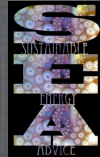


SHARED LEARNING: FROM THEORY TO PRACTICE

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Operating Agent, Task XXIV IEA DSM Implementing Agreement



WHAT IS SHARED LEARNING?

- Shared learning is the process of working collectively to achieve a common objective in a group. Team members tend to share knowledge and complement each others' skills. If there is no commitment and effort from team members then working and learning from team work may fail.

- Main principles:

- Creating the context and environment for empowered action
- Learning from experience - what has and has not worked well
- A multi-disciplinary approach to addressing complex issues
- Acknowledging that people in the room have the capability and capacity to effect change
- Utilising the resources in the room fully



To:

- Give participants the opportunity to learn from each other and engage in shared learning.
- Support innovation.
- Allow participants to highlight problems and areas where they have special interest, strength or weakness.
- Enable participants to deal with the kind of management problems which cannot easily be resolved through lectures / seminars, webinars, workshops, social media platforms...
- Give enough time to build up strong relationships and networks outside seminar or lecture-based sessions.

WHAT LEARNING IS NOT

■ Incorrect assumptions about learning (Berryman 1991):

- people easily transfer learning from one situation to another if they have learned the fundamental skills and concepts [decontextualized];
- learners are 'receivers' of knowledge in verbal forms from books, experts, and teachers;
- learning is entirely behaviouristic, involving the strengthening of bonds between stimuli and correct responses;
- learners are blank slates ready to be written upon and filled with knowledge; and
- skills and knowledge are best acquired independent of realistic contexts.



■ Berryman (1991) states that many educational practices stem from five erroneous assumptions about learning that have governed education since the beginning of the industrial age. He holds that we often assume incorrectly that:

WHAT IS A PUBLIC EDUCATION CAMPAIGN?

- An organized, systematic effort through various communications media to alert the general population of a given area to anything of significant interest or concern.
- The main purpose of a public education campaign is to change behaviour.
- There is no single formula for creating a public education campaign. Each program is unique based upon the audience, message, strategy and materials utilised during the campaign.



WHAT IS AN ENERGY LITERATE PUBLIC?

- The definition developed by the US Energy Education Forum was: “It is a society that understands and appreciates the role energy plays in its economic well-being and the economic cost energy production and use have on society’s (environmental) quality of life. Such a society is capable of making informed, well-reasoned decisions as to its choices for its usage of energy. Such a society is capable of directing its elected representatives to formulate stable and sustainable energy policy reflecting those choices.”

97% Feel that the industry bears the responsibility to educate the public.

89% Feel personally responsible for playing a role in educating the public about energy.

84% Feel that any educational program or message from the energy industry is likely to be considered biased by the public.

83% Agree that an energy-literate public would be beneficial for the industry.

Fig. 1—Majority respondents believe that an energy-literate public would benefit the oil and gas industry.

Bob Keiller, Chief Executive Officer, PSN

“Taking personal responsibility for energy consumption is vital—people need to know the true cost of their lifestyle options, and in time, society can move to make energy wasting unacceptable.”

What is energy literacy?

The US Energy Policy Act of 2005 mandated that the US Secretary of Energy convene an Energy Education Forum of representatives of all available energy sources, academia, corporations, professional associations, trade groups, and nongovernmental organizations to find a path forward to create an unbiased platform to educate the public about energy. Their first challenge was to define energy literacy.

Interesting conundrum - shall the public pay for this? NZ example

Q1. WHAT FORMS OF PUBLIC EDUCATION ARE THERE?

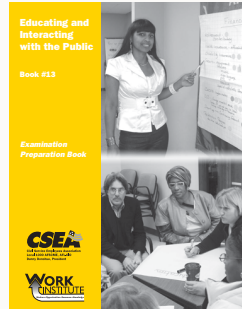
- Government and industry directly educating the public
- Traditional media stories
- Advertising (industry)
- Social marketing campaigns (Government, NGOs)
- Action learning (Government, research, NGOs)
- Community-led/NGOs' campaigns
- Open innovation (industry, research), social media (industry, govt)
- Participatory Action Research, crowdsourcing (research, NGOs)
- Storytelling (anyone)



Top-down to bottom-up

EDUCATING CIVIL SERVANTS TO EDUCATE THE PUBLIC

27. You are speaking at a public meeting. One member of the public makes a suggestion that you consider misguided and impractical. How should you respond?
- a. Thank the person and state that you welcome all suggestions from the public.
 - b. Tell the person that the suggestion reflects a lack of knowledge about the subject.
 - c. Say that the suggestion is an excellent idea even though you know it is not.
 - d. Ask if anyone would like to comment on the suggestion.



