Flipped Learning and Evidence Based Medicine Skills
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Question
Is flipped or traditional, face-to-face instruction more effective for teaching evidence-based medicine (EBM) skills in health sciences curricula?

Literature Review
- The Medical Library Association asks, “What are the most effective instructional methods for teaching evidence-based practice in health sciences curricula?”
- Anecdotal evidence suggests that student learning is improved for students in a flipped classroom when compared to a traditional classroom. However, there is very little research investigating student learning outcomes objectively.
- When evaluating instruction, librarians should use performance, affective, and behavioral measures to provide a complete and accurate assessment of learners’ information literacy skills and attitudes.

Conclusions
- Results of the study did not suggest one method of instruction was more effective than the other. A future study should include an affective measure to gauge students’ experience of their learning.
- Fresno Test identified areas where evidence-based medicine teaching and learning could be improved.
- Two library sessions may not be adequate to determine the effectiveness of flipped learning.

Findings

Goldgar Self-Evaluation of EBM Skills
How would you rate your abilities in the following areas?

<table>
<thead>
<tr>
<th>Item</th>
<th>Flipped Instruction</th>
<th>Traditional Instruction</th>
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</thead>
<tbody>
<tr>
<td>Formulate a focused research question</td>
<td>3.73</td>
<td>3.44</td>
</tr>
<tr>
<td>Select appropriate resources to search for evidence</td>
<td>3.67</td>
<td>3.34</td>
</tr>
<tr>
<td>Knowledge of various levels of clinical evidence</td>
<td>3.23</td>
<td>3.02</td>
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</tbody>
</table>

Mean scores range from 0 to 5, with 0 being highly unsatisfactory and 5 being excellent.

- Both groups reported gains in their perceived abilities.
- Traditional instruction group reported greater gains in their ability to select appropriate resources.

Study limitation: It was not possible to verify how many students in the flipped section completed the assigned online tutorials and worksheet before the class met in person.