



Measuring What Matters Teacher Focus Groups and Surveys Draft Report

December 2015

Thanks to



for supporting this work!

The Alberta Council for Environmental Education would like to thank the following individuals and organizations that helped guide this work:

- Alberta Ecotrust Rod Ruff
- Alberta Emerald Foundation Carmen Boyko
- BP A+ for Energy Alana Julius
- Calgary Board of Education Roy Strum
- Calgary Catholic Board David Gowans
- ConocoPhillips Canada Cleo Howe
- Destination Conservation Laura Bamsey & Marnie Olson
- SEEDS Connections Corinne Craig
- Youth Central Calgary Penny Hume

Teacher feedback was sought to help organizations that offer environmental or energy education programs, grants or awards to:

- better meet the needs of teachers; and
- to help organizations identify effective ways to measure the impact of their programs grants or awards and in measuring gains in environmental and energy literacy.

Teacher feedback was gathered using an online survey tool (71 respondents) and two focus group sessions were held – Calgary (urban), November 24th (10 participants) and Edson (rural), November 30th (11 participants).

The following pages provide a summary analysis of this information and recommendations for environmental and energy education organizations that offer programs, grants or awards.

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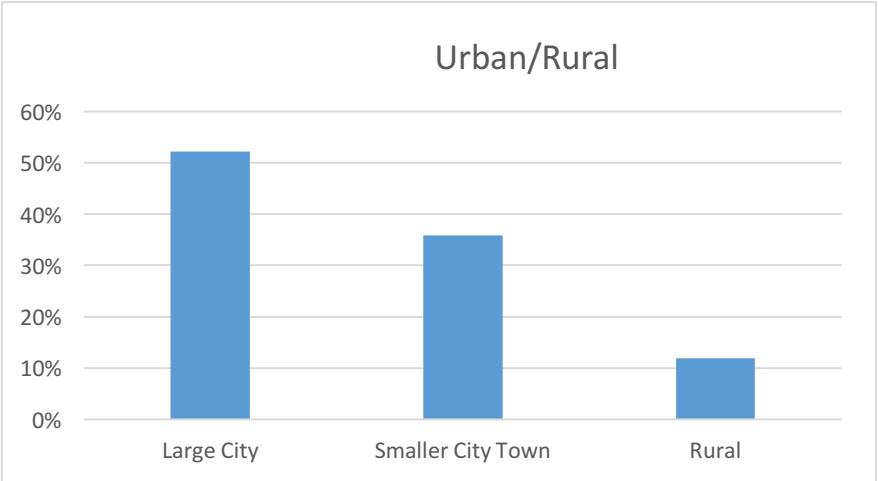
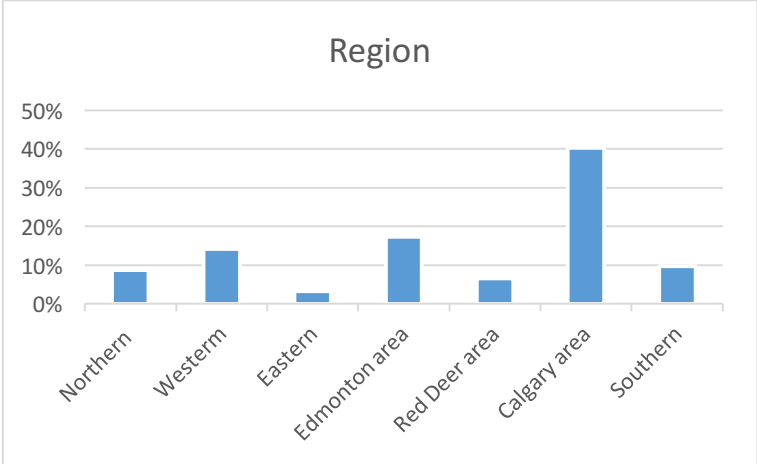
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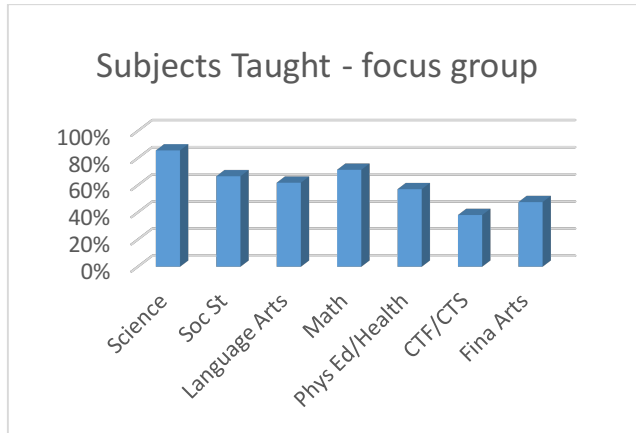
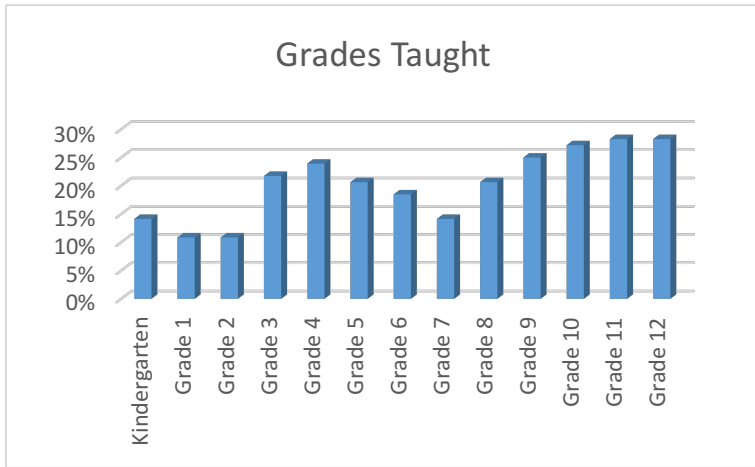
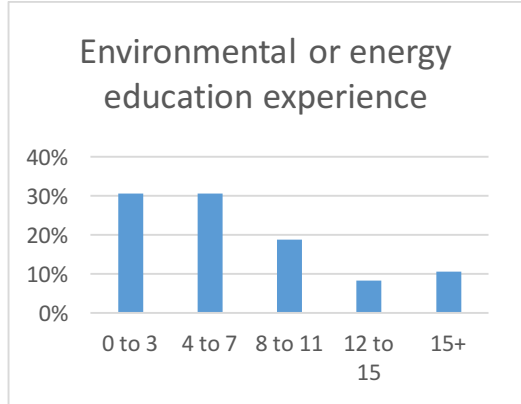
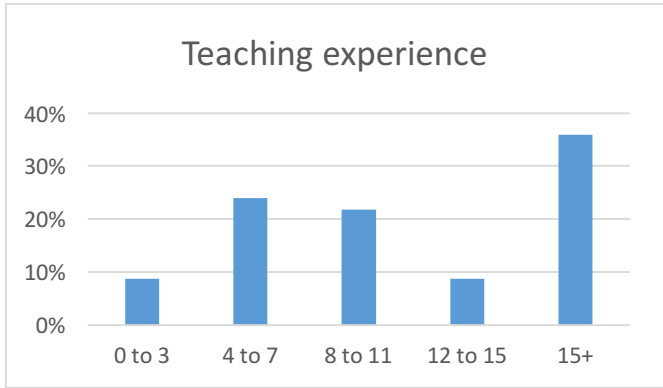
Section 1: Demographics – combined surveys and focus groups

There was a fairly good spread across the province and a fairly even split between large city and small town/rural. Over 50% were from the Calgary or Edmonton region with 43% across the remainder of the province. The eastern part of the province saw the lowest number of only 3%.

There was a good range of teaching experience with over 35% being teachers with over 15 years' experience. Their years of environmental or energy education showed over 60% in the less than 7 years. This may indicate that there are some long-time teachers involved with environmental or energy education but a renewed interested has presented in the last 7 years.

There was good representation across the grades with fewer teachers in Kindergarten to grade 3 participating. The focus group was asked which subject they teach and the elementary teachers selected most of the subjects (except CTF/CTS) so there were teachers that taught many subjects participating in the focus group.

