Background

Advanced Pathophysiology, a required course in the Doctor of Pharmacy curriculum, was historically taught by faculty outside the School of Pharmacy (SOP). In 2010 the SOP faculty assumed primary responsibility for coordination and delivery of the course. During this time there was focused effort to standardize content and ensure applicability to pharmacy practice. In 2012, active learning case vignettes were introduced to further enhance the learning experience.

Vignette Concept

- One disease state vignette per lecture
- Established vignette day prior to each exam covering five prior lecture periods
- Targeted disease states for higher learning level
- SOAp format utilized

Methods

Student course assessments were collected at semester end from 2009-2014. Exam questions from 2010-2014 were categorized into two question types: application or recall of knowledge and the mean percentage of students answering correctly were compared.

For discriminative validity, the point biserial correlation (RPBI) was collected for each question and compared across time periods.

Results

Evaluation Question #4: I believe the course objectives were met.

Application Questions

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Application RBPI</th>
<th>SD</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>33</td>
<td>0.22</td>
<td>0.16</td>
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<tr>
<td>2012-2014</td>
<td>83</td>
<td>0.25</td>
<td>0.11</td>
<td>0.36</td>
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Recall Questions

<table>
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<tr>
<th>Year</th>
<th>N</th>
<th>Recall RBPI</th>
<th>SD</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
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<td>0.22</td>
<td>0.12</td>
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<tr>
<td>2012-2014</td>
<td>509</td>
<td>0.25</td>
<td>0.14</td>
<td>0.65</td>
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</table>

Overall course evaluations improved after 2009, with students specifically reporting that course objectives were better met. Using a 5-point Likert-scale, the 2009 average was 3.92 and have averaged 4.66 (4.29-4.82) from 2010-2014. The addition of clinical vignettes (2012) did not impact student course evaluation scores. Despite the active learning integration, student performance on application and recall questions did not significantly change, though the RPBI for application questions numerically improved (+0.03) for both application and recall of knowledge questions.

Conclusions

- Advanced Pathophysiology course satisfaction scores improved to a high of 4.82/5.0
- Introduction of active learning techniques did not impact course satisfaction or student performance
- Application of knowledge questions were a low percentage of assessment questions and should be increased and include vignette related items
- Overall test item questions performed well with RPBI's above 0.22