



SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

ENGINEERS WITHOUT BORDERS: SCHOOL OUTREACH PROGRAM EVALUATION

FINAL REPORT
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Executive Summary

BACKGROUND

The Engineers Without Borders School Outreach Program (EWB SOP) sends university student volunteers to facilitate interactive workshops on international development to youth across Canada. Started in 2003, the program has reached over 70,000 people across Canada with three workshops: “Water for the World”, “Food for Thought”, and “Energy Matters”.

In May 2008, EWB and the Simon Fraser University Research & Evaluation Unit (SFU REU) worked collaboratively to determine the impact that the SOP workshops were having on the participants. The evaluation instruments were designed to investigate whether the workshops were an effective format for engaging youth, and to speak to the following goals of the program:

- youth are more likely to take action in international development issues
- youth are more likely to pursue engineering or international development education
- youth think of Africa as a diverse continent with lots of potential for change, and as home to many capable and driven people
- youth understand that their actions have global implications and feel like they can make a difference
- youth believe that EWB and engineers can and should play a role in fighting extreme poverty

The evaluation included survey feedback from EWB members and teachers, but not from students, due to time and resource constraints. However, a student survey and set of post-workshop discussion questions were developed and it is anticipated that student feedback will be gathered and analyzed as early as fall of 2008.

FINDINGS

The key findings were:

Program Reach

- Since its inception, EWB volunteers have conducted over 2,500 workshops reaching over 70,000 people across Canada, and the number of people reached is growing every year.
- About two-thirds of the people reached are in Ontario and Quebec and “Water for the World” is the most frequently-delivered workshop.
- The majority of workshops are delivered to students in grades 8 through 12, but workshops have been delivered to people ranging from children in grade one to adults.

Effectiveness of the workshop format

- The workshop format was perceived by both teachers and EWB members to be a very effective way of engaging youth (average ratings of 4.56 and 4.18, respectively, on a five-point scale where 5=“very effective”).
- Teachers perceived the interactive activity as being a key element for the success of the workshops.

Program Impact: Students

- 100% of EWB member and 94% of teacher respondents said “Yes” to “Do you think the workshops are having an impact on the students?” (Note also that the one teacher who responded “No” listed benefits of the program and so *may* have accidentally entered “No” when they meant to say “Yes”.)
- Teachers and EWB members described the students being engaged and interested during the workshops, and talking about or inquiring about the workshops after they had finished.
- The most frequently mentioned benefits of the program for the students were:
 - The workshops provided new knowledge/awareness and exposed students to important issues
 - Some workshops led to other initiatives led by the schools and students
 - The interactions with university students were positive
 - Some workshop participants have become future EWB members
 - Students were inspired and empowered to help
- Respondents were asked to rate the effectiveness of the program at achieving the goals listed on the previous page (under the heading “Background”). Average ratings were moderately high (3.07 to 4.30 on a five-point scale where 3=“somewhat effective” and 5=“very effective”) with teachers generally giving higher ratings than the EWB members.

Program Impact: Teachers

- Thirteen out of 31 teachers (42%) indicated that their own level of involvement had increased as a result of the workshop.

Program Impact: EWB members

- EWB members listed several benefits of the program for themselves and EWB in general. The most frequently-mentioned ones were:
 - The workshops help improve presentation and facilitation skills
 - The workshops make EWB volunteers more knowledgeable about the topics
 - The workshops are a gateway into EWB

CONCLUSION

The School Outreach Program is having a very positive impact on the students, as well as supplementary benefits for the teachers and volunteers. Respondents described numerous benefits of the program and overall, gave high ratings on closed-ended questions. The program is perceived as being moderately effective at accomplishing the specified program goals and the workshop format seems to be an effective way of engaging students.

Introduction

The Engineers Without Borders School Outreach Program (EWB SOP) trains EWB members to facilitate interactive workshops on international development to both elementary and high school students across Canada. There are three workshops, titled “Water for the World”, “Food for Thought”, and “Energy Matters”, with the latter being the most recently developed workshop. The number of students that have participated in the workshops has increased every year and to date, the School Outreach Program has reached over 70,000 people across Canada.

In May 2008, the EWB School Outreach Program initiated an evaluation to determine what impact the workshops were having on the participants, and whether the interactive workshops were an effective format for engaging youth.

Purpose of Evaluation

The purpose of the evaluation was to determine what impact the School Outreach workshops were having on the participants. In particular, EWB was interested in whether the workshops resulted in youth:

- being more likely to take action in international development issues
- being more likely to pursue engineering or international development education
- thinking of Africa as a diverse continent with lots of potential for change, and as home to many capable and driven people
- understanding that their actions have global implications and feeling like they can make a difference
- believing that EWB and engineers can and should play a role in fighting extreme poverty

The evaluation was also designed to address the question of whether workshops were the most effective way to accomplish these goals. Further, EWB had planned to create a separate website specifically for the School Outreach Program, and so the teacher and EWB member surveys each included a question asking for suggestions about what the website might include.

Evaluation Methodology

The evaluation methodology and instruments were developed collaboratively by EWB and the Simon Fraser University Research and Evaluation Unit (SFU REU). The evaluation consisted of the following data sources:

- **Workshop Statistics:** Excel data files going back to 2003 which contained information such as: date, location, EWB chapter, number of presentations, number of students reached, grades, class subject, and workshop delivered.