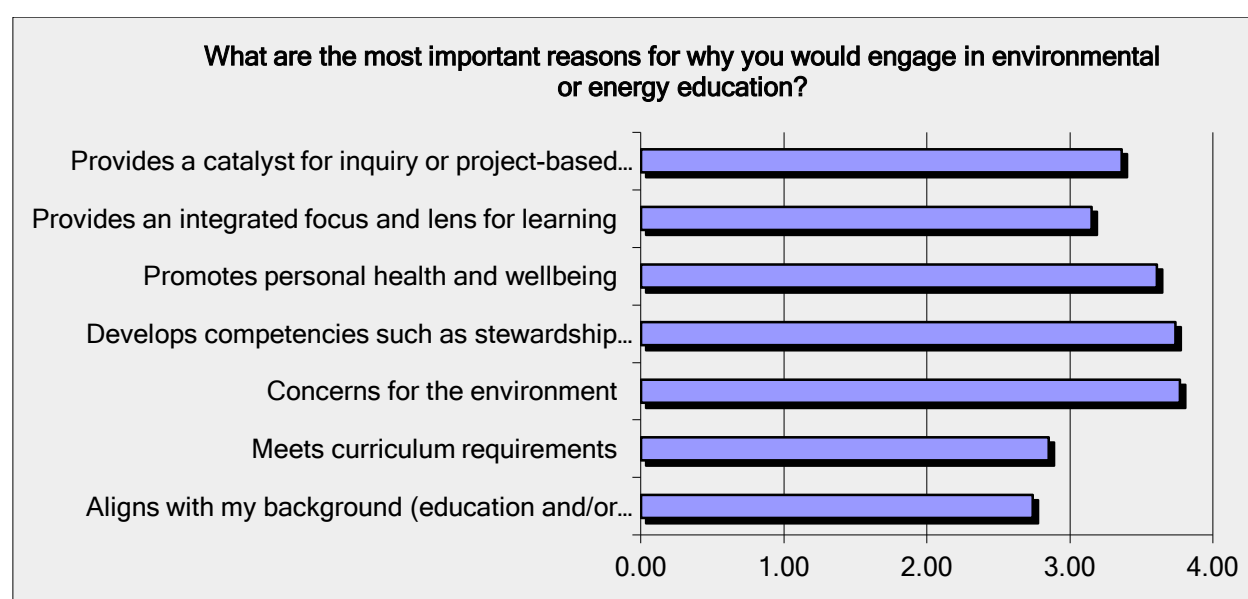




Section 2: Environmental and Energy Literacy in the Classroom

Main Reasons Why Teachers Engage in Environmental or Energy Education

The survey responses indicated that concerns for the environment and developing competencies such as stewardship and citizenship were their main reasons for engaging their students in environmental or energy education. The reason that received the lowest rating was 'aligns with my background (education or experience)'. This was collaborated by what the focus group participants stated as well and many stated that care and respect for the environment through spending time in nature is their main reason. The focus group had a wide variety of reasons including: future leaders that will be young scientists and innovators, not getting this message in their homes, and community connections.



Survey responses only

The focus groups were asked how environmental or energy education is being done in their school and there was a wide range. It seems to be fairly evenly split between clubs (extra-curricular) and being taught as part of curriculum (e.g. science, teach it as regular part of curriculum) with quite a few being offered as option classes (e.g. outdoor education and CTF/CTS).

Topics of Most Interest for teachers and students

The survey provides a list for teachers to select their top 3 topics and in the focus group teachers were asked to provide their top 5 topics and these were grouped according to topic.

