Let’s hear it for

**small data**

building a community of practice on SLO assessment

Madeleine Murphy
Student Learning Outcomes Assessment Coordinator, College of San Mateo
how and why we have changed our slo assessment practices: one college’s story

1. Context: taking stock
2. Who we are and where we were with SLOs: a case study
3. The re-reboot
4. Going forward
CONTEXT: TAKING STOCK
context: assessing assessment
I wrote my SLOs and did my assessments to check a box for our local Curriculum Committee and Accreditation Paper Pusher. The results were, at best, mildly amusing and good for the complexion, as the saying goes. How I really assessed student learning and my own teaching was a completely separate process. How I can do that in a format that easily drops into a report for charting purposes is beyond me (commentator).

Imagine that an institution could devote its research resources to problems that it identified, instead of being forced to pretend that everything-all-the-time can be researched (David Eubanks)

“A hot mess”
A “bureaucratic machine”
(from the WASC panel)

“What are SLOs for?”

#1 FAQ from faculty to SLO coordinators, April 2019

I say we take five years off from assessment and see if anyone notices (Erik Gilbert)

Sham empiricism
(Robert Shireman)

When I became a department chair, I told faculty to think of a 19th century Old West town with false-front store buildings. The false fronts represent the inane busy work of external assessments. (commentator)
WHO WE ARE & WHERE WE WERE WITH SLOs:
A CASE STUDY
who we are

suburban commuter college, with *approximately*

- 9,500 students a semester
- 1033 faculty (332 full-time)
- 25 student academic and support services
- 36 departments (mostly 1-2 full-time faculty)
- 6 learning communities
- Promise Scholars program
- international education program
- culture of creativity, independence
where we were with SLOs

Fall 2015: unenthused, but basically compliant

- course/service level SLO data collected by faculty
- Rule of thumb: every outcome assessed at least once every 3 years
- program/ILO data collected through surveys
- course outcomes mapped to PSLOs/ILOs
- SLO data housed in TracDat
- data analysed by each department/service in biennial Program Review
- part-time faculty SLOAC/assessment committee
- focus on data collection, TracDat, writing SLOs
- **BUT no institutional answer to the #1 FAQ:**
  "What are SLOs for?"
The institution disaggregates and analyzes learning outcomes and achievement for subpopulations of students. When the institution identifies performance gaps, it implements strategies, which may include allocation or reallocation of human, fiscal and other resources, to mitigate those gaps and evaluates the efficacy of those strategies.

SLOs = “Big Data” datapool

- Grades
- Success
- Withdrawal
- Persistence
- Graduation
- Time to completion
- Transfer
- Job placement
- Licensure exams
F2015: The Reboot Begins!
2016: Fact-finding

- How do you do SLOs?
- What do you use them to find out?
- Are they helpful?
- What do you do with the data?
- What *would* help you improve student learning?
Our SLO situation in Spring 2016
different purposes, different solutions

● To improve our in-class assessments?
● To improve grading (objectivity, consistency)?
● To improve our curriculum (cohesion, currency)?
● To make sure the curriculum’s being taught?
● To improve sustained interdisciplinary learning?
● To evaluate the effectiveness of our teaching?
● To find problem patterns (student populations, course sequences, etc.)?
course data

- generally duplicated what we know from grades
- was onerous to collect & record
- didn’t bring faculty together
- didn’t move us forward
program data

- surveys mostly unhelpful
- direct measures mostly inaccessible
- degree programs not always the most useful milestone (esp. Math, English, ESL, GE)
- didn’t move us forward
ILO data

- gathered by survey (see above)
- interdisciplinary faculty group (e.g., assessing Effective Communication)
- didn’t move us forward

