**Background**

**Student Learning & Organic Chemistry**

Organic chemistry is a challenging, cumulative course where students often struggle to develop meaningful learning strategies and easily fall behind (Grove & Bretz, 2012; Lynch & Trujillo, 2010). Students often lack the metacognitive skills and self-efficacy to effectively monitor, evaluate, and plan their learning (Ambrose et al., 2010; Zhao et al., 2014).

**Purpose & Methods**

This poster will examine undergraduate students’ perceptions of their learning strategies and experiences in a second year introductory organic chemistry course that encouraged active learning strategies.

**CHEM 233 @ UBC**

**Context**

- This study focused on two sections of CHEM 233 (~500 students)
- Majority of students in second year of a biological science degree
- Course recently adopted “flipped classroom” format

<table>
<thead>
<tr>
<th>Outside of Class</th>
<th>In-class</th>
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<tbody>
<tr>
<td>Pre-class videos &amp; quizzes</td>
<td>Group worksheets</td>
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<tr>
<td>Graded online homework</td>
<td>Clicker questions</td>
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<tr>
<td>Ungraded problem sets</td>
<td>Practice</td>
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<tr>
<td>Bi-weekly quizzes</td>
<td>Bi-weekly quizzes</td>
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**Results**

**Students’ Descriptions and Sentiments of Organic Chemistry**

Students’ responses to the question: What were/are your impressions of organic chemistry?

- Hard
- Tough
- Time-consuming
- Challenge
- Temple
- Bad
- Good
- Difficult
- Okay
- Interesting
- Nervous

**Students’ Perceptions & Experiences**

- “I studied in a focused manner. I would look back at every question and if I got it wrong, I would justify why I got it wrong.”
- High stakes exams: Critical point of reflection
- “Integrate more from the videos...like 10 minutes of review in lecture to help us make a connection.”
- “Take the pre-class prep seriously. Actually do the questions, don’t just look at them.”
- “I didn’t know about the virtual office hours. And they were archived?”
- Students’ Perceptions & Experiences
- Lack of awareness or use of learning resources
- Mixed perceptions of group work and discussion

**Future Considerations**

- The results of this study will be compiled as a report for CHEM 233 faculty, staff and students to outline: how successful students study; students’ perceived barriers to learning; students’ feedback regarding the course curriculum & pedagogy; and advice for future students.
- Students’ perceptions will help faculty and staff to consider how we may refine the course curriculum & pedagogy to best support students’ learning strategies and experiences.

**References**


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