- **Previous Teacher Survey:** An online survey distributed to teachers and educators after hosting an EWB workshop. There were 84 responses¹ to this survey, covering the time period from February 15, 2007 to July 8, 2008.
- **New Teacher Survey:** An online survey distributed in June 2008 to teachers and educators who had hosted an EWB workshop since September 2007. The response rate for this survey was 22% (35/160).
- **EWB Member Survey:** An online survey distributed in June 2008 to EWB members whose contact information was on the School Outreach mailing lists. The response rate for this survey was 8% (23/300).

The evaluation was initially envisioned to include the collection and analysis of student feedback. However, due to time constraints, no student data was available for analysis at the time of this report. It is anticipated that the ongoing collection and analysis of student feedback will be carried out beginning in the fall of 2008, using the following two sources of student feedback data:

- **Workshop Facilitator Discussion Questions:** A set of discussion questions was developed to be asked during the debrief at the end of the workshops. Discussions are currently under way regarding the best way to capture this information, with one possibility being the inclusion of the questions in the online reporting system completed by EWB volunteers after each workshop.
- **Student Survey:** A short survey was jointly designed by EWB and SFU to be administered to students immediately after the workshop was completed. This survey is anticipated to be administered to a sample of workshops at specified points throughout the year.

As with any study, the reader is encouraged to keep in mind the limitations of the research. In this case, one of the key limitations was the lack of available student data. This means that any conclusions regarding the reach and impact of the program were drawn solely from administrative records, teachers/educators, and EWB members.

¹ There were 96 responses to the survey. However, 12 of these appeared to be test responses and so were removed from the analyses, leaving 84 valid responses to the survey.

Findings

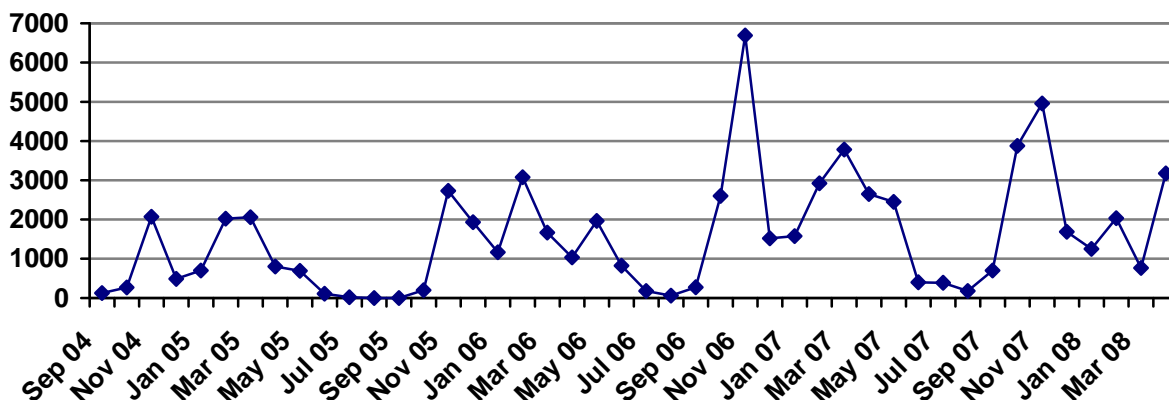
PROGRAM REACH

Since its inception, EWB SOP volunteers have presented over 2,500 workshops reaching over 70,000 people across Canada. Roughly two-thirds of these workshops and people reached were in Ontario or Quebec.

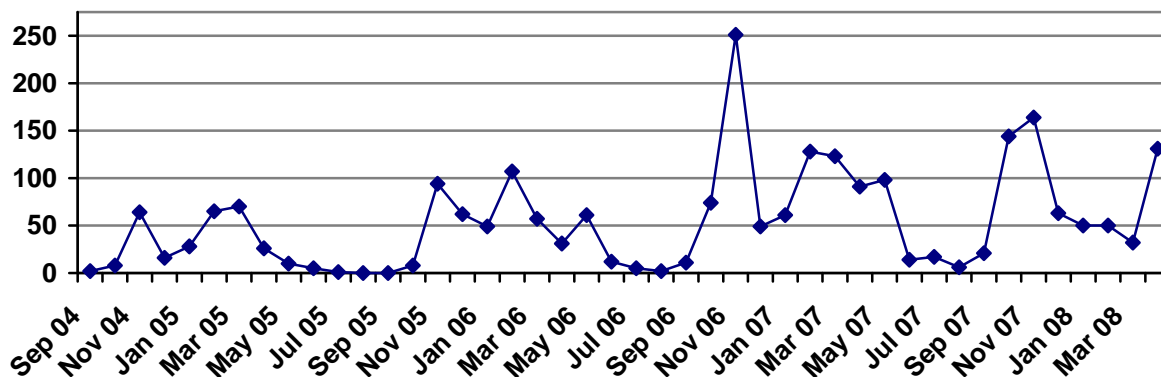
The first graph below shows the number of people reached by the workshops, by month, and the second graph shows the number of workshops delivered, by month. Note that:

- The two graphs are very similar, as would be expected: the more workshops that are delivered, the more people are reached.
- The number of workshops drops off during the summer months each year.
- Although not readily apparent from a cursory glance at the graphs, the total number of presentations and students reached has grown each year.

