Enhancing self-regulated learning skills in flipped classroom using learner logs at a 4-year public college

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Georgia Gwinnett College
GGC’s Innovative Model:

1. Affordability
   • High quality education for less money
     • From ~100 students (2005) to ~12,000 students (2017)
     • AACSB International Accreditation (School of Business)
   • 2nd lowest graduate debt among Southern regional colleges

2. Access
   • 4-year degrees for more people
   • 1st Generation students
   • Most ethnically diverse Southern regional college

3. Attention
   • Average class size = 21
Faculty Learning Community (FLC) Members

Michelle Robbins (Psychology)

Tashana Howse (Math Education)

Adrienne Cottrell-Yongye (Biology)

Henry Harmon (Math)

Gwendoline Ayuninjam (Education)

Ajay Mallia (Chemistry)

Carey Shellman (History)

Jayme Curry Savage (Math)

Grace Onodipe (Economics)
Goals of Flipped Learning FLC

- To cultivate a sense of **community** among faculty, offer opportunities for interdisciplinary connections, collaborations, & discussions about teaching & learning

- To **explore the theory and practice** of "flipping" the classroom, review recent research on flipped learning, & invite faculty to experiment with "flipping" their classes

- To **encourage reflection** about flipped learning across disciplines

- To **enhance teaching by supporting faculty to conduct research** on their classroom practices
FLC Action Plan

• Procedure
  – Spring 2018 SoTL Project underway
  – 4 FLC meetings in Spring 2018
  – Academic Commons discussions
  – Teacher Reflections blog posts

• Funding Opportunity
  – NSF USG FLC Mini Grant (#: 2018-17 FLC EIP)

• Spring 2018
  – GGC Teaching and Learning Day
  – USG Conference
  – GGC 2018 SST STEM Symposium

• Summer 2018
  – Writing Spaces

• Fall 2018—SoTL Conferences/Workshops, meetings, etc.
What is Flipped Learning?

Flipped learning is a pedagogical approach in which first contact with new concepts moves from the group learning space to the individual learning space in the form of structured activity, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter (Flipped Learning Network, 2014)

- 1st contact outside class time
- Frees up time in Group Space
- Group space used for applying
- Changing role of professor
The Flipped Classroom

- **In Class/Time with Facilitator**
  - Create
  - Evaluate
  - Analyze
  - Apply
  - Understand
  - Remember

- **At Home/Before class/Independent Work**
Traditional vs. Flipped Classroom

Traditional Classroom

Instruction

Flipped Classroom

Check for Understanding

Active Learning
Implementation of Flipped Class

**Before class (at home)**
- Read Textbook
- Listen to Video
- Review PPT slides
- Cornell Notes

**During Class**
- Pre-Quiz
- Overview of concepts
- In-Class Activities
- Debriefing
- Post-Quiz
- Q & A

**After Class**
- Reflect on material
- Prepare for Tests
- Study groups
## Implementation of Flipped Class

(Cottrell-Yongye)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
</tr>
</thead>
</table>
| Before class  | • Read Textbook  
• Read Video Scripts  
• Listen to Videos  
• Review PPT slides  
• Complete Practice Quiz |
| During Class  | • Quiz  
• Overview of concepts  
• In-Class Activities  
• Debriefing  
• Q & A |
| After Class   | • Online Homework  
• Prepare for Tests  
• Study groups |

**Group Activity in class**
## Implementation of Flipped Class

**Group Activity in class**

**Active learning in class**

<table>
<thead>
<tr>
<th>Before class (at home)</th>
<th>(Mallia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Read Textbook</td>
<td>- Read Textbook</td>
</tr>
<tr>
<td>- Review PPT slides</td>
<td>- Review PPT slides</td>
</tr>
<tr>
<td>- Write down questions</td>
<td>- Write down questions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>During Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Overview of concepts</td>
</tr>
<tr>
<td>- In-Class Activities</td>
</tr>
<tr>
<td>- Q &amp; A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>After Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Completion of HW</td>
</tr>
<tr>
<td>- Prepare for Tests</td>
</tr>
</tbody>
</table>
The Challenge

Flipped Classroom enhances student engagement & academic performance. Student & faculty satisfaction have been well established.

However, studies show that they attribute their learning to what is happening to them (by their professors) & take little ownership of their own learning (Nilson, 2013).

Students lack knowledge & skills to be self-regulated learners (Nilson, 2013).

More problematic in flipped classrooms as students are more responsible for learning content outside of the classroom.
Learner Logs (Weimer, 2013)

- Reflective (meta-cognitive) writing strategy that helps students develop learning skills & self-awareness of their learning

- Used across disciplines to promote knowledge acquisition & self-awareness of learning
  - STEM disciplines (Maharay & Banta, 2000)
  - Non-STEM disciplines (Babcock, 2007)
  - Professional courses (Grimm, 2015)
Our Study *in progress* ...

Beginning - Spring 2018 semester

**Purpose:**
To assess potential benefit of using learner logs in the flipped classroom to enhance self-regulated learning skills & increase students’ responsibility for their learning

**Hypothesis:**
*Do learner logs increase metacognition in the flipped classroom?*

If students regularly write reflective learner logs and are provided periodic feedback from faculty, then they will become more aware of how they learn and become better learners.