The top 5 topics from the survey were:

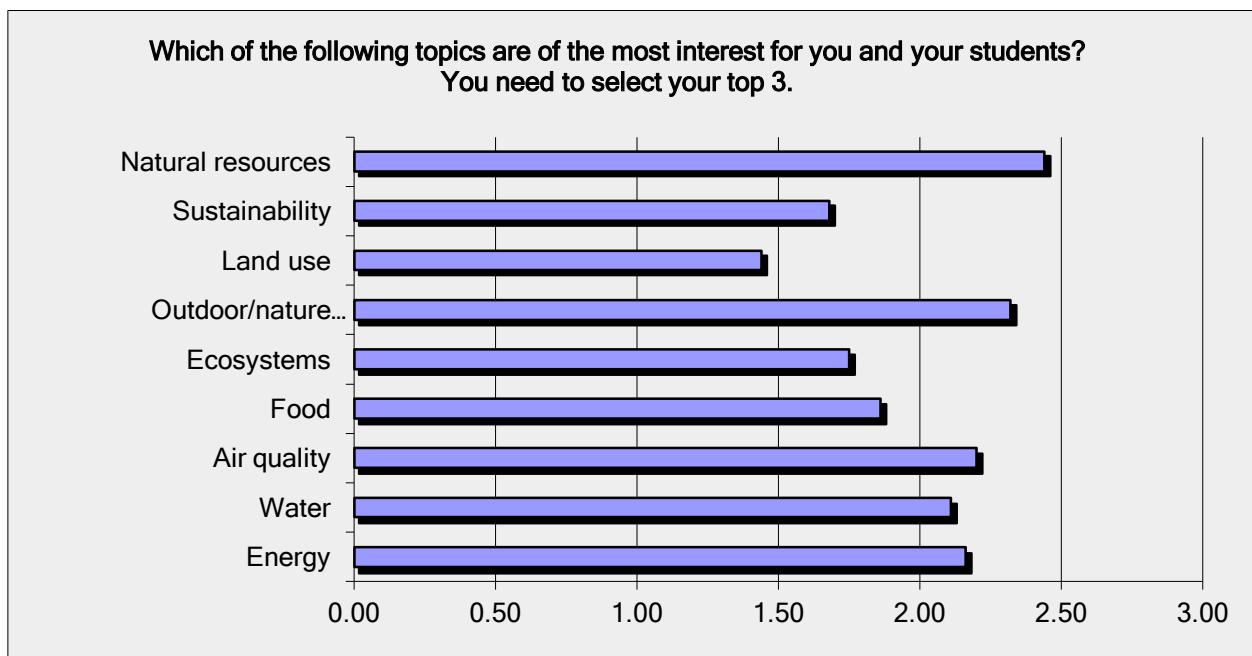
- outdoor/nature experiences
- natural resources
- air quality

- energy
- water

The top 5 topics from the focus group were:

- waste management,
- environmental stewardship
- renewable/alternative energy
- water quality
- non-renewable energy (oil & gas, oil sands)

Waste was not listed on the survey so it is hard to say if this would be of interest to more if included on the survey. The Edson focus group had waste as their number one topic and it was tied for two with Calgary.



Survey responses only

Challenging or controversial topics and handling this in the classroom

The focus group was asked what topics are most environmental or energy topics are most challenging to teach and the focus groups and surveys were asked how do you handle teaching controversial topics.

Both the survey and focus group said their preferred method or how they handle teaching challenging topics is to bring in a variety of perspectives by inviting experts into speak (parents working in various fields can be a great resource). Living in a province with many folks working in oil and gas requires sensitivities to ensure that children don't think what their parents do is bad for the environment. It's also hard to know what is true and what is not for some of these topics (e.g. oil sands). High school students also have their own perspectives and you have to ensure you are thinking about this. The elementary teachers said that many of their topics aren't that controversial.

It's important to remind students that they have permission to have their own perspectives. Role playing was also identified as a preferred method. The Calgary focus group talked about trying to use the 'both/and' instead of 'either/or' discussion as this tends to polarize things instead of working toward solutions that work for both economy and environment. They also mentioned it's challenging to deal with misinformation/misconceptions.

Environmental and energy literacy

The definition for environmental and energy literacy as outlined in the Curriculum for a Sustainable Future was shared with teachers in the survey and focus group. The survey teachers were asked which of the characteristics align with their current curriculum and the focus groups identified what was covered very well, well or not well in the current curriculum.