27. The answer is choice a. In a public meeting it is appropriate to treat all suggestions with respect, even if they are misguided and impractical. Choice b is incorrect because it sounds too personal. Rather than responding to the suggestion itself, you are commenting on the person's lack of knowledge. Choice c is incorrect because saying that the suggestion is an excellent idea would give the audience the impression that you agree with it. Choice d is incorrect because there is no reason to start a discussion about an idea that you consider misguided and impractical.

Front-line vs back-office functions of the public service
Public attitudes towards the public service

PETROLEUM INDUSTRY'S VIEW ON PUBLIC EDUCATION

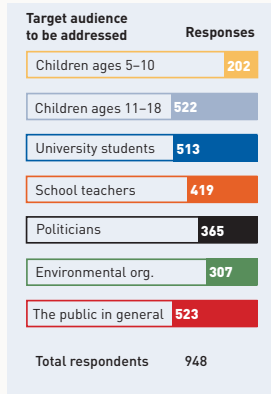


Fig. 3—Members' responses for the question "Who should be the audience?"

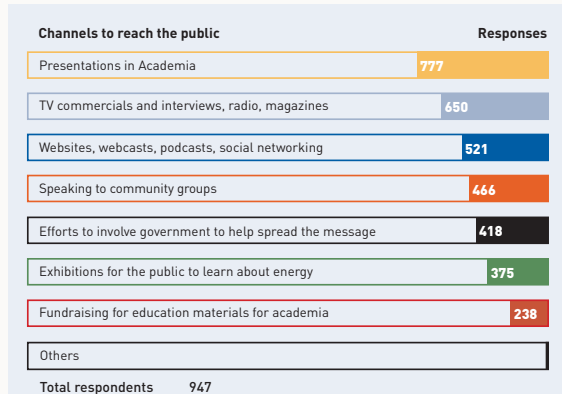
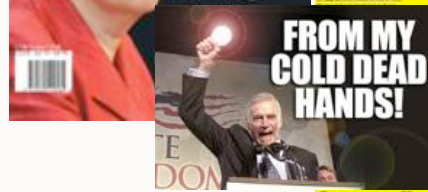


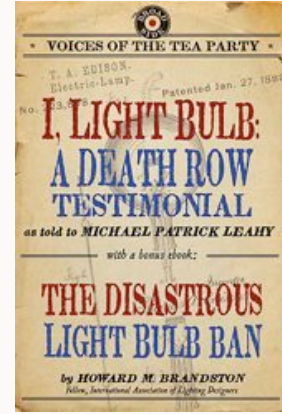
Fig. 4—How can we generate interest and educate people?

Energy4me global petroleum education outreach programme. The easiest way for members to get involved is by speaking in their own family member's classroom or at a school in their neighborhood. Whenever an SPE member gives a classroom presentation, SPE donates to the school a copy of our Oil and Natural Gas educational book. This hardback book is colorfully illustrated and filled with short descriptions of the history and uses for oil, and how it shapes our world. Contact Energy4me with your presentation details 3 weeks before the event, and Energy4me will send you the book to give to the school. Educators can download free lesson plans that accompany the book on Energy4me.org, encouraging use of the book throughout the school year. SPE student chapters can also get involved in energy education by encouraging preuniversity students to pursue petroleum engineering at the university level. Participating in university career fairs or visiting their own secondary schools are easy ways to reach younger students.

TRADITIONAL MEDIA AS INFORMATION SOURCE?



Are we all going mad ... ?
Gordon Brown from the train "Go to hell!"



ADVERTISING

CONFLICT OIL ETHICAL OIL

**CONFLICT OIL COUNTRIES:
WOMEN STONED TO DEATH**

**CANADA'S OIL SANDS:
WOMAN ELECTED MAYOR**

BP  **bp** 

BP  **bp** 

Launching
"Beyond Petroleum"
Worldwide

I'M SENDING CHESTERFIELDS to all my friends.
That's the merriest Christmas any smoker can have...
Chesterfield mildness plus no unpleasant after-taste

Ronald Reagan

CHESTERFIELD *Buy the beautiful*
Chesterfield Retro.com

Energy mix or PR fix?

