Students’ Perceptions of Teaching & Learning Experiences after 7 years of CWSEI support

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SLES – the Students’ Learning Experiences Survey

- 2500 students in 50 courses rated the helpfulness of 39 specific teaching or learning strategies in the final year of a 7 yr dept-wide education initiative.
- All 39 questions: “How much did [information provided] classroom strategies [various types of homework] help you learn in this course?”
  - Options: a. Extremely helpful b. Very helpful c. Moderately helpful d. Little or no help e. Not Applicable
- 4 course improvement models: t = multi-term "transformation", c = "consulting" with CWSEI, i = "independent" (no CWSEI support), n = "none" (no improvement).
- 3 class sizes: small < 50 (27 courses); medium < 150 (18 courses); large > 150 (9 courses).

Study Questions:
- How were students’ perceptions of helpfulness related to course improvement model, class size and year level of courses?
- Which specific teaching or learning strategies were perceived as most or least helpful?
- How do STUDENTS perceptions align with OTHER data such as classroom observations and instructor’s teaching practices?

Perceptions vs TPI (Teaching Practices Inventory)

Data summary

Perceptions vs COPUS (Classroom Observations)

Interpretations from figures 1 - 2

1. Overall, strategies were perceived as least helpful in unimproved courses and similarly helpful in courses improved using any of 3 models.
2. Small courses improved with STLF ("t" and "c") support were more helpful than independently improved courses.
3. The opposite was found for medium courses.
4. Helpfulness of strategies in large courses (all transformed) was perceived as similar to medium courses.
5. 1st and 4th yr courses were equally “helpful”. 3rd yr courses were least “helpful”.

Interpretations from figures 3 - 8

1. Perceived helpfulness of individual strategies was nuanced and context dependent. Both “traditional” and EBIP were improved.
2. Top 3 most helpful are "traditional" + Learning Goals, Clickers & Group study (fig 3, 4).
3. Most strategies perceived as more helpful in "t" & "c" compared to "n" (fig 5).
4. Most were more helpful in "t" compared to "c&b", BUT - exceptions are interesting (eg clickers) (fig 6).
5. Feedback / homework strategies were most helpful in "t" courses (fig 6) and small courses (fig 7).
6. Neatly all strategies were "more helpful" in small courses compared to medium; 2 exceptions are interesting (fig 7).
7. Medium and large classes were more variable; homework/feedback was more helpful in medium courses (fig 8).

Overall conclusions

a) Students perceived improved courses as more helpful than unimproved courses.
  b) STLF helped faculty gain pedagogic expertise: i.e. students perceived most improved courses as being able to help such as taught by specialist geoscience educators.
  c) Benefits did not always scale with class size; SLES data indicate that scaling homework & feedback for larger classes is particularly challenging.
  d) Classroom strategies were perceived as more helpful in courses taught by instructors who indicate they use more best practices.
  e) Classroom strategies were more helpful in courses observed to be more active.

Processing steps:
• For each course, find mean perception for each of 5 active classroom strategies.
• For each course, find max. of these 5 means.
• Plot average of these maximum values for all courses within each COPUS style.

Interpretation: Students perceive active classroom practices as more helpful in classes observed to be more active. Lower SLES result for “limited peer instruction” courses may be due to significantly larger class sizes. (Also “Socratic” style may be slightly different at UBC compared to Lund etal. 2015.)