Areas that could be strengthened in curriculum are:

- Energy systems and processes
- Facilitation skills
- The complete taking personal and collective action

Know and understand	Survey	Very Well	Well	Not Well
We are part of our environment	90%	8	10	2
Natural systems and processes	73%	8	11	1
Energy resources – types, uses and purposes, how much we use and impacts	66%	4	12	3
Energy systems and processes	50%	3	13	2
Interconnections of natural systems	74%	6	12	1
Interconnections and impacts on environment, society and economy	71%	3	12	4

Utilize a Variety of Skills	Survey	Very Well	Well	Not Well
Critical thinking	93%	12	8	
Problem solving	89%	12	6	
Analysis	73%	6	13	1
Collaboration	87%	6	9	5
Facilitation	50%	3	8	8
Cooperation	90%	3	14	2

Take Personal and Collective Action	Survey	Very Well	Well	Not Well
Evaluate their own attitudes regarding energy and the environment	73%	2	8	9
Make choices shaping their own life regarding their energy use and environmental impacts	84%	2	6	11
Work collectively to shape society decisions regarding energy, environment, society and economy	69%		8	9

Section 3: Making it Easier for Teachers

Best ways for teachers to find out about programs, grants and awards

The surveys indicated that the best method for finding out about programs, grants and awards are:

- word of mouth
- professional learning opportunities
- Direct emails from people (e.g. school division, a personal email) – focus group agreed emails from school division are their best way)
- Internet searches
- Magazines or newsletters
- Direct emails from people
- Parents

The surveys and focus group indicate that Facebook, Twitter, Pinterest and videos are not overly used for finding programs, grants and awards. One teacher in the focus group said that Twitter was her best source. This may be an area of growth but still not the most used way of finding things.

Programs, grants and awards that they've used – this was asked in the focus group

The ones that were mentioned in both focus groups:

- ConocoPhillips
- BP A+ for Energy
- Inside Education

The rest were individual mentions:

- Rotary clubs
- Little Green Thumbs
- Nutrients for Life
- Government
- Mayor's Environmental Expo

- Green Schools
- Jack Leslie Youth Award
- Youth Central
- SEEDS
- Destination Conservation
- Triple R
- In kind donations
- Emerald Foundation – youth engagement grant
- Experiential Education grant
- Canadian Wildlife Federation – Project Wild
- Talisman
- Jane Goodall
- Edson recycling society
- Home Hardware
- Parent Advisory Councils

Barriers and making it easier for teachers

Teachers identified the following top two barriers for accessing resources or applying for grants and awards. On the survey, these were the prominent barriers for:

Accessing Resources	Have to do on my own time	I don't know about them
Applying for grants	Have to do on my own time	I don't know about them
Applying for awards	I don't know about them	I don't know about them

The focus groups also stated time, paperwork and often don't know about them. They also mentioned the need for French resources.

The following is the order survey teachers ranked from most beneficial for making it easier to include more environmental and energy education in their classrooms to least beneficial:

- Resources that align with curriculum
- More opportunities for energy and environment content in curriculum
- Professional development sessions
- Access to topic experts
- Searchable database of programs/resources
- Volunteers to help with projects

The focus groups mentioned:

- Projects that can be more than one year – multi-year funding
- List of experts – mentioned in both groups
- Removing barriers for transportation and paperwork to take students off of school grounds – mentioned in both groups
- Professional learning to help teachers feel comfortable taking students outside.
- Getting more teachers on board.
- Resources in French.

- Environmental Science class in high school.
- Time for planning

Teachers were also asked on the survey and in the focus group to identify ways to make it easier to apply for grants and awards. The survey responded ranked their responses in the following order:

- Searchable database of grants and awards
- Shorter applications and reports
- Examples of good applications
- Using one application for multiple purposes (e.g. for multiple grants and awards)
- Timing that fits with project needs or school calendar
- Aligning application/reporting needs with classroom learning/assessment

The focus groups mentioned:

- Having a master list on school web sites
- One process for applying for all grants and awards

The Calgary focus group teachers were also asked to identify the type of professional learning that would help them enhance their teaching practices. These were what they mentioned:

- Teaching teachers to take students outside
- Bringing people in for professional learning in their school
- Environmental education consultants at the school board level (used to have this)

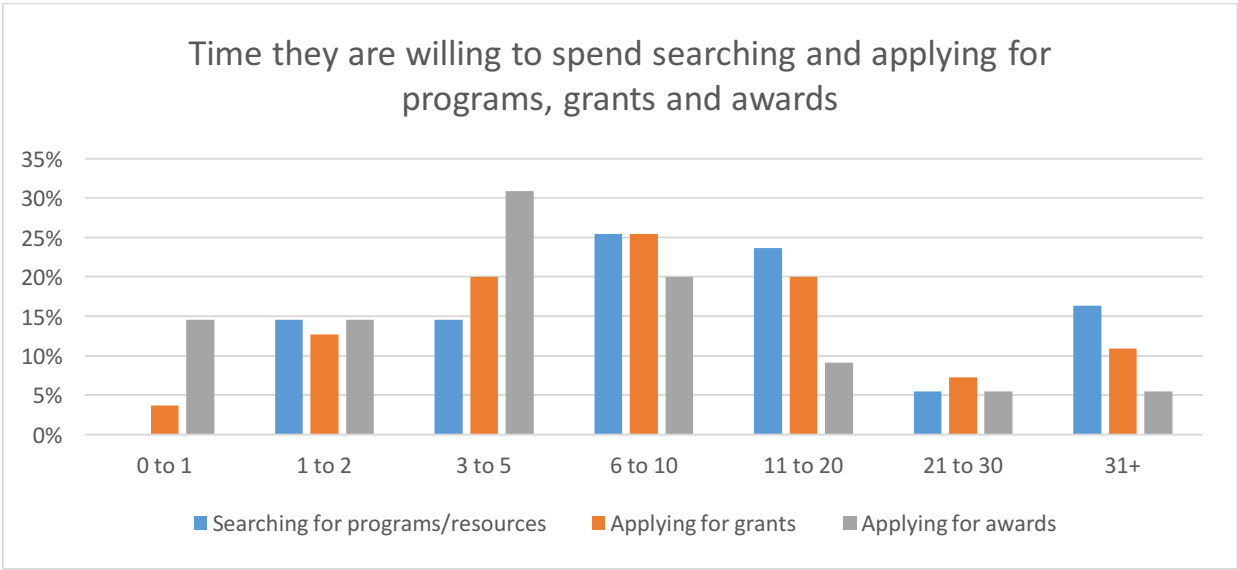
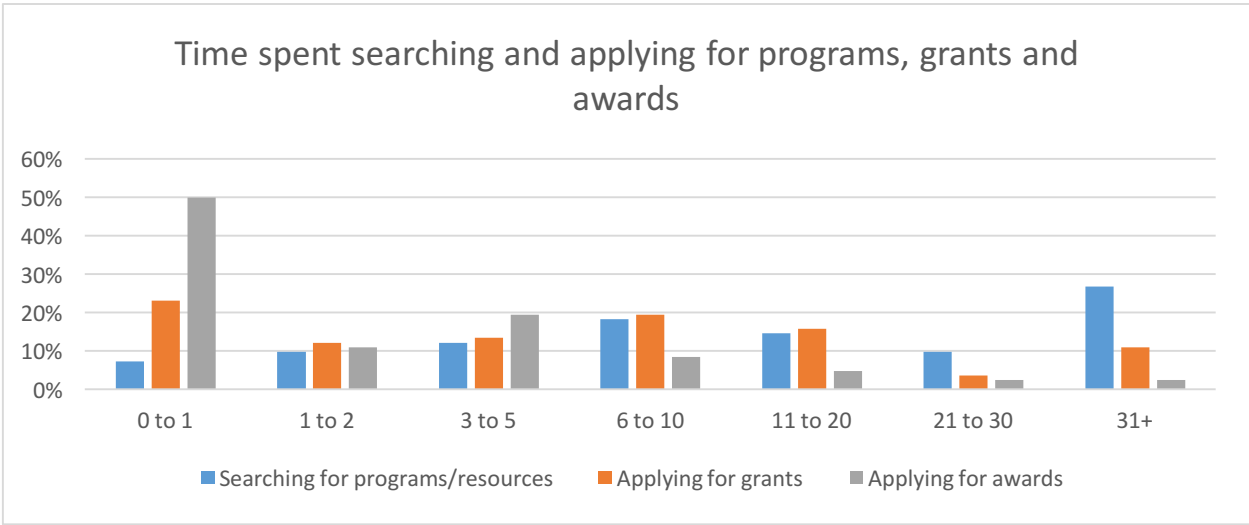
How much time are teachers spending or willing to spend searching for programs/resources and applying for grants and awards and their comfort levels

