



# Design of drug-induced diseases elective utilizing active learning <sup>☆</sup>

Alison M. Walton, PharmD, BCPS<sup>a,\*</sup>, Alex N. Isaacs, PharmD, BCPS<sup>b,1</sup>,  
Annette T. McFarland, PharmD<sup>c,2</sup>, Lauren M. Czosnowski, PharmD, BCPS<sup>d,2</sup>,  
Sarah A. Nisly, PharmD, BCPS<sup>d,2</sup>

<sup>a</sup> Butler University, College of Pharmacy and Health Sciences, and St. Vincent, Indianapolis, IN

<sup>b</sup> Purdue University, College of Pharmacy and Eskenazi Health, Indianapolis, IN

<sup>c</sup> Butler University, College of Pharmacy and Health Sciences, Indianapolis, IN

<sup>d</sup> Butler University, College of Pharmacy and Health Sciences, and Indiana University Health, Methodist Hospital, Indianapolis

## Abstract

**Objectives:** To describe active learning utilized in a drug-induced diseases (DID) elective and determine inter-rater reliability of the assessment rubric for oral case-based presentations.

**Methods:** The design of this DID elective focuses on problem-based learning to enhance students' critical thinking and problem-solving skills pertaining to the treatment of inducible diseases and general medicine. Each class incorporates active learning, utilization of drug information resources, and group work. The primary course assessment is student developed oral case-based presentations evaluated with a standard rubric.

**Results:** The intra-class correlation coefficient (ICC) was calculated amongst evaluators to assess the inter-rater reliability of the DID rubric for 21 case-based presentations during the Fall 2013 semester. Composite scores for the case-based presentations demonstrated good inter-rater reliability with an ICC of 0.628.

**Conclusions:** Teaching methods utilizing active learning are described for this DID elective. The rubric for the student developed oral case-based presentations demonstrated good inter-rater reliability amongst evaluators and could be modified for use in other professional courses.

© 2016 Elsevier Inc. All rights reserved.

**Keywords:** Drug-induced diseases; Active learning; Case-based presentation; Rubric

## Introduction

The Center for Advancement of Pharmaceutical Education (CAPE) places emphasis on evidence-based, patient-

centered pharmaceutical care.<sup>1</sup> Active learning, defined as “an instructional method that engages students in the learning process through meaningful learning activities,”<sup>2</sup> is a student-centered approach to teaching that is widely used in health science classrooms today, including colleges and schools of pharmacy. This method shifts the role of faculty away from “dispenser of information” to “facilitator of student learning”.<sup>3</sup> The Accreditation Council for Pharmacy Education (ACPE) has been a strong proponent of active learning since the late 1990s, encouraging colleges and schools of pharmacy to use such strategies throughout curriculums enhancing students' critical thinking and problem-solving skills.<sup>4</sup>

<sup>☆</sup>The authors of this study have no actual or potential conflicts of interest to disclose.

\* Corresponding author: Alison M. Walton, PharmD, BCPS, Butler University, College of Pharmacy and Health Sciences, 4600 Sunset Avenue Indianapolis, IN 46208. Tel.: +317 940 3040.

E-mail: [awalton@butler.edu](mailto:awalton@butler.edu); [isaacs5@purdue.edu](mailto:isaacs5@purdue.edu); [amcfarla@butler.edu](mailto:amcfarla@butler.edu); [lczosnow@butler.edu](mailto:lczosnow@butler.edu); [snisly@butler.edu](mailto:snisly@butler.edu)

<sup>1</sup>Tel.: +317 880 5423.

<sup>2</sup>Tel.: +317 940 3040.