BP's actual investments in 2008

Oil and gas 93% + Wind 2.79% + Solar 1.39% + Biofuels 2.79%

bp
back to petroleum

SOCIAL MARKETING

- Most commonly used in health, safety and sustainability
- Systematic application of marketing to achieve specific behavioural goals for social good



Social marketing is the systematic application of [marketing](#), along with other concepts and techniques, to achieve specific behavioral goals for a social good

The primary aim of social marketing is "social good", while in "commercial marketing" the aim is primarily "financial". This does not mean that commercial marketers can not contribute to achievement of social good.

Public sector bodies can use standard marketing approaches to improve the promotion of their relevant services and organizational aims. This can be very important, but should not be confused with social marketing where the focus is on achieving specific behavioral goals with specific audiences in relation to different topics relevant to social good (e.g.: health, sustainability, recycling, etc.).

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<object width="640" height="360"><param name="movie" value="http://www.youtube.com/v/mR-JP8CP12A&rel=0&hl=en_US&feature=player_embedded&version=3"></param><param name="allowFullScreen" value="true"></param><param name="allowScriptAccess" value="always"></param><embed src="http://www.youtube.com/v/mR-JP8CP12A&rel=0&hl=en_US&feature=player_embedded&version=3" type="application/x-shockwave-flash" allowfullscreen="true" allowScriptAccess="always" width="640" height="360"></embed></object>
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ACTION LEARNING FROM A YOUNG AGE

- E.g. NZ Enviro Schools



Enviroschools provide an essential hub that brings together a large number of diverse organisations to address the environmental, social, economic, and cultural issues facing communities. This collaboration creates efficiencies by avoiding duplication, and facilitates innovative solutions.

The organisational structure of The EnviroSchools Foundation ensures that programmes are participatory, locally relevant and responsive to change. It provides flexibility for programmes to evolve to meet the needs of children and young people, their schools and their communities.

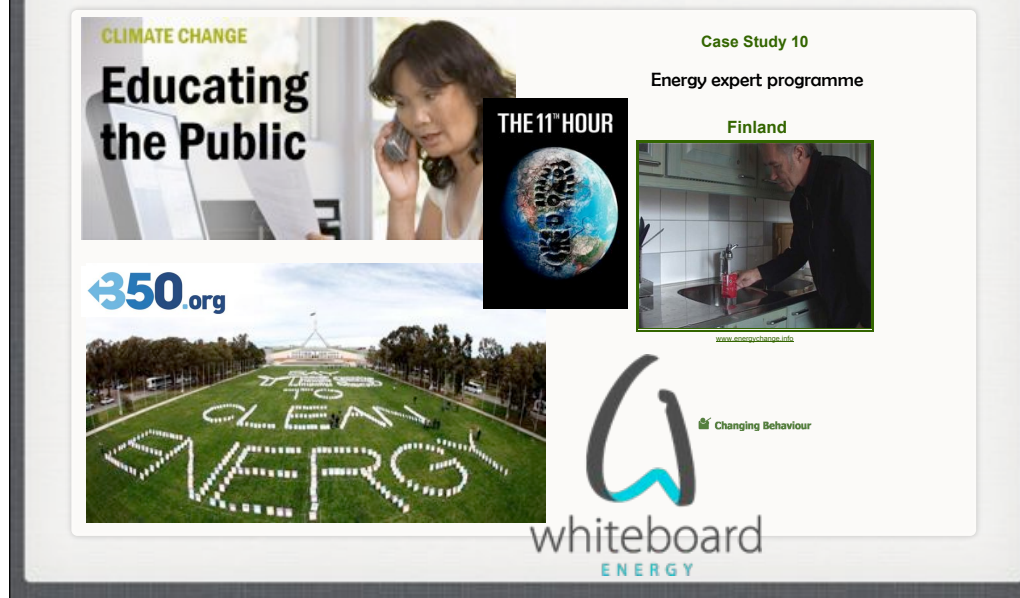
The [Enviroschools process](#) is different in each school but there are some main elements that schools undertake – such as creating a whole school vision, forming an envirogroup, working with the community and implementing action projects.

Action learning is an [educational](#) process whereby the participant studies their own actions and experience in order to improve performance. Learners acquire knowledge through actual actions and practice rather than through traditional instruction.

Action learning is done in conjunction with others, in small groups called *action learning sets*. It is proposed as particularly suitable for adults, as it enables each person to reflect on and review the action they have taken and the learning points arising. This should then guide future action and improve performance (Reginald Revans).

The Action Learning Cycle is the main EnviroSchools tool to help plan and carry out student-led projects. The cycle begins by immersing students in the subject and possibilities - this gives a rich background from which they can then make decisions, design, plan and take action. The reflection that follows, raises new ideas and consolidates learning.