of people reached, by month

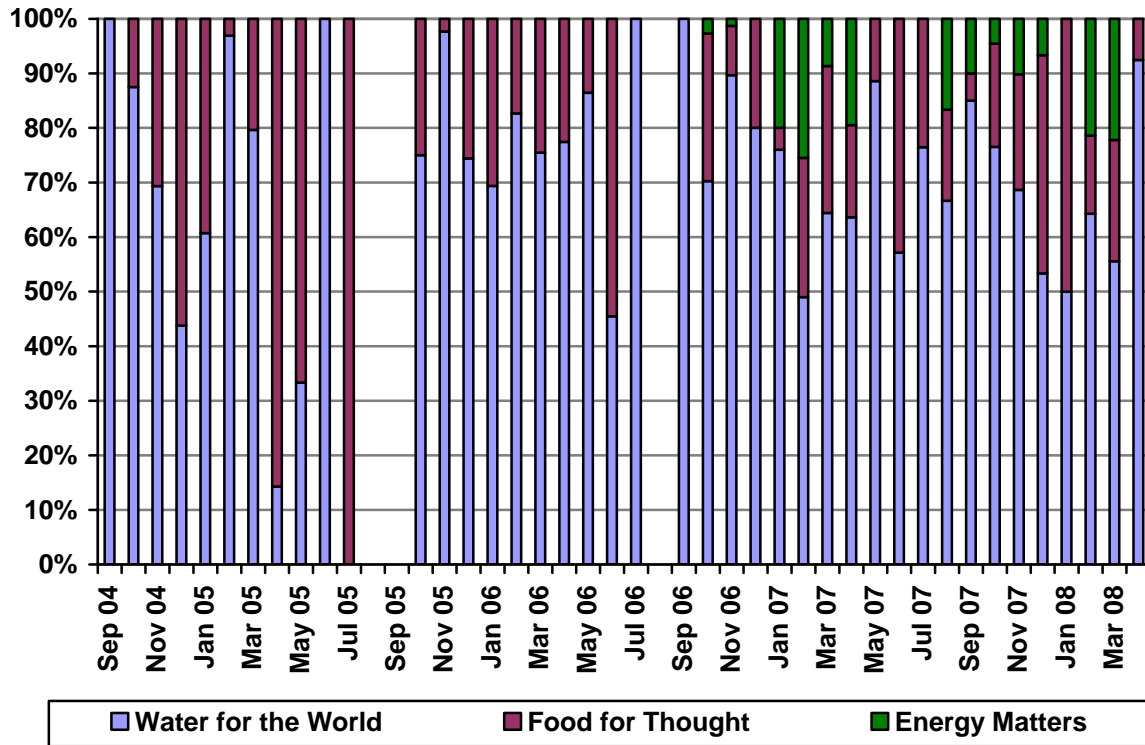


of workshops delivered, by month



The graph below shows the percentage of each of the three workshops that were delivered each month (where this data was available).

% distribution of workshops delivered, by month



In terms of the total number of workshops offered, “Water for the World” accounted for the majority (76%), followed by “Food for Thought” (19%). “Energy Matters”, being the most recently developed workshop, accounted for only 5% of the total workshops delivered.

The workshops have been delivered to a wide range of age groups including children as young as grade one to university students and other adults. The majority of the workshops were delivered to grades eight through 12, with grade 10 being the most frequently mentioned grade. Some of the workshops were not delivered to school classes, but rather, were part of special events, such as THINKfast, conferences, or summer programs.

EFFECTIVENESS OF WORKSHOP FORMAT

The workshop format is seen as an effective way to engage youth

The workshop format appears to be a very effective way for engaging youth in international development issues. Respondents to all three surveys spoke extremely positively about the workshops, described how engaged the students were both during and after the workshops, and provided numerous examples of benefits and changes that they attributed to the workshops.

The EWB member survey and the new teacher survey both included a question asking “Do you feel that these workshops are an effective format for engaging youth in international development issues?” The table below shows the distribution of responses to this question. As can be seen, the majority of respondents rated the effectiveness of the workshop format as a “4” or a “5”.

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know	Average rating	# of responses
EWB member survey	0% (0)	0% (0)	11% (2)	56% (10)	28% (5)	6% (1)	4.18	18
New teacher survey	0% (0)	0% (0)	4% (1)	37% (10)	59% (16)	0% (0)	4.56	27

Note that one EWB member expressed concern that sometimes EWB volunteers were putting their presentation time commitment ahead of their school work. This respondent stated that the time investment per presentation was very large (volunteer presenters, scheduling/coordination, drivers) and wondered if the time commitment would be better spent advocating for the schools to run the presentations independently, without university student presenters.

The interactive, hands-on activity is a key element of the workshops

“[The] interactive component allowed students of ALL abilities to gain something important ... The presentation allowed students to take an intellectual concept and understand it experientially and emotionally.” – Teacher

From the teachers’ perspective, one of the key elements of the workshops’ success is the interactive, hands-on nature of the activities. This was the second most frequently mentioned reason why teachers decided to host an EWB workshop – the only reason that was mentioned more frequently was, naturally, the desire to inform students of international development issues and help foster a global mindset. The interactive nature of the workshops was also cited by teachers as one of the main reasons they felt the workshops had an impact on students.