The surveys and focus groups indicate that teachers spend more time searching for programs and less time applying for grants and even less time applying for awards. Many of the teachers in the focus group had never applied for any awards. From what they currently spend to what they're willing to spend it again reflects that teachers are more willing to spend time searching for programs and that they prefer spending between 3 to 20 hours applying for grants and awards. Teachers prefer the 3 to 5 hour range for applying for awards.

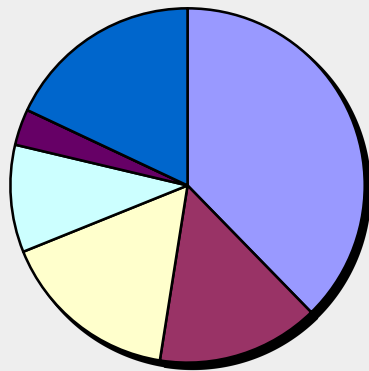
The surveys and the focus group asked how they felt about the amount of time they spend searching and applying. Over 35% said it is important and worthwhile but it is above and beyond what is expected and it does impact other areas of their work and life. In the focus group, they all mentioned that it is time consuming and it is done on their own time. Words like overwhelming, frustrating, challenging, maintaining a balance, way too involved were used.

There wasn't a huge level of comfort in applying for grants or awards, delivering on activities or accessing external programs. Teachers were most comfortable with delivering on activities followed by accessing external programs. They were least comfortable with applying for awards.

Recommendation: Anything to reduce time is important and will be well received. Easy way to find things and increase their comfort levels.



Which of the following statements best reflects how you feel about the time you are spending searching for programs/resources or applying for grants and awards?



- It is important and worthwhile 38%
- I'm OK with doing this 15%
- It is above and beyond what is expected 16%
- It is taking time away from my teaching preparation 10%

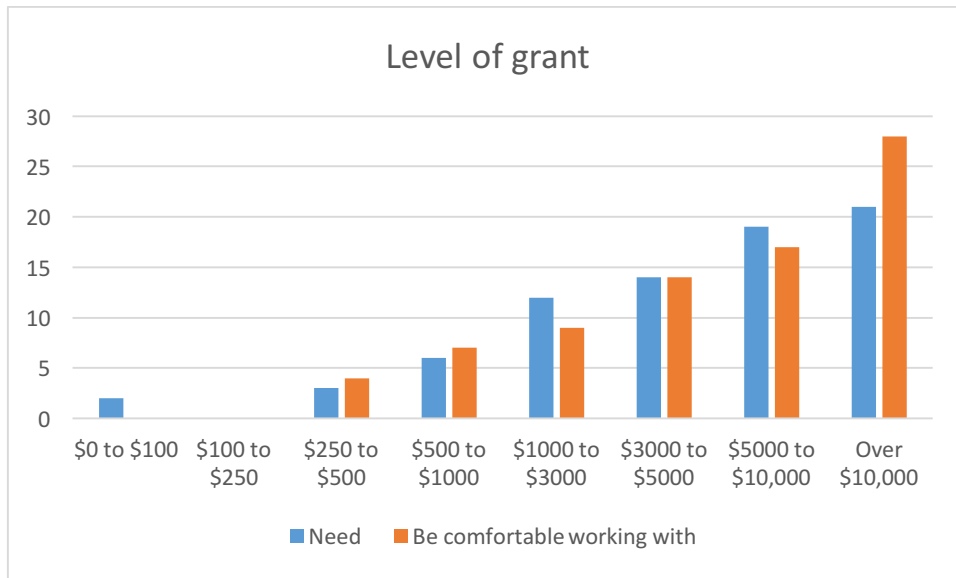
How comfortable are you with....	Very Comfortable & Comfortable	Somewhat Comfortable & Not Comfortable
Applying for grants	64%	36%
Delivering on activities outlined in grants	75%	25%
Grant reporting	66%	34%
Awards – applying	57%	43%
Accessing external programs to support student learning	64%	34%