COMMUNITY-LED/NGO CAMPAIGNS



The 11th Hour Project

- Nonpartisan public education and communication program to spread awareness about climate change and promote solutions
- Launched in 2005 by the Schmidt Family Foundation
- Foundation has contributed more than \$2.4 million since 2006

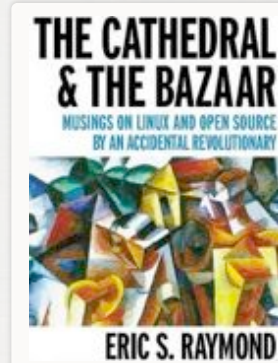
Results

- Distributed “An Inconvenient Truth” to over 4,000 congregations and 500 colleges
- Funded a 6,000-person DC youth rally to demand action on climate change by Congress
- Helped fund “Altered State,” permanent exhibit on the effects of climate change at the California Academy of Sciences
- Sponsored a two-year investigation of the coal industry and a documentary
- Invested in the start-up of Climate Central, a nonprofit that will disseminate the latest research on climate change and its solutions

Energy experts are volunteer tenants/residents who have been trained to be active in energy issues in the building where they live. Experts can monitor sudden changes in the energy, electricity and heating consumption within the building. They also provide advice and assistance to other residents/tenants about more efficient energy and water use practices. They also act as contact persons towards the housing organization and the housing management company and vice versa. Experts do not perform actual repairs or installment of appliances. They concentrate on dissemination of information, advice and being focal contact between housing organization and tenants/residents. As they have called themselves, they could be considered as “cultural ambassadors of wise energy use” (VVO 2003).

Energy experts’ activities have proved to be successful. Motiva has reported that in the buildings where there have been active energy experts an average increase of the energy conservation for heating of 5 %, 10 % decreases in electricity consumption and 20 % in water usage have been achieved.

OPEN INNOVATION



3 phases of innovation:

1. Global
2. Open
3. Social media

The concept is related to [user innovation](#), [cumulative innovation](#), [know-how trading](#), [mass innovation](#) and distributed innovation.

The paradigm of [closed innovation](#) says that successful innovation requires control. A company should control (the generating of) their own ideas, as well as production, marketing, distribution, servicing, financing, and supporting. The main cause behind this idea is that, in the beginning of the twentieth century, universities and government were not involved in the commercial application of science. Some companies therefore decided to do it all on their own. They created their own research and development departments to be able to control the whole new product development (NPD) cycle inside the company. There just was not the time to wait for the scientific community to become more involved in the practical application of science.

3 phases of innovation (lindegaard): Global, open and social media. It started out with the **globalization** wave in which international companies rushed to developing countries in order to reap the benefits of cheap manufacturing. Over time, they learned that it was not enough to just manufacture products on the cheap. They also had to utilize local minds as they often had to adapt their offerings to the local markets.

In turn, this gave us 24-7 innovation as innovation now happens everywhere rather than just at the corporate headquarters. We even got a new term, [reversed innovation](#), as products and services intended for developing markets now find their way to developed markets.

Then, we got the **open innovation movement** which really started to pick up speed about 10 years ago when Procter & Gamble began working on their Connect + Develop initiative and Chesbrough shared his thoughts on open innovation. Today, this is the big buzz on innovation as many companies try to find their way to increase the external input to their innovation processes.

The next phase, which I believe has just started is how **social media** will add power to the innovation efforts. The whole world has become one big community and there are lots of benefits for the companies that figure out how to use social media tools and services to bring better innovation to market faster. A key thing is to enable partners – and potential ones – to connect with each other not just in the real world, but also virtually.

SOCIAL MEDIA REVOLUTION

OPOWER in partnership with facebook and NREC

Save energy with your friends.
See how your energy use stacks up against friends and homes across the U.S. Join groups and discover how you can save even more.

See how your home stacks up!

530 kWh
520 kWh

APPS FOR ENERGY

Are you a software developer?
Build the best energy app
and you could win part of a
\$100,000 prize.