Other ways of engaging youth

One of the questions on the EWB member survey asked the respondents if they had tried other strategies to engage youth. The EWB members who responded to the survey had tried the following methods:

- Youth conferences
- 24-hour famine fundraiser
- 12-hour music marathon fundraiser
- Design competition
- Letters sent home with students to give to their parents, explaining the workshop and listing discussion points
- Presentation about an EWB member's time volunteering overseas
- Mini-enrichment course
- Development of an interactive website to complement and expand on the workshops

Several EWB members also offered suggestions for ways to engage youth that they had not necessarily tried yet:

- Discussion groups/forums – perhaps including a list on myEWB for students who have participated in a workshop and want to continue discussing the issues
- Have youth co-deliver the presentations or deliver the presentations themselves
- Mailing list for international development articles targeted at a youth audience
- Petitions
- Public outreach events
- Fundraising events
- Games
- Concerts
- Allow interested high school students to help out with their local EWB chapter
- Summer camps

PROGRAM IMPACT: STUDENTS

Responses to both the open-ended and closed-ended questions on all three surveys provide evidence that the School Outreach Program is having an impact on students.

One of the questions on both the EWB member survey and new teacher survey directly asked “Do you think the workshops are having an impact on the students?” 100% of the EWB member respondents and 94%² of the teacher respondents said “Yes”. In addition, responses to a number of open-ended questions on the surveys provide evidence for program impact on students – these findings are discussed in more detail over the next few pages.

Indicators of impact

“Once a kid said to me after a presentation that they never knew about this, and want to make a difference, and knew what he had to do!” – EWB member

“The kids couldn’t stop talking about it. I had to do some follow-up but it definitely connected them to a world that they could not envision.” – Teacher

The quotes above are just two examples of the many responses indicating *how* EWB volunteers and teachers could tell that the workshops were making a difference. Overall, the most frequently-mentioned explanations for why EWB members and teachers thought the workshops were having an impact were (a) positive feedback directly from the students both during and after the workshops, and (b) observations that students were talking or inquiring about the workshop outside of the actual workshop – with friends, with teachers, and with parents. For example, survey respondents said the following:

“The last students we visit in each school always know much of the answers to the quizzes and the main hints of the activity, which means that the students talk about it on lunch time with their friends, which is a first step.” – EWB member

“The kids came out of the presentation talking about it and telling their parents facts they learned.” – Teacher

Respondents also provided many descriptions and examples of how the program is benefiting students as a way to illustrate that the program is having an impact. Some of the main benefits that were mentioned were:

- The workshops provide new knowledge/awareness and expose students to important issues
- Some workshops have led to other initiatives led by the schools and students
- The interactions with university students are positive
- Workshop participants may become future EWB members
- Students are inspired and empowered to help

² One respondent said “No” but in their open-ended comments, describe positive results from hosting the workshop and so *may* have accidentally selected the wrong option.

Each of these benefits is described in further detail below.

The workshops provide new knowledge/awareness and expose students to important issues

“I’ve seen students have moments where they make realizations about how the world works. I’ve seen them feel the frustration of a system that isn’t fair and putting them in that position I think really helps them to remember to empathize with others.” – EWB Member

This is, arguably, *the* key benefit and purpose of the school outreach program. While the ultimate goal of the program may be to inspire students to action, awareness must come first. Informing students about international development and increasing their awareness/global mindset was the most frequently mentioned reason that teachers decided to host EWB workshops, and was the most frequently mentioned theme to the question: “In a few words, what do you see as the core message/messages of this presentation?” (from the previous teacher survey). Several respondents to the surveys stated that much of the information was new to the students.

Some workshops have led to other initiatives led by the schools and students

“One of the school boards decided to introduce some development issues in their curriculum after having several EWB presentations at their schools.” – EWB Member

As the quote above shows, the workshops can sometimes act as catalysts for outside initiatives, extending the impact beyond the workshop. The person who made the comment above also noted that some schools had started to do fundraising to help send volunteers overseas. Several teachers provided additional examples of concrete actions and initiatives that students were now involved in such as:

- raising money to build a water well in Peru
- collecting milk bags from which blankets can be made
- becoming more responsible in their consumption of water
- visiting local water treatment plants to see how water treatment systems differ

The interactions with university students are positive

“My students engaged with the U of O students about travel and studies.” – Teacher

“I discovered that there is a growing interest among students and they are much more aware than I was at their age.” – EWB Member

Several teachers mentioned benefits of having the workshops delivered by youth for youth. High school students may relate better to the workshop content when it is delivered by people roughly their own age, and interacting with university students provides high school students an opportunity to see what post-secondary life and opportunities might be like. Two of the EWB members also mentioned that the workshops allow them to keep up-to-date with “where younger people are at with their thinking and attitudes around their roles as global citizens”.

Workshop participants may become future EWB members

“One of our co-presidents was introduced to EWB in high school through a SO presentation.” – EWB Member

Although none of the EWB member survey respondents had received a School Outreach presentation themselves, three of them mentioned that they knew of people who had participated in a School Outreach workshop in high school, and subsequently went on to join an EWB chapter at their university.

