brains of either."

The question then remains, "Why do we still lecture?"[2] Certainly, "institutional constraints" play a part. However, there is a strong argument that the reason we still lecture is because lecturing is an excellent way to promote learning as part of an overall strategy in university education. This article is not intended to be a point-by-point refutation of Gibbs' work, nor is it a discussion of methods to improve lecturing. Many techniques can be found elsewhere.[3-5] The commentary will discuss what constitutes a lecture and consider some of the reasons why lecturing is criticized in the pedagogic literature. These criticisms are summarized in a recent article by DiPiro, which argued that lecturing was inappropriate in pharmacy education for a number of reasons: (1) Lecturing is a form of passive teaching and is thus unlikely to lead to knowledge retention; (2) lecturing consists of an individual presenting information to a group of students in a way that does not account for differences in learning styles; (3) lecturing delivers knowledge or facts that rapidly become outdated; (4) lecturing does not encourage skills, such as critical thinking and problem solving, which are essential for pharmacists, and it does not prepare students for continuing professional development.[2]

However, lectures do not necessarily follow these stereotypes, as this article will attempts to demonstrate. Indeed, it could be argued that they only apply to poorly prepared lectures or badly designed courses. Charlton has suggested that lectures have been underappreciated in the pedagogic literature because, unlike other forms of teaching and learning, no theoretic rationale for the use of lecturing has been described.[6] This article is intended to provide that rationale,

* Correspondence to: Peter E. Penson, MPharm, PhD, School of Pharmacy and Biomolecular Sciences, Liverpool John Moores University, Byrom Street, Liverpool L3 3AF, UK.

E-mail: p.penson@ljmu.ac.uk.

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doi:10.1016/j.cptl.2011.10.010

and to convince the reader that the lecture series forms the backbone of the university learning experience, from which all other elements of learning emanate, and by which they are supported.

Pharmacy degree programs require students to leave the university with a very broad and detailed knowledge and understanding of science and clinical practice to practice safely. Lectures are, arguably, an ideal way to support student learning when they are working toward this goal. The article is not intended to describe an educational utopia, rather the real-world situation in which we work. A particular challenge in a popular degree program, such as pharmacy is to design teaching methods that are appropriate for use with large cohorts of students.

Lecturing: the challenge of deep learning

Research by Marton and Saljo led to the development of a theory in which learning could be categorized as either surface learning or deep learning. Surface learning involves the accumulation of facts, and deep learning requires a level of understanding and comprehension.[7] At the level of university education, it is essential that we aim for the latter. The objectivist model, in which a student is considered an empty vessel to be filled with knowledge, is replaced by a constructivist thinking, in which a student is actively involved in the learning process. Thus, it is said that the lecturer should aim to be a "guide at the side" rather than a "sage on the stage."[8]

The physicist Richard Feynman, perhaps the most celebrated lecturer in recent history, understood the importance of deep learning. He said, "You can know the name of a bird in all the languages of the world, but when you're finished, you'll know absolutely nothing whatever about the bird . . . So let's look at the bird and see what it's doing—that's what counts. I learned very early the difference between knowing the name of something and knowing something."[9] This philosophy defined his teaching style, and may go some way in explaining the enduring popularity of his lectures. It is remarkable that more than 20 years after his death, recordings of his lectures (intended for undergraduate physicists) are still widely enjoyed by the public. They are even available for download through iTunes software.

Sadly, most of us are not blessed with Feynman's remarkable flair for teaching. However, we must continue to strive to encourage deep learning in our students. In his summary of an extensive array of pedagogic research, Bligh concludes, "The lecture is as effective as other methods for transmitting information. Most lectures are not as effective as discussion for promoting thought."[3] From the first of these points, it is clear that lecturing is a particularly appropriate teaching technique in science and clinical degree programs, where the assimilation of a large amount of knowledge is essential. However, lecturing can be more than just an objectivist tool. The use of the word "most" in the second part of Bligh's statement is instructive; it implies that lecturing can be used to promote thought. A strong argument can be advanced that the capacity for lecturing to promote deep learning has been underestimated by Bligh, DiPiro, and others.[2,3] One major reason for this is that commentators often make false distinctions between different types of learning sessions. Lectures are always assumed to be monologues, whereas small-group teaching methods are invariably assumed to be interactive and discursive. This is compounded by the fact that empiric studies often attempt to consider teaching styles in idealized stereotypical forms and in isolation, rather than as part of a varied curriculum. In reality, the characteristics of any learning and teaching event depend to a large extent on the personality and preferences of the students and the teacher and cannot be categorized easily.

False distinctions in pedagogic research and teaching

Rigid boundaries are often drawn between different types of learning events in a manner that is constraining and counterproductive. Some faculties impose limits on the numbers of students who can be present for a session to be described as a seminar or tutorial, i.e., that the type of session is dictated by the number of students present. Although a lecture usually involves a high student-to-faculty ratio, this should not define it, because the same technique (if effective) should also work with smaller numbers of students. Although a session occurs in a lecture theater with a large number of students and one teacher, it should not be assumed that the session must be designed according to an objectivist epistemology. Thus, it is important to describe the characteristics of the teaching and learning event that we call a lecture. A lecture is a learning event in which one member of faculty interacts with a number of students. The session predominantly involves the lecturer talking about the topic in hand, but it can also include activities, such as short discussions between students, question-and-answer sessions, group work, and other "enhancements" usually associated with smaller class sizes. It is crucial that whatever activities are included, the lecture must be feasible with large numbers of students (100+). This differs from Bligh's definition of a lecture as essentially a monologue,[3] which would be less likely to encourage deep learning.

Lecturing is a very personal and individual activity. Feynman was renowned for captivating the attention of his audience by introducing humor. Some rely heavily on animations. Some find handouts helpful, others detest them. Some will encourage discussion between students. There is no set of standards for what constitutes a lecture. Similarly, each academic will organize workshop and discussion sessions differently. In some cases, it may be appropriate to include elements of lecture-like monologue. Different sessions cannot therefore be easily labeled and a good teacher should not be constrained by the label a session has been given for organizational reasons. The predominant style should be chosen based on the learning objectives. This