The reasons grants are needed, level of grants needed and types of grants

The Edson focus group was asked what changes if they don't receive grants. These are their responses:

- Students don't get experiences
- Learning becomes theory instead of practical
- No skill development
- Helps them learn skills for post-secondary or trades

Teachers need and are comfortable working with grants over \$10,000.



Survey participants listed the following types of grants as most beneficial from most to least:

- Help cover cost of field trips
- Purchase classroom supplies or materials
- Allow for teacher planning time
- Purchase/access in-class programs
- Access volunteers
- Access or purchase materials to recognize students

The focus groups listed:

- Field trips
- Materials and supplies
- Professional development
- Experts
- Bussing
- Teacher release time
- In class presentations
- Translation into French

Time of Year for grants and awards

Applying for grants – April was first choice, then November or January

Applying for awards – fairly evenly spread between – October, January, April, May and August

Receiving grant dollars – top choices were September and June

Section 4: Measurement and Assessment

90% of survey respondents said there are barriers for measuring the impact of environmental or energy education.

They identified the biggest barriers as:

- Have to rely on others for information
- Need help
- Too complicated
- Not relevant for student learning

The focus group identified a number of barriers and some aligned with what was said in the survey and there were some additional ideas.

Other barriers:

- Projects are often ongoing over a number of years; you may have funding for a small part of this so it's hard to report on a work in progress. We don't feel we've done enough.
- Grants fund the project not the learning – the project often takes twists and turns.
- To gather information from students is often guess work – not very reliable information.
- We would need tools and for people to show or tell us how to use it with exemplars to use as a model.
- Do we need to calculate this – we're focused on student learning.
- We operate like a business and don't squander resources – a bit of trust on how we use the grants.

The survey responses listed the following as most effective to least effective methods for assessing students' environmental and energy literacy:

- Behaviour change in students' actions
- Culminating project
- Observations and conversations
- Research project reports
- Examples of student work

The focus groups identified many of the same methods:

- Seeing student attitudes and behaviour change
- Student conversations and sharing with their parents – 'guess what we're doing at home' – parents comments back to me
- Debates
- Opinion inventories
- Journaling
- Presentations – them presenting to others
- Community action projects
- Track students what they do post high school
- I assign as homework 'go outside and play' and they let me know if they've done it

The focus groups were asked additional questions regarding assessment and demonstrating that students are improving environmental performance. They were asked how could their student assessment be used to show results of programs, grants and awards. The teachers said they could use the following:

- Writing letters, sharing experiences, lessons learned
- Share student journal excerpts
- Student video clips
- Their needs to be clear expectations at the beginning so we can build this in – sometimes there is confusion over expectations.
- It is hard to show what we've done.
- Are there ways for groups to come see what is happening in our schools?

Section 5: Student Achievement and Recognition

Teachers were asked why they do or might apply for awards. The most significant reason is to recognize student accomplishments. It is really not about recognition for the teachers. Identifying their school as a leader was another area of importance. The Edson focus group, most of the teachers had not applied for awards.

Teachers identified the following as the most used methods for recognizing student and teacher achievement:

- School awards presented at assemblies
- Parent or school division newsletters

The other methods identified had far fewer numbers and in the focus group it was often one teacher that mentioned other awards. The Edson teachers indicated that most student awards are also teacher driven so another item that requires their time. These are a few that were identified:

- Environmental awards - Emerald Awards, Jack Leslie award
- Youth environment award – Youth of Distinction
- Green Building Council of Canada – Toyota Earth Day scholarships
- School announcements – TV monitors