Additionally, one EWB member mentioned that a presentation from Canada World Youth inspired a dream to go to Africa and that the dream was realized through EWB’s Junior Fellows program. This example illustrates that even if workshop participants do not join *EWB* in the future, they may still become involved with other international development organizations. In fact, a couple of teachers mentioned that students have become involved in similar programs at their post-secondary institutions, or have become involved with other humanitarian organizations such as Free The Children.

Students are inspired and empowered to help

“They were asking me the question: am I old enough to join EWB and can I go abroad and actually help people in need.” – Teacher

“This made the students feel less helpless. They saw technology careers as a way to help others.” – Teacher

Many of the respondents to both teacher surveys mentioned that the workshops inspired students to want to help and empowered them to feel like they can help. When asked what they saw as the core message of the presentation, the second most-frequently mentioned message that they heard was that there are solutions out there and that everyone can help (second only to increasing awareness of international development issues).

Keeping in mind that the number of survey respondents was relatively small compared to the total number of teachers and EWB members, there are likely other impacts of the program on students as well.

Achievement of School Outreach Program goals

Respondents to the EWB member survey and new teacher survey were asked to rate the effectiveness of the school outreach workshops at achieving goals of the program. In general, the average ratings were moderately high, ranging from 3.07 to 4.30 on a five-point scale. Note also that the average ratings given by the teachers tended to be higher than those given by EWB members – this may be a result of the teachers being more familiar with the students and having a longer time to observe any impacts of the program.

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know	Average rating	# of responses
Youth take action in international development issues								
EWB members	0% (0)	27% (4)	40% (6)	20% (3)	7% (1)	7% (1)	3.07	15
Teachers	0% (0)	6% (2)	25% (8)	31% (10)	31% (10)	6% (2)	3.93	32
Youth think of Africa as a diverse continent with potential for positive change								
EWB members	0% (0)	0% (0)	40% (6)	40% (6)	20% (3)	0% (0)	3.80	15
Teachers	0% (0)	13% (4)	19% (6)	41% (13)	25% (8)	3% (1)	3.81	32
Youth understand that their actions have global implications								
EWB members	0% (0)	7% (1)	7% (1)	53% (8)	33% (5)	0% (0)	4.13	15
Teachers	0% (0)	6% (2)	6% (2)	35% (11)	48% (15)	3% (1)	4.30	31
Youth feel like they can make a difference in the world								
EWB members	0% (0)	13% (2)	33% (5)	33% (5)	20% (3)	0% (0)	3.60	15
Teachers	0% (0)	6% (2)	13% (4)	42% (13)	35% (11)	3% (1)	4.10	31
Youth believe that EWB and engineers have a role to play in the fight against extreme poverty								
EWB members	0% (0)	7% (1)	13% (2)	40% (6)	40% (6)	0% (0)	4.13	15
Teachers	0% (0)	0% (0)	16% (5)	39% (12)	42% (13)	3% (1)	4.27	31

PROGRAM IMPACT: TEACHERS

“Any reminder to me that I could do more to positively affect the world around me is beneficial.”
– Teacher

“J’ai beaucoup appris moi-même de ces ateliers!!! Je pense que même quand je ne donne pas l’atelier, je continue à sensibiliser les gens face à l’extrême pauvreté au quotidien.” – Teacher

One of the questions on the new teacher survey asked whether the EWB workshops had increased their own involvement in international development issues. The ratings are shown below. Given that the teachers are not the target audience for these workshops, it is impressive to see that over 40% of respondents said their involvement had increased (i.e. gave ratings of “4” or “5”).

	1: Less involved	2	3: About the same as before the workshop	4	5: More involved	Average rating	# of responses
Level of involvement	0% (0)	0% (0)	58% (18)	35% (11)	6% (2)	3.48	31

PROGRAM IMPACT: EWB AND VOLUNTEERS

Similar to the question on the new teacher survey, there was a question on the EWB member survey asking “How effective do you think the School Outreach program is at engaging EWB chapter members?” The distribution of responses is shown below:

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know	Average rating	# of responses
Member engagement effectiveness	0% (0)	6% (1)	22% (4)	44% (8)	11% (2)	17% (3)	3.73	18

The open-ended response data also indicate that there are several benefits for the EWB volunteers who facilitate the workshops. The major benefits mentioned were:

The workshops help EWB members make a meaningful contribution

“I felt that the workshops were a really valuable way of engaging young people in thinking about their role as global citizens.” – EWB Member

When asked why they decided to facilitate an EWB workshop, the majority of the respondents spoke about the importance of increasing awareness and teaching youth about international development issues. The EWB membership is committed and passionate, and the workshops provide an avenue for them to make a concrete contribution.

Conducting the workshops helps improve presentation and facilitation skills

“I wanted to hone my presentation skills while working with youth.” – EWB Member

Several of the respondents to the EWB member survey mentioned that one of the reasons they decided to facilitate a workshop was to improve their presentation and facilitation skills. This was also one of the more frequently mentioned benefits that the EWB members felt they gained.

The workshops make EWB volunteers more knowledgeable about the topics

“Il y a aussi un impact important sur les animateurs. Nous devons devenir expert sur un sujet, ce qui nous oblige à nous informer et nous permet d'apprendre sur les différents enjeux.” – EWB Member

Four EWB members mentioned that conducting a workshop has made them more knowledgeable about the topics they present. Knowing that one is going to facilitate a workshop on a given topic is a strong incentive for researching and learning about the topic.