Faculty will be more effective in their teaching
Our Study in progress ...
Beginning - Spring 2018 semester

Participants & Procedure:
Students from classrooms of multidisciplinary FLC

Beginning of Semester – Complete metacognitive survey (MSLQ) regarding how students learn & the different strategies they use while learning

On-going – Complete learner log assignments throughout semester designed to promote learning & self-awareness of one's learning

End of Semester – Complete same metacognitive learning survey

Planned Analysis:
- Compare pre and post MSLQ survey results
- Compare MSLQ survey results and student grades between control and test groups to determine the impact of learner logs
- Examine Demographic Information
Instruments

**Motivated Strategies for Learning Questionnaire (MSLQ)**

- Self-report questionnaire (Pre & Post)
- 81 Statements on motivation & learning strategies; rated on 1 (“not at all true of me”) to 7 (“very true of me”) scale
  - Sample items:
    - “The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.”
    - “When I become confused about something I’m reading for this class, I go back and try to figure it out.”

**Informed Consent**

Administer after Drop/Add Spring 2018
Instruments

Learner Logs

• Journal-response prompts (approx. 8 - 16 entries)
• Includes *Study Game Plan* for exams
Study Game Plan

- **Study Schedule**
  - “How much time do you plan to spend studying for the upcoming test?”

- **Study Methods**
  - “How do you plan to prepare for the test?” Read textbook, watch videos, etc.

- **Managing Distractions**
  - “How do you plan to manage distractions?”

- **Predicted Grades**
  - “What is your predicted grade?”
As you know already, you are in a “flipped” class. A rough way to describe such a class is that the classwork occurs at home and the homework occurs in class. What advantages and disadvantages do you see to having the teacher and your fellow students available during the time devoted to the more advanced concepts, problems, and applications? In what ways will the flipped class be both harder and easier than a more traditional course? Why do you think a teacher might design a course in the “flipped” format?
By now you have the results of your first exam. How did your study game plan work for you? **What, if anything, would you change for the next exam?** Were you faithful to the game plan? Did you learn anything about your own learning preferences, or what works best for you? Finally, reflect on your study strategy in light of the following quote: "In college, the bulk of the learning should take place outside the classroom."
# Implementation of Learner Logs

<table>
<thead>
<tr>
<th></th>
<th>(Onodipe)</th>
<th>(Cottrell-Yongye)</th>
<th>(Mallia)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Course</strong></td>
<td>ECON2100 Intro to Economics</td>
<td>BIOL 2516K Microbiol. for Health Sc.</td>
<td>CHEM2211 &amp; CHEM 2212 Organic Chemistry</td>
</tr>
<tr>
<td><strong>Number of Learner Logs</strong></td>
<td>15 Learner Logs + Study Game Plans &amp; Test Reflections</td>
<td>9 Learner Logs (including Study Game Plans &amp; Test Reflections)</td>
<td>8 Learner Logs (including Study Game Plans &amp; Test Reflections)</td>
</tr>
<tr>
<td><strong>Spacing</strong></td>
<td>~ 1 per week</td>
<td>~ 1 per 2 weeks</td>
<td>~ 1 per 2 weeks</td>
</tr>
<tr>
<td><strong>Submission</strong></td>
<td>D2L Journaling</td>
<td>D2L Dropbox</td>
<td>D2L Dropbox</td>
</tr>
<tr>
<td><strong>Grading</strong></td>
<td>10% Completion points</td>
<td>9% Completion points</td>
<td>5% Completion points</td>
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</tbody>
</table>
## Preliminary Findings

<table>
<thead>
<tr>
<th>(Onodipe)</th>
<th>(Cottrell-Yongye)</th>
<th>(Mallia)</th>
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</thead>
<tbody>
<tr>
<td>- 92% completion rate</td>
<td>- 100% completion rate (96% submitted on time)</td>
<td>- 100% completion rate (95% submitted on time)</td>
</tr>
<tr>
<td>- Students Attitude/ Perception change</td>
<td>- Entries are complete and thoughtful</td>
<td>- Entries are complete and thoughtful</td>
</tr>
<tr>
<td>- Students learning new strategies for -</td>
<td>- More students asking prepared questions寻求 tutoring</td>
<td>- Increased awareness among students about course materials</td>
</tr>
<tr>
<td>- Studying</td>
<td>- Professors attitudes/perceptions …</td>
<td></td>
</tr>
<tr>
<td>- Test-taking</td>
<td>- Teacher blogs</td>
<td></td>
</tr>
<tr>
<td>- Time management</td>
<td>- Making adjustments</td>
<td></td>
</tr>
<tr>
<td>- Note-taking</td>
<td></td>
<td></td>
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<tr>
<td>- Problem-solving</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Working with peers</td>
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</tbody>
</table>
Summer 2018

• Analyze MSLQ data
• nVivo Learner Log analysis
• Demographic Data
• End of Course Grades


Questions

Thank you!

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