1. **Year & Semester of assessment:**
   Spring 2017

2. **Course assessed:**
   SCED 489m-1, SCED 489m-2

3. **SLO assessed:**
   3.2 Students will be able to facilitate effective student interactions

4. **Assessment Methodology Used:**
   3.2

   Data collection - Students (N=7) from section one completed an assignment where they describe in detail how they engage students visiting the Gateway Science museum during the 20-minute activity they have designed to explore meandering rivers. The assessment is composed of peer-review of the approach used by the students. After facilitating in pairs this activity, students are assigned a new partner to facilitate the activity and assess a description of the activity given by a classmate they haven't collaborated with.

   Data analysis - Students feedback on each others' strategies is evaluated according to the focus they used to give feedback. During a class session, students analyzed each other description of the teaching activity trying to recognize the strengths in the approach and making some suggestions for improvement. Our assessment focuses on identifying if students assessment focuses their feedback on "facilitating effective student interactions." With this purpose we examine their feedback to recognize the references made to (a) recognizing student's' ideas, (b) promoting active engagement of students, (c) addressing the content of the lesson accordingly. We use the three categories above to describe *effective student interactions*.

   Given the small size of the sample, no statistical analysis is performed but rather a qualitative analysis of the interaction of students regarding each other teaching approaches.

5. **Assessment Results:**

Please describe outcomes of assessment. How well did students perform on the assessment task? Feel free to use the table below to report results, adapting the table as necessary, or provide narrative describing the assessment results.

Student Learning Outcome	Sample and Sample Size	Measure	Percent of Students Achieving
3.2 Students will be able to facilitate effective student interactions	7	Identifying in students feedback how they are able to (a) recognize student's' ideas, (b) promote active engagement of students, (c) address the content of the lesson accordingly	100% of the students showed, both in their description of their teaching as well as while giving feedback to their peers, to use at least two of the three areas assessed to explore how to facilitate effective students interactions.
3.3 Students will be able to engage in evidence-based reflective teaching practices			

6. Analysis / Interpretation of Results

3.2 We were able to observe different levels of engagement while writing down feedback regarding their peers. All of the students engaged, to certain degree, in a reflective activity to give feedback enhancing how to *facilitate effective students interactions*. While some of the students approached it in a highly engaged way, justifying the pieces that they considered valuable from their approach that enhanced students participation and considering for their future approach, a small portion of the students didn't elaborate on why they agreed with such strategies or how would the interventions would benefit the experience of the students.

These results shows that students are considering, to certain extent, the different dimensions that are intertwined in facilitating a science activity with a

student-centered approach. While the course focuses on them having experiences interacting with kids, the discussions after their sessions with the kids as well as the facilitation of our course arises awareness on students' approach towards student-centered

7. Planned Program Improvement Actions Resulting from Outcomes (if applicable)

3.2 Given the format of the class, we consider this exercise of students describing in detail their teaching intervention to later peer review their approach is a good source of feedback for the instructor and the students themselves. We will continue fostering this space and the reorganization the students co-teaching during the field trip so they can learn from each others strategies. In order to continue this process, we will enhance more instances in which they can use evidence from their teaching to reflect on their approach.

8. Planned Revision of Measures or Metrics (if applicable)

9. Planned Revisions to Program Objectives or Learning Outcomes (if applicable)

II. Appendices (please include any of the following that are applicable to your program)

A. Assessment Data Summaries (Details that elaborate on item 5, above.)

3.2

In this section we provide some selected examples of the indicators used for assessment in this area. This is not the total evidence collected but rather a sample to exemplify the analysis performed.

Assessment area	**Statement in writing**	**Engagement to statement**
(a) recognize student's' ideas	*If the activity is not going as planned, we change gears and stop doing the activity and stat to have the discussion more quickly.*	*I think it is important to pay attention to how much the kids understand and intervene if they don't get [it].*
(b) promote active engagement of students	*We explain the rules and put the students into pairs, one person being the "water" and one person standing at the end of the river telling the student what to do. [...] The partner that is standing at the end of the river tells the "water" what to do at each curve, either erode or carry. We make sure that each student gets to be the "water" once and be the partner telling the water what to do once.*	*I've done the "students in pairs" grouping, but not in the same way. I just had them walk through with their buddy if they were [too] nervous to go through the river themselves. I love the idea of having a partner at the end of the river calling shots. I think it is an effective way to take the pressure off the students going through the river.*
(c) address the content of the lesson accordingly	*We explain that the sediment is the small pieces, the riverbank is the medium pieces and the big boulders can't be moved, tying back in with the video. I explain they only have enough energy to erode the riverbank twice and carry sediment three times. They are [allowed] to disperse sediment anywhere they want.*	*Another word Taylor uses that I haven't yet is "energy," I'll try to use this word when describing the activity so the students can begin to think of water as a force.*

B. Measurement Standards (Rubrics, etc.)

C. Survey Instruments