Traditional vs. Flipped Library Instruction for the Life Sciences

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Abstract

We compared search statement development between traditional lecture and flipped instruction sessions using two separate flipped models. Students in lecture sessions scored significantly higher on developing search statements than those in the flipped model 1 sessions. However, student scores were not significantly different between the lecture and the flipped model 2 sessions. Reasons for lower flipped-session scores may include a lack of student accountability, strong preference for a live demonstration, and disconnections between online tutorial content and in-class collaborative activities. Students in all sessions expressed a strong preference for pedagogies that incorporate elements from both lecture and flipped methodologies. Librarians using a flipped classroom should consider ways to help students make meaningful connections between online tutorials and in-class activities.

Student Search Assignment

Topic: The impact of soft drink consumption on childhood obesity.

- Construct an effective search strategy within the Web of Science database to find relevant journal articles on this topic.
- Use the OR, AND, and NOT operators and any necessary limiters (date range, title search, truncation, document type, etc.) to refine your results.
- Once you have modified and refined your search and narrowed your results to a set of relevant articles, list your final search statement, any limiters or modifiers you applied, and the total number of articles found in this final search.

Student Search Statements

<table>
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<tr>
<th>Model 1</th>
<th>Model 2</th>
</tr>
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<tbody>
<tr>
<td>Group</td>
<td>Number of Participants</td>
</tr>
<tr>
<td>Lecture</td>
<td>57</td>
</tr>
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Student Feedback by Theme

Conclusions

Student Search Assignment

- Divided participants into 3 groups
  - Lecture treatment (lecture)
  - Flipped/tutorial (flipped/yes)
  - Flipped/no tutorial (flipped/no)
- Compared scores: one-way ANOVA
- Coded student comments

Why a Flipped Classroom?

- Flipped classroom – traditional lecture material assigned as pre-class homework, hands-on application and collaborative activities during class time
- Used extensively in academic settings, including library instruction
- The flipped model could revitalize traditional ‘one-shot’ library session
- Most flipped library instruction assessments are anecdotal/non-empirical

Methods

Lecture Model

- Instructor-led lecture
- Web of Science databases/resources
- Individual search assignment & evaluation

Flipped Model 1

- Out-of-Class Online Tutorial
- In-Class Student Activity with Trainer
- Online Search Activity with Trainer
- Group Discussions/Assignment & Evaluation

Flipped Model 2

- Out-of-Class Online Tutorial
- In-Class Student Activity with Trainer
- Group Discussions/Assignment & Evaluation

Analysis

- Tukey-Kramer Post-Hoc Comparisons for the Mean Search Statement Score between Groups

Student Search Statements

- Traditional lecture equal to or better than flipped models

Conclusions

- Modified flipped classroom model can be as effective as a traditional lecture for teaching search strategy development
- Student-led search demonstration improved performance for all students in a flipped session (regardless of tutorial completion)

Successful flipped classroom considerations:

- Facilitate student engagement – e.g., group activities, student-led demos, active learning
- Encourage student accountability – Incentivize completion of tutorial/out-of-class activity
- Coordinate out-of-class assignments with in-class activities
- Incorporate hybrid teaching methodology with elements from both flipped and traditional lecture models

Study Takeaways:

Student Feedback by Theme

Flipped Positive Responses

- Flipped tutorial
- Flipped/blended model

Flipped Negative Responses

- Flipped tutorial
- Flipped/blended model

Selected/Out-of-Class Activities

- More hands-on learning
- More databases/libraries
- More peer-to-peer learning
- More time consuming/libraries
- More small group discussions
- More out-of-class assignments

Lecture Positive Responses

- More small group discussions
- More hands-on learning
- More instruction on searching

Lecture Negative Responses

- More large group discussions
- More library instruction
- More instruction on searching

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