Free consulting;   how can you gain from small EOS-SEI projects?
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As the original EOS-SEI "Long Term plan" (see link on the EOS-SEI home page) begins to wind down, more time is available for short, focused one-on-one consultations with instructors. Each will be different, but here are two that illustrate how **you** could take advantage.

-- Example 1 --

Course and task: EOSC220, Introductory Mineralogy. The current instructor was wondering "how do I deliver, and manage, the "worst" assignment of the year? The assignment asks students to "*Memorize 63 minerals, their classes, subclasses and chemical formulae.*"

Invariable student reaction to this assignment →→

How it got started: STLF dropped in simply to say Hello – and the question was raised.

The challenges: Students are (a) intimidated by the list of minerals and their complicated looking formulae, (b) have difficulty getting motivated to tackle the job, and (c) do not often have good strategies for a learning task such as this.

What was done: After a little discussion, we agreed that motivation and study strategies are key aspects of this assignment. Recommendations (based on knowledge about "how people learn") include:

i.   Instructors can incorporate motivational components throughout the course (e.g. why memorizing these is a crucial learning goal for the course and for the discipline).
ii. Long term retention and the ability to transfer knowledge to new situations is improved by appropriate "frame-working" for the knowledge. Instructors and TAs can show students how the list of minerals breaks down into various groupings, and how those groupings relate to chemistry; i.e. help students with the "chunking" of the knowledge.
iii. Offer students study aids that make use of the framework. The STLF demonstrated how to build "mix and match" questions using a sequence of spreadsheet → wordprocessor → The 'Respondus' question database (a free tool for UBC instructors) → and finally Vista. Questions can be efficiently generated, then grouped into self-study resources for students. It would be worth having some discussion about how to deploy such resources for students.
iv. Frequent testing of intermediate progress towards memorizing the full list is recommended since "testing" has been shown to produce longer term results than equivalent time spent "studying". Testing could be online, in class, or both, and should result in some contribution towards grades, even if small.

Outcomes (done or pending):

- Question sets using a variety of questioning modes were being developed within a week of getting started.
- Types of questions include mix-and-match, Jumbled sentence (e.g. "ranking"), multiple choice (MC), multi-answer MC, fill-in-blanks, and short answer.
- All are automatically "graded", and they can either contribute to grades, or serve as self-study resources.
- Providing some incentive is recommended, but it only has to be a very few "participation" marks, and does not have to depend on "correct" answers.

-- Example 2 --

Course and task: EOSC420, Volcanology. Course instructor wanted to improve a student research project without adding more work to a course with a high workload.
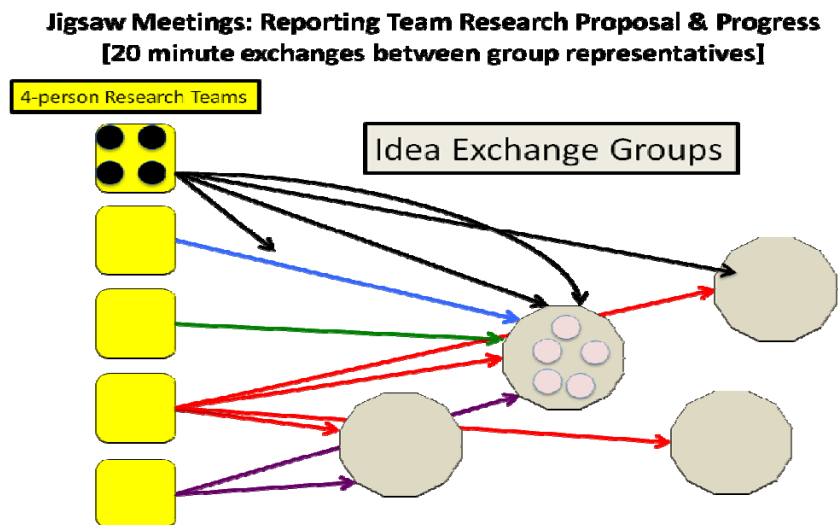
How it got started: Prof responded to advertising email about STLF help.

The challenges: How can we make relatively minor changes to an assignment that benefit students?

What was done: We made 3 minor additions to the research project
   i. Milestones – the project now has a timeline with milestone deliverables. Rather than handing everything in at once on the last day, students will now complete a series of milestones that create components of the project. The work is more spread out and it is easier for them to stay on track.
   ii. Group framework – Students make a series of agreements that they add to the proposal. For example, a projected timeline with a division of labour. Students agree on grades before the project starts: both what grades they hope for, but also what grades they are willing to accept.
   iii. Project symposium (crosspollination between groups) – After 2 of the major milestones students will have short symposiums to discuss their projects with other groups. To help make all group members accountable, each person in the group will join 4 or 5 other students from different groups (see figure 1). In these ad hoc groups students will discuss progress they've made so far, any difficulties they've encountered, and will ask for comments from their peers. Because each student will be reporting to different groups, each student must know the state of their project.

Together these changes use a small amount of class and student time, but should make the students more efficient, accountable, and help them work on the project throughout the term (instead of just the last week).

Jigsaw Meetings: Reporting Team Research Proposal & Progress
[20 minute exchanges between group representatives]

Outcomes (done or pending): Outcomes are pending.   Ask us at the end of the semester ☺.

Here are some ways YOU can benefit from consulting:

a) Identify student difficulties;
b) Design or run an activity in class;
c) Address a challenging assignment or project;
d) Derive structure for the knowledge;
e) Determine student opinions (about anything);
f) Figure out an assessment of any kind;
g) Measure learning;
h) Make thinking more visible;
i) Get feedback from/to students or instructors
j) … anything goes – drop in and ask !

Contact EOS-SEI: To talk about your course(s) or teaching and learning in general, visit EOS-South 361, or contact Francis Jones (fjones@eos.ubc.ca) or Brett Gilley (bgilley@eos.ubc.ca). See also http://www.eos.ubc.ca/research/cwsei/.