A survey of over 1000 faculty at US colleges and schools of pharmacy, conducted by Stewart and colleagues in 2010, identified more than 83% use at least 2 active learning techniques in their classrooms.<sup>5</sup> Various active learning strategies are employed by faculty. According to the survey, problem-based learning (PBL), which includes case-based learning, was the most commonly reported active learning strategy, followed by discussion-based and team-based learning.<sup>5</sup> The problem-based approach to student learning has played a role in pharmacy education for decades. It was discussed by Strand, Morley, and Cipolle in the late 1980s as a pedagogic method that "...requires the student to assume primary responsibility for the identification of a particular problem and 'ground' this problem in the context of a relevant, sound, integrated knowledge base."<sup>6</sup> PBL typically involves a patient case based on one that a healthcare professional might encounter in a real-life situation.<sup>3</sup> With guidance from an instructor, students work through the patient case to address the problems. This type of learning has been shown to not only improve students' problem-solving, critical-thinking, and communication skills but encourages them to become self-directed, life-long learners.

Assessment of this type of active, student-centered learning is important. An article from the 2007 American Association of Colleges of Pharmacy (AACP) Institute looked at various performance assessments used in the academic setting. The author addressed the need for both formative (to improve learning) and summative (to determine a grade) type assessments based on learning objectives and curricular outcomes.<sup>7</sup> One such assessment was the scoring rubric. Literature describes the use of rubrics for assessing active learning activities.<sup>8–11</sup> A pilot study at the University of Arkansas for Medical Sciences

College of Pharmacy discussed the implementation of rubrics for assessing student case presentations in their therapeutics recitation course.<sup>12</sup> The rubrics were used by instructors, student peers, and as student self-assessments. The authors found the grading rubric to successfully evaluate not only student knowledge and presentation skills, but also their critical thinking and professional behavior.

The Drug-Induced Diseases (DID) course at Butler University College of Pharmacy and Health Sciences (COPHS) is a professional pharmacy elective that focuses on PBL to enhance critical thinking and problem-solving skills pertaining to the treatment of inducible diseases and general medicine. The purpose of this article is to describe a unique, active learning approach utilized in this elective where students developed oral case-based presentations for assessment in lieu of traditional examinations. We also discuss the inter-rater reliability of the rubric utilized in the grading of the oral case-based presentations.

## Material and methods

The DID professional pharmacy elective was first designed and established as a course at Butler University COPHS in 2009. The textbook *Drug-Induced Diseases: Prevention, Detection, and Management*<sup>13</sup> served as the original backbone for the course; however, use of primary literature and electronic databases now serve as the principle learning resource. This DID elective provides students exposure to common and relevant adverse reactions, focusing on identification of the responsible agent and subsequent alteration of the original treatment plan. Student learning outcomes and course objectives are listed in [Table 1](#). The current course is co-coordinated by 2 faculty

Table 1  
Student Learning Outcomes and Course Learning Objectives.

### *Student Learning Outcomes*

- Apply knowledge and skills to make appropriate decisions regarding the safe and effective use of medications or the need for referral to other health care providers. These decisions should include consideration of social, economic and cultural factors.
- Find, understand, analyze, evaluate and use information to make informed and rational decisions.
- Effectively communicate pharmaceutical and health-related information and collaborate with other healthcare professionals to ensure the provision of quality patient care.
- Practice independent learning and modify ideas and behaviors based on newly acquired knowledge.
- Demonstrate ethical conduct in personal and professional settings and respect and exhibit empathy for patients' differences, values, and preferences.
- Promote health improvement, wellness, and disease prevention.

### *Course Learning Objectives*

- By the end of this course, for given disease states, students should be able to:
  - Interpret and evaluate various patient case scenarios for a possible identification of a drug induced disease.
  - Explain the mechanism and rationale for specific medication classes inducing selected disease states.
  - Understand and explain the pathophysiology of selected disease states.
  - Identify appropriate criteria for alteration versus continuation of offending medication.
  - Create and verbally communicate patient cases to other students and instructors.
  - Expand verbal communication skills with both patients and health care professionals.
  - Utilize drug knowledge from previous courses (e.g. Therapeutics and Self-care) in order to further develop the working drug knowledge base of the student.

Download English Version:

<https://daneshyari.com/en/article/353066>

Download Persian Version:

<https://daneshyari.com/article/353066>

[Daneshyari.com](https://daneshyari.com)