Assessing the Impact of an Interactive Learning Activity on the Teaching of Aliquots

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Introduction

The Accreditation Council for Pharmacy Education’s Standards 2016 require that the didactic portion of the Pharm.D. curriculum be delivered using teaching methods that “facilitate achievement of learning outcomes”, “actively engage learners”, and “foster collaborative learning” (Standard 10, Key Element 10.12).1 Focusing on ways to increasing active learning, a faculty member incorporated an interactive learning activity (making of snack mix) centered around aliquots in to a first semester pharmacy practice course.

Objective

Evaluate the impact of an interactive learning activity on the teaching of aliquots.

Methods

• Prior to coming to lecture, students were asked to read a chapter in the required textbook.
• The lecture period started with a short introduction of aliquots, which included an overview of the information in the textbook. Then, supplies were distributed and students worked to compound a snack mix that contained the medication prescribed. The lecture ended with a review of the aliquot process, an evaluation of accuracy, and some practice problems.
• A self-administered questionnaire survey with a 5-point Likert scale was developed to examine student perceptions before and after the interactive learning activity. In addition, the pre-assessment asked students to identify whether or not they completed the assigned reading prior to coming to class.

Results

• Many of the qualitative comments focused on the positive impact the hands-on activity had on their understanding of the aliquot process.

Table 1. Survey Results

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Pre-Lecture (Mean)</th>
<th>Post-Lecture (Mean)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How confident are you that you could define what an aliquot is? (1 being “Not at all Confident” and 5 being “Totally Confident”)</td>
<td>3.04</td>
<td>4.46 *</td>
</tr>
<tr>
<td>How comfortable do you feel about the process of completing the aliquot method? (1 being “Not at all Comfortable” and 5 being “Totally Clear”)</td>
<td>2.38</td>
<td>4.13 *</td>
</tr>
<tr>
<td>Can you see the clinical application of aliquots? (1 being “Not at all” and 5 being “Totally Clear”)</td>
<td>3.48</td>
<td>4.66 *</td>
</tr>
<tr>
<td>Did you complete the assigned reading prior to coming to class today? (1 being “Not at all”, 3 being “I read parts of it”, and 5 being “I read it multiple times”)</td>
<td></td>
<td>2.99</td>
</tr>
</tbody>
</table>

* P-Value < 0.05 when comparing the difference between pre- and post-survey

Implications

• The interactive learning activity positively impacted the students’ understanding of aliquots, the aliquot process, and the clinical application of aliquots.

References