Interim Report:  
$C^2$Exchange Instructor  
Fall 2019 Post Survey  

April 7, 2020  
Lorna Rivera, External Evaluation  
Lorna@LornaRivera.com
Overview

- **Purpose:** Collect baseline data from instructors on the initial wave of C²E activity.
- **Method:** Online Survey
- **Dissemination:** March 4 – March 31, 2020
- **Response Rate:** 100% (8/8)
Q2.1 - Which C2Exchange subject area(s) did you review, teach, adopt, or develop courses and/or modules in Fall 2019? Select all that apply N=8

<table>
<thead>
<tr>
<th>Topic</th>
<th>Participated in review of course or module (i.e. development process)</th>
<th>Completed new course or module development</th>
<th>Adopted course or module from another instructor/institution</th>
<th>Taught course or module</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computational Chemistry and Molecular Modeling</td>
<td>38%</td>
<td>38%</td>
<td>13%</td>
<td>13%</td>
<td>8</td>
</tr>
<tr>
<td>Introduction to Modeling and Simulation</td>
<td>43%</td>
<td>29%</td>
<td>0%</td>
<td>29%</td>
<td>7</td>
</tr>
</tbody>
</table>
Q2.1 - Which C2Exchange subject area(s) did you review, teach, adopt, or develop courses and/or modules in Fall 2019? Select all that apply

N=8

<table>
<thead>
<tr>
<th>Topic</th>
<th>Participated in review of course or module (i.e. development process)</th>
<th>Completed new course or module development</th>
<th>Adopted course or module from another instructor/institution</th>
<th>Taught course or module</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computational Chemistry and Molecular Modeling</td>
<td>38%</td>
<td>38%</td>
<td>13%</td>
<td>13%</td>
<td>8</td>
</tr>
<tr>
<td>Introduction to Modeling and Simulation</td>
<td>43%</td>
<td>29%</td>
<td>0%</td>
<td>29%</td>
<td>7</td>
</tr>
</tbody>
</table>
Summary of Findings

**General**

- Most (88%) faculty are confident in their ability to integrate computational resources into their curriculum.
- Faculty expertise in computer programming varies (Mean=3.25).

**New Curriculum Development**

- Faculty participating in new curriculum development rated their experience positively across all factors.
- Most faculty (4/5) agreed the course content was at an appropriate level of difficulty, and separately rated the course as being somewhat (Mean=3.25) challenging for students at their institution.
- All faculty participating in new curriculum development report professional benefits (Mean=4.60).
- Access to computational resources was the highest rated C²E component followed by document sharing tools (i.e. Box.OSU.edu).
- While faculty rated the C²E Moodle positively, communication with their students took place primarily through campus software and face-to-face.
New Curriculum Development

Survey Module Response, N=6
To what extent do you agree with the following statements regarding developing and locally implementing a course or module?

N=5

- Course content was at an appropriate level of difficulty: 2 Strongly agree, 2 Agree
- I adapted the course requirements based on results from the assessments (i.e. quizzes and exams): 1 Strongly agree, 4 Agree
- Developing and implementing this course/module was worth my time and energy as a faculty member: 2 Agree, 3 Strongly agree
- Having multiple institutions participate in the course development was important for its success: 1 Strongly agree, 3 Agree
- I am satisfied with the delivery format (online, multi-institutional) for this course: 2 Agree, 3 Strongly agree
- I felt that the students at my institution were academically prepared for the course content: 1 Strongly agree, 3 Agree
- Feedback I received from students about this course has been positive: 4 Strongly agree
- This course met my expectations: 4 Strongly agree
- Overall, I feel that this course was successful: 4 Strongly agree

N/A response option not reflected in this chart.
What was your **primary** mode of communication with students in the course at your site? 
N=5

- **Campus Software** (i.e. Canvas, Google Classroom, Moodle, etc.) - 2
- **Face-to-face** - 2
- **Other (please specify)** - 1
- **E-mail**
- **Local campus website**
- **C2Exchange Moodle**
How challenging do you feel the course was for students at your institution? N=4, Mean=3.25, SD=0.50
How were students recruited for the course at your institution?
N=5

• “In the Fall 2019 the Introduction to Modeling and Simulation course was offered in the Mathematics Seminar course (MATH 499). MATH 499 is housed in one of the three course groups that students majoring/minoring in Mathematics are required to take.”