The workshops provide an entry into EWB and/or a way to get more involved

“SO is a 'gate-way' into the EWB world. Many of our chapters' most passionate volunteers started out at a SO presentation.” – EWB Member

Four respondents to the EWB survey mentioned this as a benefit of being involved with the School Outreach program.

Other impacts of the program on EWB volunteers

The benefits listed above were each mentioned by at least four EWB member survey respondents. Additionally, there were a couple of other benefits for EWB members which were mentioned by only one or two people each:

- workshops help keep EWB up-to-date with where youth are at in terms of their attitudes and thinking around being global citizens
- delivering workshops fostered an interest in teaching for one EWB member

One respondent also mentioned a potentially negative impact of the workshops on the volunteers, expressing concern that some EWB members were occasionally sacrificing their studies (e.g. skipping classes) in order to give a presentation which nobody else had signed up for.

SUGGESTIONS FOR WEBSITE

Plans are under way to develop a website specifically for the School Outreach Program, and so the new teacher survey and EWB member survey each included a question asking for suggestions about what the website might include.

As one of the EWB members stated, it is important to have a clear idea of what the goal of the website is and who the audience will be. The content and the design of the site will likely differ depending on if it is targeted primarily at the workshop participants, the teachers, the EWB membership, the general public, or all four audiences.

The table below summarizes the responses to this question, listed in decreasing order of the number of mentions.

Suggestion	Comments
Make the site interactive, fun, and engaging (14 mentions)	Specific suggestions included videos, pictures of international development, pictures of youth getting involved here in Canada, online chat, interactive games, activities, quizzes, a way for youth to post articles online, and a discussion board
International development resources and information (6 mentions)	One teacher suggested that the site could include links to lesson plans, and other organizations' websites such as www.oneworld.net
A teacher section / Section for teachers on how to follow-up the workshops (5 mentions)	Specific suggestions were to invite teachers to submit lesson plans, have a site where teachers can discuss different projects and ideas on international development, and provide ideas for classroom presentations
Online booking for workshops (4 mentions)	One person suggested that teachers could specify which chapter they want to present, while another person suggested that the online presentation request form could automatically be directed to the closest chapter.
The existing EWB PowerPoint presentations (3 mentions)	One teacher suggested that this would allow the teachers themselves to facilitate workshops, so that the volunteers wouldn't have to travel to the schools all the time
A description of what EWB does (2 mentions)	No additional comments
Tips on how to become further involved (2 mentions)	This refers to both involvement with EWB in particular, and international development in general
Have a contest with a prize as a marketing strategy for the website (1 mention)	As an example, this person suggested that EWB materials like postcards or bookmarks could have the website address and a code number on them. Then, people could go to the website and enter the code number to be entered into a contest for some prize.
Information on engineering (1 mention)	This could include showing paths to becoming an engineer, the different types of engineering, and how each type of engineer can impact the world

Suggestion	Comments
Ask schools to make their own presentations (1 mention)	No additional comments
Activities and events listing (1 mention)	No additional comments
Contact information (1 mention)	No additional comments
A blog (1 mention)	No additional comments
An online survey (1 mention)	No additional comments
Ensure it can communicate with youth all over the world, not just Canada (1 mention)	No additional comments
Integrate the site with provincial learning outcomes (1 mention)	No additional comments

OTHER SUGGESTIONS

Throughout the surveys, respondents offered many suggestions for ways that the particular workshops they hosted or the program in general might be further improved. The most frequently mentioned suggestions were to (a) shorten the presentation/lecture portion of the workshop to allow more time for the activity and/or debrief, and (b) continue developing the workshops, including exploring new topics (two teachers offered specific suggestions: mining, the rain forest, food nutrition).

The remaining themes were each mentioned by only a few people, at most. Note that some suggestions may not be plausible and the workshop experiences of survey respondents likely differed across and within chapters. Therefore, not all suggestions would be applicable across the board – however, all of the suggestions are listed here, for reference.

Overall/general suggestions

- Shorten the entire workshop or ensure that it is run during a double-block
- Develop a package of pre-materials for teachers to use before the presentation
- Integrate the workshops into the larger curriculum and work with teachers and schools to have a more sustained impact. Several of the teachers indicated that one reason they chose to host an EWB workshop was that it fit in with the curriculum.
- Focus on the difficult-to-reach students
- Work alongside students in less developed areas
- Enable youth to have direct contact with people in developing areas (e.g. talking to youth in Africa via the internet)
- Host an event to raise awareness of EWB and raise money
- Change the deadlines for the essay and photo essay competitions to January and June to correspond with the high school semesters
- Start up high school clubs
- Create and facilitate elementary outreach presentations

Suggestions regarding workshop content

- Put more examples like “Ryan’s Well” into the presentations to let students know how much of an impact they can make
- Provide extra information for the more advanced students
- Keep the slides up-to-date
- Provide more obvious connections to career possibilities in the engineering fields
- Provide more details about the work of EWB
- Have a more engaging slide show – more videos and images
- Provide more information for the students, perhaps a summary handout that includes facts and statistics
- Include a written follow-up for the lesson to reinforce learning
- Provide information on how much water an average Canadian vs. an average African uses in a day
- Make the volunteering-abroad part of EWB a bigger focus of the presentation