Recommended
Economy
Acceleration & Braking
Speed

0
MPG

Tools & Fuel

The advertisement is a composite image. On the left is a screenshot of the OPOWER website, which promotes a social energy-saving challenge. It features a blue header with the OPOWER logo and logos for Facebook and NREC. Below the header, there's a headline "Save energy with your friends." followed by a sub-headline and a blue button that says "See how your home stacks up!". The background of the website screenshot shows a stylized landscape with a house, a tree, and buildings, with callouts indicating energy usage like "530 kWh" and "520 kWh". On the right is a screenshot of a website for "APPS FOR ENERGY". It has a green header with the text "APPS FOR ENERGY" and a hand cursor icon pointing to a green square with a white 'E'. Below this, there's a promotional text: "Are you a software developer? Build the best energy app and you could win part of a \$100,000 prize." In the center, there's a black smartphone displaying a car-related app interface with various gauges and settings. To the right of the smartphone is a wooden-textured icon of a gas pump with a wrench and a screwdriver.

PARTICIPATORY ACTION RESEARCH

- "Essentially Participatory Action Research (PAR) is research which involves all relevant parties in actively examining together current action (which they experience as problematic) in order to change and improve it. They do this by critically reflecting on the historical, political, cultural, economic, geographic and other contexts which make sense of it. ... Participatory action research is not just research which is hoped that will be followed by action. It is action which is researched, changed and re-researched, within the research process by participants." Wadsworth 1998

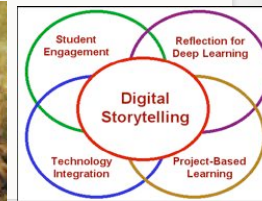
Participatory action research has emerged in recent years as a significant methodology for intervention, development and change within communities and groups.

Participatory action research – or [action research](#) – is a recognized form of experimental research that focuses on the effects of the researcher's direct actions of practice within a participatory community with the goal of improving the performance quality of the community or an area of concern.

The [case study](#) is often used as a research method as part of PAR.

STORYTELLING

- Oldest form of teaching and learning, as old as human language
- Very powerful form of transmitting information, the human mind remembers stories easier than facts
- Anyone can do it, stories are universal
- Crucial elements of a story: a plot, characters and narrative point of view
- Learning is most effective when it takes place in social environments. Stories provide a tool to transfer knowledge in a social context



Storytelling is the conveying of events in [words](#), [images](#) and [sounds](#), often by [improvisation](#) or embellishment. Stories or [narratives](#) have been shared in every culture as a means of [entertainment](#), education, cultural preservation and to instill [moral](#) values. Crucial elements of stories and storytelling include [plot](#), [characters](#) and [narrative point of view](#). Modern storytelling has a broad purview. In addition to its traditional forms ([fairytales](#), [folktales](#), [mythology](#), [legends](#), [fables](#) etc.), it has extended itself to representing history, personal narrative, political commentary, and evolving cultural norms.

Contemporary storytelling is also widely used to address educational objectives. Storytelling is a means for sharing and interpreting experiences. Stories are universal in that they can bridge cultural, linguistic and age-related divides. Storytelling can be used as a method to teach ethics, values, and cultural norms and differences

A multimedia story is some combination of text, still photographs, video clips, audio, graphics and interactivity presented on a Web site in a nonlinear format in which the info in each medium is complementary, not redundant. In a nutshell this basically means that the user chooses how to navigate through the elements of the story being told. Also, rather than having a text version of a story, you can have a video clip that essentially tells the same story. Basically different parts of the story are told using different media.

IEA DSM IMPLEMENTING AGREEMENT TASK
XXIV: CLOSING THE LOOP - BEHAVIOUR
CHANGE IN DSM: FROM THEORY TO PRACTICE

5- Expert social media platform

1- Helicopter
view of
models,
frameworks,
contexts, case
studies and
evaluation
metrics

2-
In depth
analysis in
areas of
greatest need

3-
Evaluation
tool for
stakeholders

4-
Country-
specific
project ideas,
action plans
and pilot
projects



PAR and open innovation approach

Social media as tool for collaboration/communication, matchmaking

Shared learning, case studies, 'living' platform, storytelling

Will lead to pilots, action plans, long-term evaluation of best practice recommendations that are context- and stakeholder-specific

Extension will hopefully be action research that shows translation into practice

Q2. WHICH SECTOR AND APPROACH IS BEST?

- all of them, depending on the context
- none of them in isolation
- personally believe bottom-up and community-led approaches are more successful in creating 'social norms'

Q3. HOW TO ENCOURAGE CAREERS IN ENERGY EDUCATION?

- Address misconceptions on human 'rationality' and 'learning'
- Prove that it works in practice - case studies, meaningful evaluation, shared learnings
- Collaborate with other disciplines, involve your stakeholders and end users from the beginning
- Fund it!
- Recognise and see yourself as an 'energy' educator or practitioner
- Don't be afraid to be 'social' and make it fun!
- Get the right people involved!

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