• “The course was advertise via campus email, it was offered as an elective topics course as part of the Computer Science program. A description of the course and the list of topics was presented, and that the basic skills taught in the course were the foundation for other courses in the area of Data Science and Computational Science. It would also help them getting prepared to do undergraduate research, and will learn Python.”

• “From University Catalog, departmental faculty advisors.”

• “NA”

• “Course materials was offered to students enrolled in existing courses.”
In what ways did you tailor the course to fit the unique needs of your institution? N=4

• “Chemistry and biology majors who are in junior or senior level. This course covers the overview of computational techniques that are applied to small molecules to large systems of biological interest, nonbonding interactions. Computational labs (hands on training) is accompanied with the lecture. Therefore, the class size is maximum of 14 students.”

• “NA”

• “The course was enhanced to provide additional examples and mathematics applications as those enrolled in the course were advanced mathematics students.”

• “Even though there are advance courses in mathematical modeling, there are no foundation course, that will teach the basic skill in mathematical modeling and programming. Having no major requirement (other than college algebra) allow a broader group of students to get started in the field of Computational Science.”
To what extent were you pleased with each of the following components available for course development?

N=5

1. Access to computational resources: 5

2. Communication among instructors from other institutions:
   - Slightly: 2
   - Somewhat: 1
   - Moderately: 2

3. C2Exchange Moodle:
   - Slightly: 2
   - Moderately: 2

4. Document sharing tools (i.e. Box.OSU.edu):
   - Slightly: 1
   - Moderately: 4

5. Recording lecture support/tools (i.e. Camtasia):
   - Slightly: 1
   - Moderately: 3

N/A response option not reflected in this chart.
To what extent has developing and offering the course locally benefited you professionally?
N=5, Mean=4.60, SD=0.55

N/A response option not reflected in this chart.
To what extent has developing and offering the course locally benefited **students** at your institution?

N=5, Mean=4.00, SD=1.73

N/A response option not reflected in this chart.
General Information
Survey Module Response, N=8
What is your level of experience in each of the following areas?
N=8

Computer programming
- Inexperienced (1): 2
- Novice (2): 4
- Competent (3): 2
- Proficient (4): 3
- Expert (5): 3

Using computational techniques or tools in my field of science
- Inexperienced (1): 1
- Novice (2): 1
- Competent (3): 3
- Proficient (4): 3
- Expert (5): 3

Integrating computational resources into the curriculum
- Inexperienced (1): 1
- Novice (2): 4
- Competent (3): 3
- Proficient (4): 3
- Expert (5): 3

Teaching courses with project-based learning
- Inexperienced (1): 1
- Novice (2): 1
- Competent (3): 2
- Proficient (4): 3
- Expert (5): 3
How do you plan to engage with C2Exchange in the future? (Select all that apply) N=8

- Teach a C2Exchange course: 6
- Promote C2Exchange to my colleagues (i.e. on campus, in my field at other campuses, etc.): 6
- Disseminate findings from this course experience (i.e. journal or conference publication): 6
- Access XSEDE computational resources through a science gateway: 5
- Teach another collaborative online course like this one: 5
- Develop a C2Exchange course: 4
- Access XSEDE computational resources directly: 4
- Submit an XSEDE education allocation request: 4
- Other (please specify): 1
- No further engagement planned: 1
Respondent Demographics

Current rank/classification, N=7

- Tenured Associate Professor: 2
- Full Professor: 2
- Lecturer/Instructor: 2
- Tenure-track/Assistant Professor: 1
- Adjunct: 0

Race/ethnicity, N=8

- Black or African American: 5
- Asian: 1
- Hispanic or Latino: 1
- White: 1
- American Indian or Alaska Native: 0
- Native Hawaiian or Other Pacific Islander: 0

Field, N=8

- Mathematics: 3
- Chemistry: 2
- Computer Science: 1
- Biology: 1
- Other (please specify): 1
- Engineering: 0
- Physics: 0
- Social Science: 0

Gender, N=8

- Male: 50%
- Female: 50%