Suggestions regarding presentation style

- Work on performance/enthusiasm/energy to engage teenagers
- Make sure all the volunteers speak loudly enough
- Coach volunteers on how to get all students involved rather than just a few vocal ones
- Ensure volunteers are polished in terms of who is presenting what and for how long
- Ensure volunteers are familiar with the information on the slides
- Be comfortable with silences to give students time to think about answers to questions
- Avoid using rhetorical questions
- Ask clearer questions so students know what kind of answer is being looked for

Suggestions regarding the interactive activity

- Have all the materials on the group tables ready before they get there
- Get students to separate themselves into groups rather than assigning them to groups
- Cap the size of the groups (from a respondent who hosted a presentation given to a group of 60 students)
- Make sure the participants understand they need to work collaboratively – de-emphasize the competition aspect of it being a game with prizes
- Explain the rules of the food game in more detail
- Be a bit more aware of students in wheelchairs or with limited motor skills
- Make the bank more efficient so there isn’t a rush of people at the very beginning / Have more token money (to speed up the process)
- Develop a quick clean up method
- Have even more hands-on activities

- Have a follow up sheet where students can visit each other's groups and write in information such as nation, GNP, success of the nation's system

Suggestions regarding the debrief and end of the workshop

- Structure the debrief more / Prepare more formal questions and information for the debrief
- Ensure volunteers are familiar with the essay question
- For grade 12 students, save a few minutes at the end of the workshop to talk about volunteers' post-secondary experiences
- Have a chart showing all the countries and important facts to visually integrate everything at the end of the workshop
- Provide more specific ideas about what students can do next
- Leave EWB business cards with teachers after the presentation

Conclusion

All of the data support the notion that **the School Outreach workshops are having a significant positive impact on the students, teachers, and volunteers**. Some of the key pieces of supporting evidence are:

- Survey respondents described the students as being very engaged and interested in the workshops, talking about the workshops with friends and family, and inquiring about how they could become more involved once the workshops were over.
- Survey respondents described many benefits and provided many examples of positive changes that they attributed to the workshops. For example, the workshops are exposing students to important issues, inspiring and empowering students to help, helping develop facilitation skills for EWB volunteers, and increasing teachers' engagement in international development issues.
- The vast majority of ratings for the perceived effectiveness of the workshop at accomplishing the program goals ranged from "somewhat effective" to "very effective".
- The program is reaching more people every year, suggesting that there is a demand for the workshops. 99% of respondents to the new teacher survey said they would host another EWB workshop, and all of these respondents had either recommended the workshop to a colleague or planned to do so.

The workshop format appears to be a very effective way of engaging students, as well as providing benefits for the teachers and EWB members too. Average ratings of effectiveness on a five-point scale (where 5="very effective") were very high at 4.18 and 4.56 for EWB members and teachers, respectively. Teachers frequently cited the interactive nature of the workshops as key to their effectiveness, and a couple of comments were made that having university students deliver the presentations allowed the high school students to relate to the material better.

One EWB member raised the question of whether the time commitment for the school outreach workshops might be better spent advocating for the schools to run the presentations

independently, without university student presenters. This could be a valuable option to explore since the workshops might have more impact if they were integrated into existing curricula where students could continue exploring the issues after the workshop is over. And, as a few EWB members noted, it can be difficult to generate and evaluate long-term changes in attitudes and behaviors through a one- or two-hour workshop. However, advocating for curricular change does not necessarily have to be mutually exclusive with the existing model. The workshops provide benefits that the curriculum-change model does not, such as the interactions between high school and university students, and the benefits to the EWB volunteers. If EWB decides to explore advocating for curricular changes then this could occur in tandem with the outreach workshops, both of them being pieces in a larger puzzle of how to get youth engaged in international development.

Appendix

EWB MEMBER SURVEY INSTRUMENT

1. Have you delivered any EWB School Outreach workshops? If so, which one(s)?

- Water for the World
- Food for Thought
- Energy Matters
- None

2. Why did you decide to present an EWB workshop?

3. How do you choose which schools to do presentations in?

4. Are you familiar with the Get Outside Your World contest? If so, did you promote the contest when doing School Outreach presentations?

- Yes, I'm familiar with it and promoted it during presentations
- Yes, I'm familiar with it and did not promote it
- No, I am not familiar with it

If you answered "Yes", why did you or did you not promote the contest during presentations?

5. Do you think the School Outreach workshops are having an impact on students?

- Yes
- No
- Don't know

6. Why did you select the answer you did for the question above? If you selected "Don't know", what would it take for you to feel that the workshops are making an impact?

7. Have there been any other impacts of the workshop(s) (for yourself, the students, or otherwise)?

8. How effective do you think the school outreach workshops are at achieving the following goals?

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Youth take action in international development issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth think of Africa as a diverse continent with potential for positive change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth understand that their actions have global implications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Youth feel like they can make a difference in the world	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth believe that EWB and engineers have a role to play in the fight against extreme poverty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

9. Do you feel that these workshops are an effective format for engaging youth in international development issues?

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Format effectiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. Have you tried any other strategies to engage youth (i.e. aside from the EWB workshops)? If so, please explain the strategy, including what you felt did or did not work well.

11. Do you have any other suggestions for how to engage youth?

12. When you were in high school, did EWB give a presentation to your class?

- Yes
 No

13. If you answered "Yes" for the question above, did the workshop have any influence on your education, career, or volunteering?

