Traditional instruction reformed with flipped classroom techniques

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Traditional instruction reformed with flipped classroom techniques

Jennifer Lee, Susan Beatty, Patrick Feng, Nadine Hoffman, Brenda McDermott

Flipped classroom techniques | Multiple sessions | First-year interdisciplinary course

The traditional vs. the flipped classroom
- The flipped classroom moves away from a traditional lecture-then-homework model.
- Pre-class: students prepare by watching short content-based videos or doing readings. Assessment may also be included.
- In-class: content and learning is reinforced with in-class activities. Assessment results can be used to inform in-class work.
- Students: held responsible for learning, increased attendance, engagement.
- Instructors: less traditional lecturing, more facilitation.

Library & writing learning goals

1: Plagiarism, Citations, and Citation Searching
- Read a citation and identify its major components
- Identify the type of resource from a citation
- Cite a resource

2: Research Process and Accessing Information
- Choose, and search a database by combining search terms
- Use database features: full-text links, emailing references
- Use databases to generate synonyms and other terms

3: Source evaluation
- Distinguish between scholarly, reliable, and popular sources
- The CRAPPy Song (aka, the C.R.A.P. Test Song) (https://youtu.be/CMaLgec2XWY)
- Popular vs. scholarly sources video (James Madison University) (http://www.lib.jmu.edu/resources/connect.aspx?id=3247)

4: Writing/Annotated Bibliography
- Read and summarize a source and assess it in relation to your research
- Video by the Student Success Centre: reading for abstractions, annotating, and paraphrasing

PRE-CLASS ACTIVITY AND QUIZ
- Customized, interactive video on quotations and citations
- Created by the Student Success Centre
- Created with Articulate software

IN-CLASS ACTIVITY
- Refine search terms – search a database, then use results to discover new terms
- Compare database content and search features

Convert references from various styles into APA

Reflections and Findings
- Students benefit: instruction is linked to the skills needed for assignments
- Time-intensive: course goals, sequencing, content prep, grading, assessment
- Decreased workload: resource sharing for overlapping areas: citation and plagiarism
- Tip: ensure detailed written instructions (step-by-step is not too many)

What did students think about the flipped classroom?*

<table>
<thead>
<tr>
<th>Reflection</th>
<th>Agree (n=33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-tests were helpful in preparing for the research skills sessions</td>
<td>79%</td>
</tr>
<tr>
<td>In-class exercises were helpful to reinforce the content of the research skills sessions</td>
<td>70%</td>
</tr>
<tr>
<td>Instruction increased students’ confidence*</td>
<td>Agree (n=33)</td>
</tr>
<tr>
<td>Since attending, how confident are you in your...</td>
<td></td>
</tr>
<tr>
<td>ability to use library resources to find information for a research project</td>
<td>94%</td>
</tr>
<tr>
<td>ability to find appropriate scholarly sources</td>
<td>94%</td>
</tr>
<tr>
<td>ability to evaluate resources</td>
<td>91%</td>
</tr>
<tr>
<td>ability to properly cite sources</td>
<td>82%</td>
</tr>
<tr>
<td>ability to paraphrase sources while avoiding plagiarism</td>
<td>83%</td>
</tr>
<tr>
<td>ability to write an annotated bibliography</td>
<td>79%</td>
</tr>
<tr>
<td>Instruction increased likelihood of future behaviors*</td>
<td>Agree (n=33)</td>
</tr>
<tr>
<td>Since attending, am I likely to...</td>
<td></td>
</tr>
<tr>
<td>apply the strategies for summarizing to my future assignments</td>
<td>94%</td>
</tr>
<tr>
<td>use library databases in my research</td>
<td>91%</td>
</tr>
<tr>
<td>annotate sources while reading</td>
<td>67%</td>
</tr>
</tbody>
</table>

Tip
- Time-intensive
- Students benefit
- Decreased workload
- Instruction increased students’ confidence*
- Instruction increased likelihood of future behaviors*

Selected references

Contact information (all from University of Calgary):
- Jennifer Lee, Librarian for Chemistry, Computer Science, Environmental Design, Libraries and Cultural Resources, jelee@ucalgary.ca
- Susan Beatty, Librarian, Learning Services, Undergraduate support, liaison [print and communication and culture], taylorfamilydigitallibrary.euclid@ucalgary.ca
- Patrick Feng, Assistant Professor, Faculty of Arts, pfeng@ucalgary.ca
- Brenda McDermott, Supervisor, Student Accessibility Services Exam Centre (formerly Coordinator, Writing Support Services), bemcderm@ucalgary.ca
- Nadine Hoffman, Librarian for Chemistry, Computer Science, Environmental Design, Libraries and Cultural Resources, nhoffman@ucalgary.ca

* Ethics approval granted for survey and publication

*Distributed with permission

The course: Science, Technology, & Society 201
- Inquiry-based learning
- Semi-flipped: only library and writing sessions used flipped techniques
- 50 students
- Incorporated library and writing sessions in course design
- 4 sessions, each a week apart, alternating with instructor lectures
- First Writing Centre-Library collaboration within a course
- Assessment: 25% of final grade
- 10 Pre-class quizzes
- 15% summative assessment (in-class)

Pre-class activity and quiz
- Pre-tests were helpful in preparing for the research skills sessions
- Ability to write an annotated bibliography
- Ability to properly cite sources
- Ability to paraphrase sources while avoiding plagiarism
- Ability to evaluate resources
- Ability to find appropriate scholarly sources
- Ability to use library resources to find information for a research project
- Instruction increased students’ confidence*
- Instruction increased likelihood of future behaviors*