### RESULTS

<table>
<thead>
<tr>
<th>COURSE</th>
<th>Relevant SLOs</th>
<th># of sections assessed</th>
<th>#students</th>
<th>#results overall</th>
<th>success by SLO</th>
<th>overall success</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMJ 120</td>
<td>1</td>
<td>1</td>
<td>38</td>
<td>38</td>
<td>31/38 = 81%</td>
<td></td>
</tr>
<tr>
<td>LCTR 100</td>
<td>1</td>
<td>1</td>
<td>20</td>
<td>20</td>
<td>15/20 = 75%</td>
<td></td>
</tr>
<tr>
<td>BIOL 100</td>
<td>1</td>
<td>3</td>
<td>55</td>
<td>55</td>
<td>41/55 = 74.5%</td>
<td></td>
</tr>
<tr>
<td>ART 102</td>
<td>1</td>
<td>1</td>
<td>34</td>
<td>34</td>
<td>30/34 = 88.2%</td>
<td></td>
</tr>
<tr>
<td>FILM 100</td>
<td>2</td>
<td>1</td>
<td>29</td>
<td>58</td>
<td>46/58 = 79.3%</td>
<td></td>
</tr>
<tr>
<td>COMM 110</td>
<td>2</td>
<td>1</td>
<td>19</td>
<td>38</td>
<td>32/38 = 84.2%</td>
<td></td>
</tr>
<tr>
<td>COMM 130</td>
<td>1</td>
<td>1</td>
<td>20</td>
<td>20</td>
<td>18/20 = 90%</td>
<td></td>
</tr>
<tr>
<td>ENGL 110</td>
<td>3</td>
<td>2</td>
<td>53</td>
<td>159</td>
<td>SLO 1: 44/53 = 83%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SLO 2: 36/53 = 67.9%</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SLO 3: 38/53 = 71.6%</td>
<td></td>
</tr>
</tbody>
</table>

**TOTALS**: 12, 11, 268, 422, 331/422 = 78.4%

**NOTES:**

While the academic labs and Admissions & Records provided information, this is not included in the table above. Both the Writing Center labs and Admissions & Records do their assessments annually in the spring, and thus could not supply information for Fall 2015. Also, both survey students by means of an anonymous questionnaire, and thus could not provide data that could be disaggregated.
program review questions: revelation!

1. Reflect on recent SLO assessment results for courses and degrees and certificates offered by the program. Specify how SLO assessment informs curriculum development and changes to curriculum.

2. Comment on the success rates in the program SLOs that are aligned with specific course SLOs. What do the program SLO and course data reveal about students completing the program? Identify trends and discuss areas in need of improvement. Is the alignment between course and program SLOs appropriate and informative? Describe any additional methods used to assess program SLOs and reflect on the results of those assessments.

3. For any courses in the program that satisfy a GE requirement, which GE SLOs are supported or reinforced by the course SLOs? What do assessment results for the course SLOs (and for the GE SLOs, if available) reveal about student attainment of the GE SLOs?
typical SLO analysis

“The program SLO's are aligned with the specific course SLOs and the data reveals that students completing the program are grasping the basic concepts, events, people, and theories.”

“One SLO for ____ 100 was assessed with only 56% of the students deemed successful, resulting in a recommendation that the students receive more practice (and modeling of) how to make connections that require both detailed knowledge and critical thinking.”

“It is easy to misread the data. Sentence skills stand out as an area of weakness, while critical thinking looks very competent. But surely this is also because it’s very easy to measure sentence skills, while it’s not possible to measure critical thinking.”
Sham empiricism - or the wrong empiricism?

**Sham empiricism**

**Principles:**
- Using student learning as the measure of our success
- Evidence-based assessment of how students are doing
big data empiricism: inductive

Good for identifying hitherto unsuspected patterns or trends in a blizzard of data points.

Relies on large quantities of solid, representative data from which meaningful inferences can be drawn.

Requires specialist training to analyze trends and patterns.
small data empiricism: experimental

Good for exploring solutions to already-identified problems

Relies on intentional, purposeful questions

Does not necessarily require large data pools

Non-experts can interpret and make use of results

Department discussion: Review of student grades / survey: what worked?

Department discussion: “Which sentence marking strategy works best to help students write better?”

Experiment: Different methods of sentence-marking applied
big data analysis
begins with large-scale data collection
expert analysis of data reveals patterns

small data
begins with questions
question determines data & method
THE RE-REBOOT
The point of assessment is not to gather data and return ‘results;’ it is a process that starts with the questions of decision-makers, that involves them in the gathering and interpreting of data, and that informs and helps guide continuous improvement.

From the AAHE’s Assessment Principle #7

The goals of assessment are:

- To inform planning by identifying areas of need and/or effective practices around student learning;
- To create a community of practice that supports continuous improvement in student learning;
- To enhance students’ educational experience beyond the classroom through sustained interdisciplinary collaboration around shared learning outcomes.

“Assessment: Overview” - College Assessment Committee, 2019

The overriding purpose of assessment is to understand how educational programs are working and to determine whether they are contributing to student growth and development.

– Palomba and Banta (1999)
## what changed

<table>
<thead>
<tr>
<th>old</th>
<th>new</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start with the data collection</td>
<td>Start with the question</td>
</tr>
<tr>
<td>Assess SLOs or courses by turns</td>
<td>Prioritize a relevant learning question</td>
</tr>
<tr>
<td>Don’t use grades</td>
<td>Use whatever data answers the question</td>
</tr>
<tr>
<td>Build a KSI-style datapool</td>
<td>Narratives of experiments / research</td>
</tr>
<tr>
<td>Map to assess PSLOs / ILOs</td>
<td>Map to review curriculum</td>
</tr>
<tr>
<td>Fill in the forms (process mandate)</td>
<td>Discuss with colleagues (time mandate)</td>
</tr>
</tbody>
</table>
connecting assessment to planning

**discipline/service faculty:**
- Fall: Create an assessment plan
- Spring: Document results
- Every two years: Summarize activities in Program Review

**College Assessment Committee:**
- Fall/Spring: organize interdisciplinary assessment activities
- Every two years: Summarize College-wide activities in Assessment Report

**institutional planning**
Academic Senate and subcommittees read and analyze Program Reviews / Assessment Report

recommendations for flex day faculty support professional development
bottom-up assessment planning

Disciplines/services: start with a **question** about student learning that

- prioritizes important learning outcomes
- is worth asking
- gets you somewhere
- is manageable
- tells you something you couldn’t find out from other means (e.g., grading)
- involves collegial discussion

**ESL:** Are writing students meeting the SLOs for their course?

**Pilates Certificate:** Are graduates finding employment post-graduation? Do the graduates feel ready to enter the workforce?

**Cosmetology:** What study methods are students using?

**Accounting:** Are we losing students in Financial Accounting? And what can we do about it?

**English:** Which essay response strategies (esp. at sentence level) are most effective?
A simple routine

### Assessment Calendar

#### Fall Odd / Spring Even Year (first year of Program Review cycle)

<table>
<thead>
<tr>
<th>Event</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex day workshops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO discussion</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment planning</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due dates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment update</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Fall Even / Spring Odd (second year of Program Review cycle)

<table>
<thead>
<tr>
<th>Event</th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex day workshops</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILO discussion</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Review preparation</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due dates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Review</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment update</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Assessment plan:

**Ask a question**

**Use the appropriate data to answer it**

<table>
<thead>
<tr>
<th>Discipline</th>
<th>MATH</th>
</tr>
</thead>
</table>
| **Program / Aspect of Program** | assessing new curriculum for AB705:  
- comparing Math 225 with the Math 130/Math 222 combo  
- tracking success in Math 120 and 120+, and 190 and 190+ |
| **Research question(s)** | Do the new courses, aimed at the AB705 intake, meet the same standards for learning effectiveness as the former courses? |
| **Rationale** | AB 705 has forced a restructuring of the curriculum; we are looking to see which of our approaches has the most success in helping students learn. |
| **Method** | 1. Compare retention rate (completion/census) and success (C or better/completion) for Math 120 vs. Math 120+820, Math 190 vs. Math 190+890, and Math 225 vs. Math 130 + 222. Get data from PRIE.  
2. Collect anecdotal information on causes of withdrawals, causes of non-success, and topics needing reinforcement in co-req courses. |
| **Next steps / Timeline** | Each semester: request summary information from PRIE after grades are turned in. Request anecdotal information prior to end of semester.  
The following semester: Meet to discuss results, decide on "tweaks" to curriculum of co-req courses or request support for student issues revealed in anecdotal courses.  
(Note: for Math 225 it takes at least two semesters to get the comparison information with Math 130 and Math 222 combined) |

**SPRING UPDATE**
College Assessment Committee: organizes interdisciplinary activities that

- align with institutional learning outcomes
- promote engaging and meaningful interdisciplinary discussions
- are easy for faculty to participate in
- give us a new perspective
- engage student voices as much as possible

Fall flex day: working with colleagues from other disciplines, create an interdisciplinary rubric for assessing one of the ILOs.

Spring student forums: activities that show students reflecting on, or demonstrating, larger institutional learning goals

Surveys: administer surveys to graduates, currently enrolled students addressing ILO achievement

Other assessment ideas: embedded courses? Learning community activities? Alumni outreach?
## Student activities

A simple routine

<table>
<thead>
<tr>
<th>College Assessment Committee</th>
</tr>
</thead>
</table>

### Fall Odd / Spring Even Year (first year of Program Review cycle)

<table>
<thead>
<tr>
<th></th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex day workshops</td>
<td>ILO discussion</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessment planning</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Activities</td>
<td>Learning Communities ILO activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td>Goal setting / review</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Fall Even / Spring Odd (second year of Program Review cycle)

<table>
<thead>
<tr>
<th></th>
<th>Aug</th>
<th>Sept</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex day workshops</td>
<td>ILO discussion</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Review preparation</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other topics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Activities</td>
<td>Learning Communities ILO activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program Review analysis (with AS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-Program Review planning (with CAE)</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goal setting / review</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reports</td>
<td>Assessment Report</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Spring Discussion Forum

Climate Change: A Silver Lining?

Monday, April 17, 2017    2:30 – 4:30

18-206

We're looking for a group of students to participate in a discussion on climate change. No grades, no preparation, no homework – just your ideas and responses. Participants must have completed at least 45 units.

*Refreshments will be served!*  
*On-the-spot gift cards raffle!*  

Reflection: What Are We Learning?

Thursday, April 25, 2019    1:00 – 2:30

We're looking for a group of students to reflect on their college experience so far. No grades, no preparation, no performance, no homework – just your ideas and responses.

*Food, conversation, raffle!*  

If you are interested, please RSVP to Madeleine Murphy at murphyms@smc.edu by Sunday, April 21st.
challenges

- learning a new process (“Yes, but where do I put my data?”)
- winning faculty back to assessment
- making student activities a familiar college feature
- trusting faculty to prioritize assessment goals
- letting go of the Big Data approach for learning outcomes assessment
GOING FORWARD
what does a community of practice look like?

a culture of learning assessment with widespread, active participation, focused on activities and discussions rather than all-purpose data collection

biennial showcase of faculty work on assessment

college-wide assessment projects focused on key learning goals

regular documented, evidence-based discussions on student learning

better, more intentional use of institutional “big” data

a willingness to take on the tough questions (“does this work?”)

Thanks to your SLO recommendation we are actually looking at something that is interesting to us and will help us do a better job. When I think about all the ‘data’ we collected that provided zero information and the time spent collecting it I want to cry. Just want you to know your recommendation really got us to thinking about things.
questions?
thank you!

Madeleine Murphy
College of San Mateo
College Assessment Committee

http://collegeofsanmateo.edu/sloac/