14. How effective do you think the School Outreach program is at engaging EWB chapter members?

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Member engagement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. We are thinking of developing a website specifically for the School Outreach program. Do you have any suggestions for what the website should look like?

16. We are also looking to develop a survey for students who receive EWB workshops to better understand what impact our workshops are achieving. Are there any questions you would like to include in this survey?

17. If you have any other comments or suggestions, please enter them here:

PREVIOUS TEACHER SURVEY INSTRUMENT

1. Name of school/group
2. Your name
3. Your email address
4. Class subject
 - Science
 - Social sciences
 - Careers/Guidance
 - Religion
 - Extra-Curricular
 - Other
5. Class grade level (select all that apply)
 - Grades 1-3
 - Grades 4-6
 - Grade 7
 - Grade 8
 - Grade 9
 - Grade 10
 - Grade 11
 - Grade 12
 - CEGEP
 - Adult Learning Group
6. Date of presentation
7. The presentation was provided by students from the following EWB chapter:
 - Carleton
 - Concordia
 - Dalhousie
 - McGill
 - McMaster
 - Memorial University of Newfoundland
 - Ecole Polytechnique Montreal
 - University de Sherbrooke
 - Universite Laval
 - Simon Fraser University
 - University of Alberta
 - UBC
 - University of Calgary
 - University of Guelph

- University of Manitoba
- University of New Brunswick
- University of Ottawa
- University of Regina
- University of Saskatchewan
- University of Toronto
- University of Victoria
- University of Waterloo
- University of Western Ontario
- University of Windsor
- York University

8. Comments on class composition: (e.g. special needs, students with disabilities, presentation was held at a conference)

9. The presentation content was suitable for my students' age and/or grade level.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Suitable content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

10. The presentation content has clear connections to Provincial curriculum.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Connections to Provincial curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. The presentation content is appealing to my students.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Appealing content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. I feel that it is important for my students to be exposed to the concepts and ideas covered by the presentation.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Important for students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Without this presentation, my students would have been exposed to the concepts and ideas covered by this presentation.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Exposure without the presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. I am satisfied with the content of the presentation.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Satisfied with content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

15. Suggestions for presentation content improvement:

16. Names of EWB presenters:

17. The presenters were effective communicators.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Effective communicators	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

18. The presenters appeared comfortable in running the presentation.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Presenters appeared comfortable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

19. The presenters were capable of effectively running the interactive activity.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Presenters capable of running activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. The workshop was presented in a manner suitable to the age and grade level of the students.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Suitable manner of presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

21. My students found the presentation engaging.

	1: Totally disagree	2	3: Neutral	4	5: Totally agree
Engaging presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Comments and suggestions on presentation style:

23. How did you hear about EWB's High School Outreach Initiative?

- Contacted directly by EWB Chapter
- Referred by a colleague (teacher or principal)
- Referred by a friend/family member
- Conference or professional development experience
- EWB.ca website
- Other (please specify)

24. Have you previously hosted an EWB High School Outreach presentation?

- Never before
- Once
- Twice
- Three times
- Four or more times

25. Would you request a future EWB presentation?

- Yes
- No
- Maybe

26. Would you recommend an EWB presentation to a colleague?

- Yes, I already have
- Yes, I plan to
- Maybe
- No, definitely not

27. Have you heard about EWB's annual high school essay competition?

- Yes
- No

28. In a few words, what do you see as the core message/messages of this presentation?

29. Other comments or suggestions for EWB's High School Outreach Initiative:

NEW TEACHER SURVEY INSTRUMENT

1. Which Engineers Without Borders (EWB) workshop(s) have you hosted?

- Water for the World
- Food for Thought
- Energy Matters

2. Which grade level(s) participated in the workshop(s)?

- Grade 6
- Grade 7
- Grade 8
- Grade 9
- Grade 10
- Grade 11
- Grade 12
- Other (please specify)

3. In which class(es) were the workshops held?

- Science
- Physics
- Social studies
- World issues
- Geography
- History
- Math
- Careers
- Other (please specify)

4. Why did you decide to host an EWB workshop? What were you hoping would result from hosting an EWB workshop?

5. Do you think the workshops are having an impact on students?

- Yes
- No
- Don't know

6. Why did you select the answer you did for the question above? If you selected "Don't know", what would it take for you to feel that the workshops are making an impact?

7. How effective do you think the workshops are at achieving the following goals?

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Youth take action in international development issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Youth think of Africa as a diverse continent with potential for positive change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth understand that their actions have global implications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth feel like they can make a difference in the world	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Youth believe that EWB and engineers have a role to play in the fight against extreme poverty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

8. Are *you* more involved in international development as a result of hosting an EWB workshop?

	1: Less involved	2	3: About the same as before the workshop	4	5: More involved
Level of involvement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Have there been any other impacts of the workshop(s) (for yourself, the students, or otherwise)?
10. Do you feel that these workshops are an effective format for engaging youth in international development issues?

	1: Not effective	2	3: Somewhat effective	4	5: Very effective	Don't know
Format effectiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. Do you have any other suggestions for how to engage youth?
12. We are thinking of developing a website specifically for the School Outreach program. Do you have any suggestions for what the website should look like?
13. If you have any other comments or suggestions, please enter them here: