

SusEd@McGill: Quarterly Report (October-December 2013)

Sustainability Projects Fund

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Task <i>Project deliverable, finance milestone or communication commitment</i>	Date <i>Start & finish, or estimate</i>	Details <i>e.g., considerations, purchase method, support needed, etc.</i>	Costs <i>(if applicable)</i>	Status
100-word blurb on the project, work plan, metrics	December 2012			Completed
Introductory video	Will depend on availability of the videographer and Ed students			Completed
Research the Quebec Science curriculum, programs and practices for links to sustainability	January-February 2013	Salary (payroll)	\$1667/month salary	Completed
Develop survey of student knowledge of sustainability	February 2013	Salary (payroll)	\$1667/month salary	Completed
Develop modules and field trips to be taught in Fall 2013.	February 2013-September 2013	Salary (payroll)	\$1667/month salary Costs for photocopying charged to Science Methods course	First field trip and lab completed.
Pilot the field trip and modules <ul style="list-style-type: none"> • Modify as indicated from feedback 	March 2013	Salary (payroll)	\$1667/month salary	Completed. First field trip and lab piloted.

Administer post-survey on student knowledge of sustainability	April 2013	Salary (payroll)	\$1667/month salary	Completed
Develop toolkit(s)/lesson plan(s)	April 2013-December 2013	Salary (payroll)	\$1667/month salary	Completed.
Road-test toolkit(s)/lesson plan(s) with students <ul style="list-style-type: none"> • Modify as indicated from feedback 	April 2011	Salary (payroll)	\$1667/month salary	Completed.
Write all reports, prepare presentations, etc.	March-December 2013	Salary (payroll)	\$1667/month salary	Completed
Sustainable-Ed blog	April-December 2013	Salary (payroll) Student volunteers	\$1667/month salary	Ongoing: will be continued by Anila and her students
STEM conference	June 2013	Salary (payroll)	\$1667/month salary	Completed
QPAT	November 2013	Salary (payroll)	\$1667/month salary	Completed
Publications	November-December 2013	Salary (payroll)	\$1667/month salary	Not started: Anila may undertake this in the future.*
Translation	September – November	Salary (payroll)	\$1667/month salary	Ongoing: sent to Translation

	2013			services.
Dissemination to McGill community	November-December 2013	Salary (payroll).	\$1667/month salary	Ongoing
Dissemination to Quebec (if possible)	November-December 2013	Salary (payroll).	\$1667/month salary	Started: Anila will continue this.**
Dissemination to Ed. Faculty	November-December 2013	Salary (payroll).	\$1667/month salary	Ongoing

Materials, tabling, and/or presentation at SPF events will take place throughout the project as the opportunity arises.

Successes and Challenges: What We Have Learned

The project continued along smoothly in many different areas and we have completed most of our objectives.

- 1) Jacky, Ingrid, and a McGill student (Ying Huang) presented the Water Is Life exhibit at the 13th annual AQPERE conference on environmental education on November 7 and 8. The theme of the conference was *Tout le monde à l'eau!* and the exhibit helped showcase McGill's sustainability efforts on campus to reduce water. There were approximately 400 conference attendees, all of whom passed the exhibit in order to reach the dining hall for lunch. We had good feedback on the exhibit and a number of people expressed interest in hosting the exhibit, including Vanier College. Ingrid will be following up with them. Jacky also attended the conference as a participant.
- 2) Due to this project, contact was made with the Faculty of Education's Building Director and the *Water is Life!* exhibit has been on display in their main lobby from September through December 2013. It is estimated that approximately 1200 education students have seen this exhibit. The exhibit will be moving to the Chemistry Building (Otto Maass) in January for the winter 2014 term.
- 3) David Loach and Jacky finished selecting the final edits for the video for our project in November. David completed the filming and production in December and the video has been uploaded to the Sustainability Project's YouTube channel here: http://www.youtube.com/watch?v=vcGbA1io7K0&feature=em-upload_owner.
- 4) Jacky presented "Getting Sustainability Into Your Classroom" at the QPAT (Quebec Provincial Association of Teachers) conference on November 22. Anthony and Ying Huang, two of Anila's students, helped with the setting up and hands-on activities. There were 18 attendees and we received great feedback. We carried out the same survey we gave to in-service teachers at the STEM conference in June. Please see the accompanying PDF for results.

*In terms of using these results for publication, both these survey results and the in-service teacher survey results cannot be used because we did not have the Ethics Board approve them. The intent of the survey was to pilot the survey questions and see how they could be used in future studies. Anila may follow up with such studies and she may write about our experiences with students in this project at that time.

** Although we did not launch a discussion directly with MELS about our project because this was a pilot project, the workshops we have done with teachers at STEM and QPAT are a step in this direction and we will continue to share the resources and modules with other teachers and schools.

- 5) On September 18th Jacky led a sustainability walk for 22 staff members as part of the STARS series of talks. We began at the *Water is Life* exhibit at the Redpath Museum to discuss water issues, moved on to Big Hanna to hear about McGill's composting from Jasmeen Kaur, and ended up at RVC Dining Hall to hear from Chef Oliver about sustainability in Food

and Dining Services. Everything was topped off by a delicious meal at RVC, and everyone received their own eco-clamshell to take back to the office, courtesy of the Dean of Science.

- 6) Anila, Lilith, and Beverly (Education Program Director, Faculty of Education) met with Marcy Slapcoff from Teaching and Learning Services in October. They are working with two students who are working on sustainability in Education & Research through the SPF Office. They are drafting an application to the SPF for a faculty fellows program to support faculty in (re)developing curricula to integrate sustainability. The Education workshop would be the pilot workshop for this project. This will continue in Winter 2014.
- 7) Jacky and Anila finalized the sustainability walk, a module on Transformation and Conservation of Energy (electromagnetism and windmills), and two classroom activities (school gardens and composting). These will be incorporated into Anila's Science Methods course in Winter 2014, where an expected 30 students will use them to learn about sustainability. Students in this class will also be required to incorporate sustainability into their own lesson plans and learning evaluation situations. All of these materials have been sent to Translation Services and will be made available in both official languages on the SusEd@McGill blog.
- 8) The SusEd blog continues to be updated and Anila will use it as part of her Science Methods course in winter 2014, as well as in future projects with education students and/or teachers. One such project, if approved, is Ying Huang's SPF proposal to present workshops on sustainability to Education students. Students and teachers will share their ideas and activities with each other.
- 9) Challenges this quarter have again been in terms of logistics:

Working the sustainability walk module into other professors' classes could not be done for this term, which meant that we reached half the students we had originally intended. With sabbaticals and summer schedules, we could not discuss the possibility of incorporating the sustainability modules into the fall Science content classes until late August. At that point, the professor decided that these modules would not work out with her newly revised courses.

Conclusion

What we set out to accomplish

Overall, we set out to increase awareness about sustainability among student teachers, in-service teachers, and the government (MELS), with the hope that they will incorporate this awareness into their own teaching and the curriculum in general. We wanted to achieve this through modules and field trips within credit courses in the Faculty of Education, and through conference presentations and a blog.

Please see the work plan above for detailed objectives.

What we accomplished

We researched the Quebec curriculum (elementary and secondary) and confirmed that sustainability fits in with the Science and Technology core concepts and competencies. Sustainability also fits into the curriculum in other subject areas and can easily be incorporated by teachers according to their interests and creativity.

We reached approximately 175 students in the Faculty of Education with a survey, a sustainability walk to learn about McGill's sustainability initiatives, and lab modules about school gardens (elementary level) and composting centers (secondary). We developed a teaching module on Transformation and Conservation of Energy (electromagnetism and windmills) and a blog; Anila will use both of these as part of her Science Methods course in winter 2014, as well as in future projects with education students and/or teachers.

We presented our project to in-service teachers at two conferences (STEM and QPAT) and discussed McGill's sustainability initiatives through the *Water is Life!* Exhibit at another conference (AQPERE). We also networked extensively at the AQPERE conference, which will help with future projects of this kind. We presented McGill's sustainability initiatives to McGill Science Support Staff as a STARS walk.

Our project started the discussion in the Faculty of Education on how to incorporate sustainability throughout the teacher-training curriculum. Members of the Faculty are currently working with the SPF Office on a faculty fellows program to support faculty in (re)developing curricula to integrate sustainability. The Education workshop would be the pilot workshop for this project. This will continue in winter 2014.

Our project brought together many different McGill communities, including students, staff, and faculty. We continued to meet and strengthen bonds with other groups working on sustainability at McGill; these included students working with Big Hanna and the edible campus, as well as Chef Oliver.

What we have learned:

Through our project we found out that there is a lot of work to be done on educating teachers about sustainability at McGill and elsewhere, and that the word sustainability is itself not well understood. This may be because the MELS documents for teaching Science and the Quebec Education Program only use the word twice throughout. These materials were produced before the term became widely used in the vernacular, and this is an area MELS should address at some point, in terms of incorporating more up-to-date language in its materials. In general, there seems to be more awareness among pre- and in-service teachers about environmental sustainability than about social and economic sustainability. If teachers are not aware of these concepts, it is unlikely they are teaching them to their students. In addition, there is little awareness of the UN's *Decade of Education for Sustainability, Education for Sustainable Development (ESD)*, or the Canadian initiative *Learning for a Sustainable Future (LSF)*.

We learned that there are already many teaching materials and resources available to teachers. Our original plan of developing such materials or toolkits had to be changed because it was not the best use of our resources. Our focus moved instead to creating awareness about the concepts of sustainability, spreading the word, and working within the Faculty to try and incorporate sustainability throughout the teacher-training curriculum.

We also learned that the best way to approach professors with this kind of project is to relate it to principles that already guide the Faculty. In this case, that was the Faculty's commitment to social justice. Having social justice as part of their mission statement made it easier for faculty to see where sustainability already fits in, and how they can make that clear to students.

Challenges:

Overall, our major challenge was incorporating modules, discussions, and labs into an already highly packed curriculum. With the program requirements for training teachers, professors do not have much leeway to add extra material and students have very constrained schedules. For example, our idea of recommending elective courses having to do with sustainability did not work with most student schedules. Anila was able to fit our survey, sustainability walk and one lab module into three of her time slots, however the other professor we approached was not able to. As discussed above, this may have been due to timing and only being able to contact her close to the beginning of term. It is definitely something that others working on similar projects need to be aware of. We were able to switch gears and move more into spreading the word through the blog, conference presentations, a STARS sustainability walk, and working with the Faculty, however we did miss out on working with more students, which we really wanted to do. We would recommend, wherever possible, discussing the project well ahead of time (e.g., 6 months) with the professors involved.

Another challenge, which surprised all of us, was simply explaining what sustainability is. Economic sustainability, in particular, was difficult for many people to grasp. After seeing this in the survey discussion with students, we tried to bring more of those ideas into the class discussions. We also found that in-service teachers did not have a clear understanding of

sustainability. We would recommend explaining right from the beginning what we mean by sustainability so that everyone is on the same page.

Summary

We definitely recommend continuing to increase awareness about sustainability and explaining how to teach those concepts in the teacher-training program at McGill. We are very happy that Anila will continue to use the modules and activities we have developed in her classes and that the Faculty of Education has agreed to help develop a course-design workshop for faculty to help bring these concepts into their curriculum. We were also really pleased with the student response to this project. Many students commented on how they appreciated learning about McGill's sustainability issues and said that they will pursue some of those initiatives (high-volume filling stations for drinking water and better food choices) in the Education building. Many students also shared with us that exploring sustainability in their classes was interesting, relevant, and that they really enjoyed the discussions we had together.

Thank you again for funding SusEd@ McGill and for all of your support!

- Anila, Ingrid, and Jacky