

DISCUSSION PAPER

Educating for Sustainability in Queensland

2019-2020

Curated by Sustainable Schools Network Limited



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All contributors acknowledge Aboriginal and Torres Strait Islander people as the Traditional Custodians of the land and acknowledge and pay respect to their Elders, past, present and emerging.

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1. ABBREVIATIONS

AAEE	Australian Association of Environmental Education
AC	Australian Curriculum
ACARA	Australian Curriculum, Assessment and Reporting Authority
AIDR	Australian Institute for Disaster Relief
ARIES	Australian Research Institute in Education for Sustainability
AuSSI	Australian Sustainable Schools Initiative
DEH	Department of the Environment and Heritage
DESD	Decade on Education for Sustainable Development
DETE	Department of Education, Training and Employment
DEWHA	Department of the Environment, Water, Heritage and the Arts
ECTA	Early Childhood Teachers' Association
EE	Environmental Education
EEC	Environmental Education Centre
EfS	Education for Sustainability
ESD	Education for Sustainable Development
ESS	Earth Smart Science Program
GBRMPA	Great Barrier Reef Marine Park Authority
ISQ	Independent Schools Queensland
P&C	Parent's and Citizen's Association
P&F	Parents' and Friends' Association
QESCN	Queensland Early Childhood Sustainability Network
QESSI	Queensland Environmentally Sustainable Schools Initiative
SEMP	School Environmental Management Plan
SSN	Sustainable Schools Network Limited
UNESCO	United Nations Educational, Scientific and Cultural Organisation

2. EXECUTIVE SUMMARY

Since 2012, Queensland schools have been implementing the Australian Curriculum (AC), with one of the three cross-curriculum priorities focusing on sustainability. Intended to be embedded across all Learning Areas (K-10), education for sustainability (EfS) demands a whole school approach to ensure the greatest environmental, social and economic outcomes are achieved.

The AC describes the priority of sustainability as, “students develop the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living” (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2019). Further, EfS is a reorientation towards an ecological world view which is collaborative and requires alternative pedagogical and operational practices within the educational context.

Despite sustainability being identified as a priority for the education sector, there are a number of competing pressures and operational and systemic issues that prevent the cohesive delivery of EfS. The first is the absence of a state-based strategy during the past eight years since the Earth Smart Environmental Sustainability Strategic Plan 2008 – 2012 for Department of Education, Training and the Arts. This has resulted in localised attempts to deliver EfS that are dependent on the passion and capacity of individual teachers and/or students. This discussion paper advocates for a systems-based approach to ensure all Queensland students truly benefit from the essential learning outcome established by ACARA when sustainability was endorsed as one of the original cross-curriculum priorities.

Moving towards a more collaborative and strategic approach to embedding EfS is increasingly being requested by both community and education sectors. All educators understand the importance of a whole school approach to deliver EfS that actively and effectively engages students, teachers, school administrators, other staff, parents and community members, whilst addressing both the educational and operational agendas within the school context (Educating for a Sustainable Future – National Environment Education Statement for Australian Schools: Curriculum Corporation, 2005).

Currently, schools face a number of problems when attempting to deliver the cross-curriculum priority - if it is even attempted at all. Some examples of the major issues encountered include:

- tokenistic and/or adhoc delivery that undermines genuine efforts to embed sustainability;
- lack of training for school staff including teachers;
- loss of qualified teaching professionals (due to age and retirement of appropriately qualified staff);
- disengaged and high staff turnover leading to disenfranchised enthusiastic staff in new schools, and a lack of champions in interested schools;
- lack of regional resources – for example, the Earth Smart Science initiative in 2010-2012 offered targeted and locally relevant training and resources to schools;
- no structured process to exchange knowledge and resources; and,
- lack of data measurement tools to demonstrate success and change within individual and collective schools.

Despite these challenges, this discussion paper identifies local, state, and international exemplars. This paper highlights the importance of strategic and collaborative approaches which could easily be adopted to ensure Queensland joins the growing international community educating for sustainability.

Drawing on research and the contributions of industry leaders, this discussion paper makes a statement of request based on four themes:

- understanding sustainability;
- imagining the future;
- building relationship; and,
- taking action.

An overview of the statement of request to government and industry is visually presented in Figure 1 below. This statement of request is presented to key stakeholders with the intention

of initiating development and unilateral support for a state-based strategy to ensure the cross-curriculum priority is delivered as it is intended and a whole school approach to sustainability is adopted.



Figure 1. Education for Sustainability Proposal, Queensland

A critical component for the success of a state-wide strategy in the age of digital technology, is the development and implementation of performance measurement and monitoring tools to enable key performance indicator reports. Further, data analysis tools will ensure change is sustained and achieves the delivery of a brighter future for those we hold dearest: our children.

3. INTRODUCTION TO EDUCATION FOR SUSTAINABILITY

The focus of this discussion paper is 'education for sustainability' (EfS), as it is a cross-curriculum priority in the Australian Curriculum. Further, the most recent Australian education declaration, the Alice Springs (Mparntwe) Education Declaration (Education Council, 2019, p.2), states, "we must... prepare young people to thrive in a time of rapid social and technological change, and complex environmental, social and economic challenges". Australian schools have an ongoing commitment to deliver EfS.

Global recognition was given to the role of education in operationalising the sustainable development agenda in 1992 (Kuzich, 2011a). A decade later UNESCO were tasked with leading an international commitment to develop Education for Sustainable Development (ESD) (Kuzich, 2011b), and it was agreed that 2005-2014 would be the Decade on ESD (DESD). The Curriculum Corporation (2005, p.6) identified,

"With the United Nations Decade of Education for Sustainable Development initiative, environmental education has now evolved in the 21st century to embody sustainability in the broadest sense, with an emphasis on transformational change in values and behaviour from the individual to a global scale. This statement relates these global initiatives to Australian schools by providing a framework for developing environmental education for sustainability in schools."

In response to the DESD, the then Australian Government undertook a review of EE and identified the need to develop a holistic national education *for* sustainability strategy (DEH, 2005). This led to the creation of the Australian Sustainable Schools Initiative (AuSSI) in 2008.

In 2009, the Australian Government produced *Living Sustainably*, a national action plan for EfS (DEWHA, 2009), which regrettably did not include an analysis of the systemic changes needed to ensure the successful implementation of this plan. Further, there's not been any accountability for the actions as the section within the Commonwealth Department for the Environment that managed AuSSI was disbanded in 2010. Nevertheless, EfS remains politically endorsed in Australia, as a multidimensional concept involving social/cultural, environmental, political and economic pillars (Nolet, 2009). Figure 2 identifies the meta

themes and pedagogy required to implement the cross-curriculum priority of sustainability. EfS requires alterations to policies, practices, infrastructure, pedagogy, and the curriculum of formal education (Kuzich, Taylor & Taylor, 2015).



Figure 2. Characteristics of Sustainability Education

Designed to be embedded across learning areas, ACARA (2019) conceptualises sustainability as a cross-curriculum priority involving three organising ideas: systems, world views and futures. Aligning with Figure 2's characteristics of EfS, it is possible within ACARA's framework to both educate *about* and *for* sustainability, which Vare and Scott (2007) identified are both valuable.

Many scholars argue that education can be used as a tool of social transformation (e.g. Reynolds & Cavanagh, 2009) and fundamentally cultural change is needed for this to occur (Nolet, 2009; Webster, 2013). Sterling (2003) and Webster (2013) identified continued anthropocentrism, mechanistic philosophy, and linear economic and social systems with a

sustainability focus will not result in the systemic, circular, future-orientated education system required for an ecologically and socially regenerative future.

A new approach is needed, which reorientates education and educational systems towards an ecological worldview which is constructive and “participatory and collaborative” in nature (Sterling, 2003, p. 205). Changing educational culture to reflect its social transformation potential deepens the sustainability agenda to include both EE and EfS, whilst proposing cultural change that has the capacity to envisage a sustainable future for generations to come (Nolet, 2009). EfS under these conditions is sustainability *as* education.

As the Education Council (2019, p.2) identifies,

“education plays a vital role in promoting the intellectual, physical, social, emotional, moral, spiritual and aesthetic development and wellbeing of young Australians, and in ensuring the nation’s ongoing economic prosperity and social cohesion. They need to deal with information abundance and navigate questions of trust and authenticity. They need flexibility, resilience, creativity, and the ability and drive to keep on learning throughout their lives.”

EfS provides the paradigm shift required for Queensland schools to deliver an education aligned with the national educational declaration whilst also ensuring a world with a future. The following analysis of EfS in Queensland will provide the strengths and gaps in our state-based strategy to deliver the cross-curriculum priority: sustainability.

4. HISTORICAL PERSPECTIVES ON EDUCATION FOR SUSTAINABILITY IN QUEENSLAND

Over the last twenty-five years, Queensland students have experienced EfS in a variety of different ways. Notable historical programs are described below for the purposes of understanding key learnings from these experiences. QESSI, the Earth Smart Science program, and the Department of Education's SEMP planning tool will be the key initiatives discussed in this section.

QESSI Alliance

The Queensland Environmentally Sustainable Schools Initiative (2005) began in 2003 and worked towards a vision of all Queensland schools becoming environmentally sustainable. In 2005, numerous government departments were involved in QESSI planning, including: Department of Education and Arts; the former Queensland Environmental Protection Agency; Queensland Transport; Federal Department of Environment and Heritage; and Queensland Department of Natural Resources and Mines. Other non-government organisations involved included: Sustainable Futures Australia; Solar Schools; EnviroCom; OEECPA; Gould League, Ergon Energy; Reef Guardian Schools; Energex; Water Watch; Keep Australia Beautiful (QLD); and Queensland Resources Council.

The QESSI Alliance which included the above partners and others was established in 2003 and maintained the momentum of supporting schools to become more environmentally sustainable up until 2012. There were several strategic plans developed with the 2013-15 plan being the latest. This plan ([view here](#)) outlines the vision, guiding principles, goals, and strategies of QESSI. The majority of QESSI led actions were implemented by a network of QESSI Regional Hubs which supported schools on their sustainability journey. This culminated in 21 QESSI Regional Hubs (19 being Outdoor and Environmental Education Centres and two non-government organisations) delivering the implementation of the Department of Education's Earth Smart Science (ESS) Program. This was a \$5.8M election commitment and supported more than 1,000 state primary schools to become more environmentally sustainable in their curriculum implementation, facilities and grounds improvements and connections to the community.

The QESSI Alliance supported the development of the Earth Smart Science Program and creation of School Environmental Management Plans (SEMP) for Queensland schools. This Alliance was endorsed by the Queensland Department of Education which provides limited funding (\$19,525 annually) for the maintenance of a [Queensland Sustainable Schools website](#), which was created in 2010. During the period 2010-2019, 1,169 schools accessed this platform utilising resources and the SEMP template to create and implement a SEMP. This website is currently underfunded, and its ongoing management relies a lot on the generous support of one of the Environmental Education Centre (EEC) Principals who volunteers his time to deliver client support. The lack of funding and reliance on the passion of one individual will eventually result in this valuable resource becoming overlooked and undervalued.

The partnerships developed and community engagement created by the QESSI Alliance was the main driver of EfS in Queensland from 2003-2013.

Earth Smart Science Program

Delivered by the Queensland Department of Education, ESS engaged Queensland state schools from 2010-2012. Promoting 2010 as the Year of Environmental Sustainability, ESS was also aligned with a \$60 million solar and energy efficiency program in Queensland schools (Queensland Government: Department of Education, Training and Employment (DETE), 2012).

Zela Bissett, one of the ESS facilitators conducted a review in 2018 of ongoing environmental sustainability outcomes as a result of ESS on the North Coast Region of QLD. Ms. Bissett was concerned the progress made from the ESS program was diminishing particularly in her region. Key findings from the Bissett (2018) research paper are identified in Table 1. 114 schools were contacted to participate, and 19 schools completed the questionnaire.

According to Zela Bissett (2018, p.1),

“[ESS was] designed to encourage a whole-of-school approach to reducing their environmental footprint through... taking action on all aspects of school operations:

curriculum, teaching and learning, physical surroundings and relationships with the local community. The developers state that they were informed by principles set out by the QESSI which in turn was developed in the context of the [DESD].”

Table 1. Discussion Points from ESS (Bissett, 2018)

Continuity of staff	<p>9 principals remained in the same school.</p> <p>2 schools had the same principal and the same trained ESS staff member.</p> <p>Change of staff appeared to impact ongoing environmental initiatives either positively when staff remained constant or when ESS trained staff combined with encouraging principals, or negatively when staff moved on and new staff did not engage or value ESS/SEMP.</p>
SEMP	<p>10/19 schools were still able to access their school’s SEMP. This may be accounted for by movement of staff and the SEMP site being password protected.</p> <p>Only 3 schools mentioned discussing their SEMP at a whole-school staff meeting in the last year.</p>

An evaluation report provided by the Queensland Government: DETE (2012) identified 654 schools participated in ESS. Further, Bissett (2018) reported 21 regional hubs involving 21 trained ESS facilitators. Based predominantly at environmental education centres, the ESS facilitators’ role was to train other primary state school teachers and ensure schools and their communities became more environmentally sustainable. Positively, this initiative was part of a national working group that identified indicators to practically measure school sustainability (DETE, 2012). These indicators included: education, environment, social, water, electricity, waste and school grounds (DETE, 2012, p. 10) and could again be utilised as key performance indicators for educational institutions.

According to Bissett (2018), the ESS budget was \$5.8 million over the three years and it developed strong partnerships with the more comprehensively funded programs: Science Sparks, EATSIPS (Embedding Aboriginal and Torres Strait Islander perspectives in School) and

the solar and energy efficiency infrastructure package. During the course of the ESS program, 97% of participating schools completed a SEMP whilst 89% completed indicators for Sustainable Schools (DETE, 2012). Cam Mackenzie [pers com] identified within the first two years of the ESS program an incremental roll out of the program across state primary schools occurred and \$2.1 million was saved in energy efficiencies alone. The lack of other performance related data demonstrates the importance and value of accessing digital performance measuring tools to evaluate initiatives.

“While it cannot yet be claimed that schools have been able to meet the targets, there have been some encouraging movement in net reduction in water and energy for Earth Smart schools in comparison to other Queensland state schools. However, the real gain many ESS schools reported was in helping students and teachers increase environmental awareness not only within the school setting but within their communities” (DETE, 2012, p. 5).

Bissett (2018, p. 13) proposed that, “If the SEMP was less effective than envisaged, the study suggests that the staff development aspect of the ESS program may have been more useful.” The leading staff have continued to have an impact in receptive educational settings, although Bissett (2018) reports some of the remaining trained staff are approaching retirement, which is concerning for ongoing commitments to deliver the cross-curriculum priority: sustainability. Nonetheless, Bissett’s investigation found that ESS engaged schools in the North Coast region continue to benefit from the network of supportive teachers and aligned organisations and the enduring curriculum units that were developed during the ESS.

Due to the removal of funding and personnel changes, both QESSI and the ESS Program ceased at the end of 2012 or early 2013.

School Environmental Management Plan

A School Environmental Management Plan (SEMP) is a templated planning process that captures the activities across the whole school and maps its sustainability journey. Schools develop their own goals, strategies and actions and set targets according to their particular circumstances. The Queensland Sustainable Schools website has a ‘Guide to Building a SEMP’ that assists state schools to develop their three to five-year plan. State schools can also

capture the achievements of their current SEMP and refer to it to create the next SEMP using the same template. This practical tool addresses the environmental aspect of EfS by (DETE, 2019, p.1):

- reviewing your school's current priorities;
- determining which environmental issues the SEMP will address;
- preparing action plans to address these issues across the five focus areas;
- developing a monitoring and evaluation strategy to track progress.

As of May 2020, in Queensland there are 2743 schools and education centres, including 1249 state schools that are registered for the Queensland Sustainable Schools website (QSSWebsite). With over 1000 SEMP's developed since 2012, it is estimated that at least 30% of these would be considered active. SEMP's and the associated QSSWebsite is accessible for all Queensland schools providing the school Principal approves. Figure 2 indicates the intended role of the SEMP in the international agenda for EfS. Due to a significant lack of funding, SEMP's are managed on a minimal annual budget by one of the regional EEC. On average, this Principal receives a weekly enquiry regarding this site and the SEMP tool. Further, this Principal also recently offered online training for schools to create and utilise the SEMP tool. Over 100 schools engaged in this training over 5 one-hour webinars.

Although a school may create a SEMP by contacting the assigned person, the resources to support schools to implement resource management, access real time data, facilitate whole school sustainability governance, embed EfS into the curriculum and/or develop partnerships are not available. This means that despite a significant number of schools committed to EfS with ongoing interest, the majority of schools have not engaged with this state-led initiative and all remain unsupported in their delivery of EfS.

5. CURRENT SUSTAINABLE SCHOOLS PROGRAMS

This section explores other exemplar EfS programs, including the Reef Guardian Schools, Resource Smart Schools, Enviroschools and Eco-Schools Programs.

Reef Guardian Schools Program

Commencing in 2003, the Reef Guardians School Program is a federally funded initiative in North and Far North Queensland. Connecting schools to become custodians of the reef, the Reef Guardian Schools Program helps:

“Students team up with others in their community to actively participate in activities aimed at improving catchments, water quality, sustainability, and reef health. This includes environmental and sustainability projects within their classrooms, their school grounds and local areas such as native habitat revegetation, cleaning up beaches and recycling.” (GBRMPA, 2018, p.1)

According to GBRMPA (2018, p.1), there are “276 schools, more than 120,000 students and 7400 teachers” involved in the program.

Resource Smart Schools Victoria

For more than ten years, Resource Smart Schools has been delivering education for sustainability in Victoria. Sustainability Victoria through Resource Smart Schools engages whole-school communities in metropolitan and regional areas. The program features facilitation and support, recognition through certification and awards, cost savings, flexibility to meet individual school needs, support to embed sustainability in the curriculum (Sustainability Victoria, 2019). Sustainability Victoria (2019) has published the following outcomes which have been recorded through an online data measurement platform provided to participating schools.

“Since 2008 the program has:

- saved over \$28 million on bills;
- certified 1400 schools;

- planted more than 5.4 million plants;
- saved nearly 84,000 tonnes of greenhouse gas;
- diverted 172,000 cubic meters of waste from landfill;
- saved nearly 1.5 million kilolitres of water.”

The data presented demonstrates the very real impact of a state-based, ongoing strategy to support schools with whole-school initiatives.

Enviroschools

The New Zealand Enviroschools program is recognised as an exemplar program that incorporates best practice elements (Henderson, & Tilbury, 2004). First impressions of the Enviroschools website highlights how Indigenous culture has been embedded in the program (Enviroschools, 2019). This program offers program and facilitator support locally, regionally and nationally. Utilising an innovative approach to experience the environment, Indigenous culture, and an action orientation, the Enviroschools program includes 40% of New Zealand schools, offers 135 regional facilitators and 17 regional coordinators, and 13 national team members (Enviroschools, 2019). Delivered as, “a joint local-central government initiative focusing on community partnerships, sustainable school practices and student-leadership/engagement” (Education Counts, 2020).

Five guiding principles are involved:

1. Empowering students;
2. Learning for sustainability;
3. Maori Perspectives;
4. Respect for the Diversity of People and Cultures; and,
5. Sustainable Communities

The Enviroschools program demonstrates the effectiveness in behaviour change. According to an Enviroschools Census conducted by Toimata Foundation (2018), some significant outcomes have been achieved. For example, reporting schools have improved their economic

sustainability by 75%, 100% improvements have been made towards zero waste and there has been an 89% improvement in social sustainability. The full report is available [here](#).

Education Counts (2020) also identified that, “the professional development support is encouraging more transformative learning styles, greater student engagement and stronger school–community interactions”.

Eco-Schools

Commencing in 1994 in Denmark, Germany, the UK and Greece, Eco Schools is likely to be the most internationally recognised model of EfS. Now in their 25th year, Eco Schools report to, “have 19 million students participating in their program internationally (Eco Schools, 2019). In 25 years, Eco Schools has developed from a European educational programme to a global model for environmental education and sustainability at the international level” (Eco Schools, 2019). Utilising an EE framework, Eco schools are identifiable by their bronze, silver or green flags.

Eco Schools Australia, a branch of the international organisation, also facilitates an environmental education framework and an awards program to work towards a “litter free and sustainable Australia” (Eco Schools Australia, 2019). Pragmatically the program involves 7 steps, including:

1. Forming an eco-committee;
2. Carrying out a review and baseline data study;
3. Creating an action plan;
4. Linking the plan to curriculum;
5. Monitoring and evaluating the plan;
6. Informing the wider community;
7. Producing an eco-code.

Eco-Schools provide structure and associated resources to ensure schools can get started, seek accreditation (green flag) and maintain the momentum. Tinana State School was the first (of only two) Queensland schools to meet the green flag standards.

6. FINDINGS FROM THE CONSULTATION WORKSHOP ON 29 OCTOBER 2019

Building on the common theme in all initiatives mentioned above of collaborative and connected communities, an initiative was commenced in 2019 by the Sustainable Schools Network (SSN) to consult with Queensland teachers and organisations.

Twelve organisations and three local teachers attended an EfS consultation workshop on 29 October 2019 in Townsville as part of a Sustainability Summit organised by the SSN. (For more information about the contributions to the paper and methodology please refer to Appendixes 1 and 2.)

After a presentation by Cam Mackenzie, Principal of the Amaroo EEC offering historical perspectives of environmental education for sustainability over the past decade and by the Department of Environment and Science regarding current trends, small group activities commenced. The consultation captured during the workshop provides valuable information about the current EfS need, barriers to change and some feedback was given regarding the need for funding and its deficiency. Time was allocated to identify recommendations that would support ongoing and meaningful strategies to deliver EfS in Queensland. Some of these recommendations align with identified best practice, others are innovative.

The Need for EfS

Schools have a considerable footprint and all members of an educational community need to address sustainability from an environmental, social, economic and political perspective. Students need to experience being empowered to be active and informed global citizens. It was noted that resources are being spent on teaching active and informed citizenship, yet EfS provides opportunities for practice. As schools are overwhelmed with a crowded curriculum and the responsibilities of communicating with an array of stakeholders, amongst other demands, there is a need to streamline access to partnerships, resources and support for EfS. Schools need time, championing, collaboration, tools and an overarching policy to ensure ongoing EfS delivery.

Barriers to EfS

Whether considering a top-down or bottom-up approach, it was unanimous that all levels of the educational system play a role in embedding EfS in the school context. It was noted that the Queensland Department of Education has not offered a structured EfS program since 2012 when the Principal Advisor for Environmental Sustainability was transferred and no replacement for that position was appointed. Since that time there has been an absence of leadership and endorsement of EfS from the Department of Education. The current lack of engagement by the Department of Education is linked to a lack of advocacy within the department to support the need for funding. In turn lack of funding was identified as a significant barrier preventing schools from implementing initiatives even if they are motivated to do so.

In the school context, a whole-school approach is rarely adopted, rather all the responsibilities are typically shouldered by one champion student, principal, parent or teacher who often leads sustainability work without the support of the whole school. It is also common to find that initiatives implemented by teachers or students fail due to a lack of understanding of the operational and systems within the school environment. For example, recycling programs are often introduced to the school community with the best of intentions by a sustainability committee without an awareness on the increasing workload for school cleaners and additional collection costs to the school.

Apart from a lack of time and space to learn and experiment with EfS, schools are challenged by a lack of professional development (at the pre-service level or thereafter). Professional development opportunities may or may not exist, and this is resulting in lost opportunity to incorporate EfS learning experiences. Effectively, professional development for EfS that is available is in direct competition with other professional development opportunities that are better understood and supported and thus more likely to receive approval for funding and endorsement.

Moreover, schools do not know where to seek support for professional development or resources and find starting overwhelming; effectively acting as a barrier to change. It was also identified that the lack of an assigned teacher/facilitator either within the individual

school or regionally is a barrier to awareness and engagement with incursions, excursions, professional development and curriculum resources.

Although teachers are aware sustainability is a cross-curriculum priority, learning opportunities and resources to embed sustainability across subjects has been limited or absent. Further, misconceptions exist regarding terminology. Misunderstanding the concept of sustainability, the themes and pedagogy involved often leads an adjunct approach whereby a visit to an EEC or a Clean-Up Australia day activity ticks the box in a busy school.

There are an ever-growing number of external service providers willing and able (at a cost) to support school communities. Whether these organisations have been operating for a long or short time, funding and program stability is often an issue. With high levels of volunteer facilitation, the social sustainability of some organisations is concerning. Further, endorsed access to schools to support EfS may be a barrier for both the external organisation and the school.

It is from the understanding gained from this stakeholder meeting and other contributions about program success factors, challenges and recommendations that the following statement of request has been prepared.

7. STATEMENT OF REQUEST

Education for sustainability provides learning opportunities for youth, economic savings for schools, improvements in the health and wellbeing of almost all community members and environmental protection and regeneration.

All Australians are influenced by the education system.

The 2019-2020 Education for Sustainability Discussion Paper includes the following statement of request for government and private industry to engage with. This request will address the following four major themes:

1. Understanding Sustainability
2. Imagining the Future
3. Building Partnerships
4. Taking Action

Fifteen key requests are made to ensure a coordinated state-based strategy that is future-proofed and inclusive. A visual representation is offered in Figure 1 (page 6).

1. Understanding Sustainability

- 1.1 A request is made to provide and improve opportunities for professional development for whole-school communities, including students, teachers, operational leaders, parents and maintenance/cleaning staff.
- 1.2 A request is made for tools and frameworks to be made accessible to school communities including pedagogical and curriculum resources, alignment with the sustainable development goals, frameworks for operational planning and student leadership.
- 1.3 A request is made for all pre-service teachers to have completed a basic minimum standard of training relating to education for sustainability.
- 1.4 A request is made for inclusive and clear messaging to be developed and shared with school communities. This request includes forming an interdisciplinary, cross-sector team able to respond to changes in best practice and communicate this to schools.

2. Imagining the Future

- 2.1 A request is made to build the capacity of the education system for behaviour change. This means reinvigorating a coalition of representatives providing policy, philosophical and organisational input into ongoing and future program delivery.
- 2.2 A request is made to build resilience into education. This includes highlighting the complex social and ecological interconnections of climate change and other natural hazards.
- 2.3 A request is made to utilise the education context for creative and innovative design and learning opportunities that are focused on a sustainable future, including award programs.
- 2.4 Further, a request is made to deliver vocational education training aligned with emerging industries and capable of providing an employment pathway for youth.

3. Building Relationships

- 3.1 A request is made to create regional hubs to support points 1 and 2. This includes funding regionally based facilitators or organisations who are responsible for sharing consistent messaging, creating and/or promoting local and state based professional development opportunities for whole-school communities, supporting schools to create and enact SEMP, and to measure change.
- 3.2 A request is made to develop a Queensland website to become an identifiable resource for schools to access tools, information including case studies and recognised service providers.
- 3.3 A request is made for genuine shared responsibility to occur between federal, state, and local levels of government, along with individual schools (state, independent and catholic), not-for-profit organisations, business and individual community members. Valuing all involved would be a positive first step towards a sustainable future.

4. Taking Action

- 4.1 A request is made to support schools to improve their resource management, especially water, waste and energy. This includes developing a state-wide standard

of facilities improvement that will be self-funding as economic sustainability improves.

4.2 A request is made to offer schools digital performance and monitoring tools to measure change including resource and facility improvements and responses to the sustainable development goals. These tools already exist however, schools are not aware of what is available and will require funding to engage with these options.

4.3 A request is made to incorporate cultural and social programs and training under the banner of sustainability to create a cohesive, inclusive approach and to ensure the social transformation required to lead to a sustainable future.

4.4 A request is made to provide action-orientated learning for students, whereby real-world experiences are part of the school experience. This may include leadership opportunities, student-led learning opportunities factored into the school day, and increased project-based learning pedagogies which incorporate an action experience in the learning sequence.

Funding and Reporting Recommendations

It was noted on 29 October 2019 that the above statement of request will require funding and resources. At this point in time without further consultation the exact number of facilitators and costs involved in improving the state's website or purchasing tools for data measurement are unknown. What is known is that there are a number of organisations willing and enthusiastic to work with any funding body to establish the costs of implementing the above request.

During political change it is possible that programs become unfunded, as has occurred previously with regards to EfS in Australia. This needs to be planned for. It is therefore important to consider multiple funding models. Further, it is likely that different funding models are more suitable for different elements of the request, providing a partnership between funders exists.

So, which aspects are more suitable to be delivered by state, local council, schools and private financiers? The answer to this question inevitably depends on preference. Some recommendations are provided below:

- Regional hubs including at least one local facilitator be funded by state government.
- Data measurement tools be funded by local councils for regional data collection and comparison.
- Partnership/alliance including industry experts and leading organisations to be funded by state government.
- Not-for-profit and industry experts to partner to create and deliver professional development and resources for schools to utilise. Endorsement by state government would help along with sponsorship for larger coordinated opportunities.
- Website to be funded by state government and independent school associations to ensure access for all.
- Resilience frameworks to be developed by local councils in collaboration with schools and to be shared across the state.

It is recognised that SE will not be improved just because it is the right thing to do. Instead it is essential that digital performance measurement tools are a critical element of any state-based strategy.

“To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace.”

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APPENDIX 1: STAKEHOLDER CONTRIBUTIONS AND METHODOLOGY

Sustainability is a cross-curriculum priority in the national curriculum and has been since its endorsement in 2015. As Queensland implements the Australian Curriculum, it is timely to consider challenges and opportunities involved in delivering this aspect of education. A variety of Queensland education for sustainability stakeholders were asked to contribute to this discussion paper to identify historical and current success factors and barriers, along with providing recommendations for delivering the cross-curriculum priority sustainability.

The Sustainable Schools Network Limited (SSN) invited Queensland Environmentally Sustainable Schools Initiative (QESSI) Alliance stakeholders, attendees from a waste consultation conducted in May 2019, and other service providers listed in Table 1 to contribute to this discussion paper. Please note, contributors were asked to share the invitation within their networks.

Table 1. Invited Queensland Stakeholders

AAEE (QLD & NQLD)	AIDR	Amaroo EEC
Barambah EEC	City of Brisbane	City of Cairns
City of Gold Coast	City of Townsville	Early Childhood Association of QLD
Eco-Schools	EnviroCom	Fraser Coast Regional Council
GBRMPA	Geography Teachers Association QLD	Glowing Green Australia
GOULD League	Green Hearts Program (BNE Council)	Griffith University School of Education
Gympie Regional Council	Halloways Beach EEC	Healthy Land and Water
Independent Schools QLD	Ipswich City Council	Isaac Regional Council
Jacobs Well EEC	Keep Australia Beautiful QLD	Moreton Bay EEC
Moreton Bay Regional Council	Natura Education	Nature Play QLD
Noosa Shire Council	Nudgee Beach EEC	P&Cs QLD
Professor Jellybean	QLD Catholic Education Commission	QESCN
Reef Magic Education	Relative Creative	Science Teachers Association QLD
SEQ Water	Solar Schools	St Bernardine's Catholic School P&F Association
Sustainable Futures Australia	Sustainable Schools Network	Tangalooma Eco Marines
Tangaroa Blue Foundation	Zela Bissett	

Of those invited to contribute, Table 2 identifies the organisations who provided contributions to the discussion paper. Contributions were either written or verbal. Two organisations identified they would not participate and two organisations (QESCN and Gould League) emails were returned to sender.

Table 2. Contributing Stakeholders

AAEE	Eco Schools	SSN
ISQ	Amaroo EEC	Holloways Beach EEC
City of Brisbane	City of Cairns	City of Gold Coast
City of Townsville	AIDR	Zela Bissett
ECTA	Tangaroa Blue Foundation	Professor Jellybean
Jacobs Well EEC	Natura Education	Griffith University School of Education
Reef Magic Education	Glowing Green Australia	

On 28 October 2019, a stakeholder consultation session was conducted at St Patrick’s College in Townsville. A representative from the Queensland Department of Education and Department of Environment and Science were present in addition to a number of local teachers.

Methodology

On 10 July 2019, EEfS stakeholders were contacted via email with a request to participate in a Discussion Paper. This communication included a simple proforma asking for the following information:

- Organisation name and contact details;
- Years of service delivery in QLD;
- Project details;
- Success factors;
- Challenges;
- Recommendations;
- Suggestions for other service providers to contact.

Over seven weeks were allocated to data collection, with a reminder being sent with three weeks remaining. Twenty contributors replied in the initial request period, and a further five participated in the following draft stages of the paper preparation.

A sustainability case study survey was also utilised for data collection. This survey was opened in January 2019 and shared by AAEE QLD Chapter and the SSN. Ten anonymous participants provided responses to the following questions:

- Has your school implemented sustainable resource management schemes?
- Does your school embed sustainability within curriculum development and implementation?
- Have you supported your teaching staff with specific professional development regarding sustainability?
- Does your governance system support sustainable education?
- Does your school have sustainable education policies or strategies?
- Does your school have a:
 - Environmental committee
 - Sustainability committee
 - Social committee
- An essential component of sustainable education is partnerships. Which of the following groups would you consider your school partners with?
 - Students
 - Teachers
 - Parents
 - Community groups
- Please identify your school:
 - State primary school
 - State high school
 - P-12 independent
 - Private

- What do you consider to be the strengths and weaknesses of your schools approach to sustainable education?
- What support do you think would help your school build capacity to deliver sustainable education?

The results of this survey can be found in the Appendix 2.

The SSN and AAEE (QLD Chapter) then spent a period of four weeks preparing an initial draft paper. Stakeholders were invited to read the draft paper before a consultation session in Townsville, on 29 October 2019. This consultation workshop improved the paper and worked to create a statement of request. A final draft was offered to stakeholders on 11 March 2020 as the final stage of the process.

(a) SUCCESS FACTORS IN QUEENSLAND PROGRAMS

Queensland EfS organisations range in size, experience, organisational stability, regions serviced and targeted audience, and EfS component. Nonetheless, the following are some of the self-reported success factors from EfS service providers in September - October 2019. Please note, success factors are what the contributing organisations understand will ensure programs that will create positive impacts, rather than what is necessarily occurring:

- Ongoing support from already engaged schools and high demand for services;
- Connecting educators with each other and resources, creating a vibrant network of representatives. Essentially engaging in a comprehensive collaborative approach;
- Providing professional development opportunities;
- Historical awareness of program challenges and success factors;
- Positioned within a national organisation currently advocating for an Australian-wide approach to EfS.
- Interactive programs closely linked to curriculum, including engaging resources and teaching aides;
- Intensive engagement with schools whereby they contribute to project planning;
- Actively removing barriers for schools to promote participation;
- Increased knowledge and implementation of water conservation and waste and recycling practices within schools, and delivering behaviour change resources;
- Allocated budget to facilitate program and provide transportation services (i.e bus hire for schools);
- Access to relevant community Learnscapes;

- In-class engagement opportunities for schools;
- The creation of resources in the past (such as gardens or recycling tools) that school community use on an on-going basis;
- Since its launch, two Queensland Eco-Schools have achieved the Green Flag status, and one YRE national winner achieved second place internationally;
- Some schools are keen to implement positive environmental, economic and social changes as a priority;
- Pre-service training included in science education;
- Partnerships with industry professionals, including sponsorship to deliver initiatives;
- Dedicated and talented staff;
- Good promotion and support from Councils, even when education is not their responsibility;
- Programs placed in the context of global community;
- Willingness for teachers, students, parents and community members to contribute in a voluntary capacity;
- Commitment from youth to lead programs;
- Using citizen science data to highlight issues impacting the environment;
- Data-centric approach.

One of the most commonly noted success factor related to relationships. According to most contributors networking, building partnerships, and collaborative participation is essential to delivering EfS. Indeed, as the research suggests, partnerships are a core element of sustainability education.

(b) BARRIERS TO PROGRAM IMPLEMENTATION

Contributing organisations identified the following barriers to delivering education for sustainability in QLD:

- Although the National Curriculum identifies sustainability as a CCP, there is no state EfS professional development plan, endorsement, funding or access to trained facilitators including AITSL Professional Standards;
- There has been little support since QESSI and ESS were unfunded. EECs do not support EfS delivery beyond incidental/ad hoc mentoring and motivation for visiting teachers, which is unfunded and unstructured;
- Limited capacity for volunteer organisations such as AAEE and SSN to address ALL educators and visit schools, and often volunteers are overcommitted in other roles;
- Lack of pre-service training;
- Engagement with schools / educators can be difficult, especially dis-engaged schools. This is especially difficult when funding ceases and programs stop and then need to re-engage schools;

- Lack of staff, time and money, including logistical program support;
- A lack of comprehension, and/or commitment to provide EfS, despite converging crises which threaten humanity and the natural world; unwillingness to shift the business as usual model;
- Perceived lack of SE curriculum resources and/or uncertainty of where to access support;
- Burnout of leading staff, students and community members, and the 'champions' not being supported by the wider school community;
- Limited capacity and resources to investigate learning uptake and behaviour change success rate;
- Regional areas do not always have access to as many facilities as those in cities;
- Lack of funding and endorsement on a national level;
- Administrative staff and educators can be resistant to change or unsupportive of leading EfS facilitators;
- EfS has many different perspectives with some conservative in nature and some more counter-hegemonic. It is difficult and perhaps unreasonable to conceive that fundamental change would be possible with the limited, if any, preservice training available. It does not help that the underlying education system does not align with many EfS perspectives;
- Reliance on government funding. Once that ceased, schools struggled to find internal funding and external support to continue the program;
- The range of lesson content meant educators were required to have thorough knowledge of a wide range of formats and activities;
- A physical school environment, both built and natural, unable to foster sustainable behaviours (ie. No recycling bins available for the children to access, etc.);
- Lack of whole-school approach to sustainability;
- Champion students, teachers, parents or administration staff not supported by larger school community: volunteers not being valued;
- Getting the right stakeholders to the table for source reduction projects;
- Crowded curriculum: workload of key teachers;
- Government/industry changes take a long, long time to progress
- Political 'handball' and a lack of strong direction;
- There is no strategic planning regarding EfS, it is not mandated, and sporadic activities don't change the culture;
- Lack of partnerships between stakeholders;
- Busyness of schools impacts outcomes;
- Not enough student involvement.

APPENDIX 2: SERVICE PROVIDER CONTRIBUTIONS

(In alphabetical order)

Australian Association of Environmental Educators (AAEE): Queensland

Kylie Moses, Sioux Campbell

Organisational Information

In 1985, 5 years after the National AAEE formed, the Queensland Chapter of AAEE was formed which helped to strengthen the position of EE across the state. The seemingly halcyon days for EE in Queensland during the 1990s saw a number of significant initiatives for both AAEE and the Queensland Chapter. The QLD Chapter has hosted five national events AAEE conferences/events over the years and numerous local events.

Identified Strengths

- Connecting educators with each other and resources.
- Providing professional development opportunities.
- Historical awareness of program challenges and success factors.
- Positioned within a national organisation currently advocating for a Australian-wide approach to EfS.
- Connected to teachers desire and requests for support.

Identified Challenges

- Although the National Curriculum identifies sustainability as a CCP, there is no state EfS professional development plan.
- In QLD, there has been little support since QESSI and EarthSmart were unfunded. EECs do not support EfS delivery beyond incidental/ad hoc mentoring and motivation for visiting teachers, which is unfunded and unstructured.
- Limited capacity as a volunteer organisation to address ALL educators and visit schools.
- Lack of pre-service training.
- Lack of commitment from members to develop programs, generally due to being overcommitted in other roles.

Australian Institute for Disaster Relief

Brigid Little

Organisational Information

AIDR have been facilitating an Education for Young People Program and Disaster Resilience Education Network (DRANZSEN) for a period of 3 years.

Identified Strengths

- Vibrant network of representatives from emergency services and related organisations.

Identified Challenges

- Engagement with schools / educators

Recommendations

Linking sustainability with climate change impacts on natural hazards.

Brisbane City Council

Jean Delzoppo, Waste and Resource Recovery Services

Organisational Information

The Waste and Resource Recovery Services of City of Brisbane have been delivering waste education programs with schools for 9 years. These programs include: Rethink Your Rubbish waste education program; Waste Smart Kindies; School waste minimisation (Waste Smart Schools); Community composting hubs; Litter clean ups; Landfill tours and presentations at the Towards Zero Waste Education Centre at Brisbane landfill. Working with community groups and schools, including the Tangalooma EcoMarines, these waste education programs have engaged over 12,000 participants.

Identified Strengths

- Interactive programs;
- Being responsive to what schools & the community want;
- Education programs closely linked to curriculum;
- Different approaches for different issues and audiences.

Identified Challenges

- Lack of staff, time and money

Recommendations

Consistency as far as possible in messaging across Qld.

City of Cairns

Sioux Campbell, Disaster Management Unit

Organisational Information

City of Cairns are working with schools regarding EfS through the disaster management unit and the EcoLogic Program. The EcoLogic Program offers grants to schools, water and waste education, natural hazards education, and the Cairns District Schools Science and Environmental Sustainability Enrichment Program. This last program is run by the Holloways Beach EEC for talented Year 5 science students.

City of Gold Coast

Tahlia Rossi, Water and Waste Directorate

Organisational Information

City of Gold Coast commenced the Schools Water Conservation Program in late 2017. It has been developed over a number of phases, with the outcomes of each phase informing the approach of the next. This is to ensure the Program is relevant to schools, and is well informed by key stakeholders. The Program aims to achieve these three outcomes: improved water conservation, cost-savings for schools, and increased water literacy.

Trial Phase (2017 – 2018)

Aims

The trial was designed to use smart loggers in a school context, for a number of purposes, namely:

- gauge school interest in accessing this data,
- identify water conservation opportunities and challenges,
- produce a preliminary water use baseline for schools; and
- determine if schools across the city would benefit from access to smart logging data.

Approach

Preliminary project planning identified 30 schools, installed smart loggers and engaged Griffith University to assist with the trial. Introducing schools to the program and their data was done through letter, email, and phone calls; to schedule a one-to-one meeting with each school. These meetings

enabled a detailed water use survey to be completed and provided schools with log in details for data access.

Once schools were engaged, support was given to understand and use water consumption data, as well as offering Program staff's expertise to answer any further water management questions schools had. With Griffith University, data analysis provided a baseline. By the end of the year, the trial was reviewed with schools surveyed for their feedback, and internally reviewed to determine if the trial should be expanded to a City-wide program.

Outcomes:

27 participating schools provided with:

- access to daily water use data, training for sustainable water management, a hard copy of the program baseline report, an individual water use summary for their school, participation certificate and continued access to water use data post-trial (at no cost).
- Water leaks identified as the key opportunity area for water conservation, cost-savings and water literacy improvements.
- Trial reviewed as successful; and planning for City-wide application approved.

Interim Phase (2019)

Aims

Prepare the project plan for a City-wide application of this Program, while delivering as much immediate benefit to schools as possible in the interim. Key aims were to establish collaboration networks and develop a process for leak management to best prepare for a city-wide Program launch.

Approach

All Gold Coast schools were installed with smart logging technology on their water meters. An introductory email was sent to all Gold Coast schools notifying them that following a trial program, schools can gain access to water use data by email-reply; while we prepared a comprehensive Program. Extensive stakeholder identification and engagement across schools, community organisations, internal branches, State Government, other water utilities, and interstate Government departments was conducted to identify lessons learnt from similar projects, and opportunities for collaboration or knowledge sharing between projects.

Outcomes:

- Dedicated water conservation email inbox created for schools to have direct contact with program staff.
- Smart loggers installed in every Gold Coast school with a potable water connection.
- Immediate access to data offered to all schools; 75% response rate from schools to gain login access to their data.
- Collaboration opportunity identified with Seqwater's H2O Kids program, to co-develop education material based on bringing smart logging data to the classroom; and what regional applications may apply.
- Similar project application opportunity identified in discussion with the Victorian Government to use the IP / IT Architecture from the Victorian Schools Water Efficiency Program to modify for this program – particularly if Seqwater facilitates region-wide smart loggers in schools programs.
- Partnership approved with Sustainable Schools Network to provide sponsorship for the 2020 Symposium.
- Collaboration with Relative Creative approved to develop and deliver full-day water literacy workshop for school students.
- Presented the Program to water industry representatives at annual international conference.

- Sponsored the 2019 Sustainable Schools Network Symposium; facilitating a water efficiency workshop for grounds-staff and presenting about the Program at the conference dinner.
- Recognition of Program merits by local councillors, and development of infographic material to share with the community by request.

Continued Program 'launch' phase will commence 2020, and be structured for a 2-year program of works, integrating sustainable waste management into the existing project. Schools will have continued access to smart logging technology, combined with partnership activities, online resources, program communication schedule, and a calendar of events (SSN Symposium, water literacy workshop etc.).

Identified Strengths

1. Intensive engagement with school staff in trial

We made sure we met with schools at their school campus, and walked around the site with staff. This was to communicate to schools we were intending to deliver a program based on what they told us would be useful; rather than us developing ideas in isolation. Feedback from schools directly informed the program design for when the City-wide application is rolled out.

2. Comprehensive collaborative approach with stakeholders far and wide

Many stakeholders were consulted through the interim program to collectively identify opportunities to work together, or build off each other's work. Stakeholders included other City of Gold Coast internal schools program staff, schools staff, community organisations, State Government Departments, Water Industry experts, and other regional/interstate/international water utilities. These connections were approached as a two-way partnership, looking for what our program could offer as well as what we could learn from them; or where there are opportunities to work on aspects of the project together.

3. Identifying a specific opportunity to focus on addressing

Following the trial, the key target area to achieve all three aims was identified as how to better manage water leaks at schools. Being specific about an area of water consumption, the program could influence was helpful to produce tangible results in all aspects of the program aims; including water conservation, cost savings for schools and increased water literacy.

4. Actively removing barriers for schools, to promote participation

While interacting with schools, it quickly became apparent that staff are often time-poor, and schools are generally under-resourced. Considering this, to effectively engage school staff in a new program, barriers need to be identified and mitigated. In the Schools Water Conservation Program, we provided the technology instalment and data access at no cost to schools, and organised to meet with staff at their school. Developing easy-to-use resources and providing face-to-face data training upon request reduced the need for staff to spend a lot of time trying to understand their water use data, which may result in it simply not being used. Having open communication welcomed also worked to build rapport with staff; knowing they could contact our team directly.

5. Data-centric approach providing a new resource for schools

Designing a Program around high resolution data of daily water use consumption offers schools access to a new resource. The Program was not just offering simple water saving tips and educational resources, but an operational tool for sustainable water management through an easy to use online portal. The ability to access daily water consumption and associated cost data from any computer provides a valuable resource that requires very minimal work from staff, but can act as a great sanity check when a water issue arises (for example, a water leak etc. or significantly increased consumption).

Identified Challenges

Engaging with schools

Despite offering a free service aimed to save the school money and requiring very little input or time from staff, schools were somewhat hesitant to show interest or commit to a meeting time to discuss the Program. We found once we had a chance to discuss in person, schools were more invested and engaged in the concept of the Program; however getting initial buy-in from staff was challenging.

Lack of prioritisation of water as a key sustainability issue

General attitude towards the topic of water conservation was 'why is this important right now, it's been raining recently'. The short-sighted view of water management issues demonstrates the hydro-illogical cycle in action – where water is only considered a priority when a drought is underway; making water conservation efforts reactionary and less effective than taking a long-term sustainable water management approach.

Generally, low water literacy levels

Undertaking a detailed water use and water attitudes survey with participating schools in the trial Program showed school staff generally do not understand their water bills, know how much water their school would generally consume, or have a copy / understand their school's water network (what water sources feed which areas, if alternative water is in use or not, where the pipes are underground, or how it operates).

Political climate

Despite Management/Director endorsement of Program trial and expansion, following the history of extensive water and waste educational programs in school classrooms by Council being discontinued, there has been an internal attitude of 'it's not our job to be educators; therefore we don't engage with schools'. This has been a constraint in engaging internal stakeholders, in spite of there being clear strategic alignments. At times, lengthy approval timeframes and bureaucratic processes have delayed Program outputs.

Recommendations

Persevere to engage schools

Although during the trial Program it was initially challenging to get schools to 'buy-in' to a free Program designed to benefit them, once a face-to-face meeting was conducted the schools generally saw value in participating. Individual engagement with schools is time-consuming, but pays off. Identifying the barriers which prevent schools participating, and how these can be mitigated is an important process. Also, developing an engagement plan alongside program planning was important in this project.

Start small

Running a trial program with 30 schools in the first year enabled valuable lessons to be learnt. Taking a significant period of time to review, identify collaboration opportunities, and design a City-wide Program launch has enabled thorough understanding of water use at schools, key water management issues, what barriers exist and how these could be mitigated, and who can partner with the Program to extend outcomes.

Built in resilience

The project can't live or die with one staff member or team. Trying to increase the longevity and resilience of the Program by linking it explicitly to organisational strategy outcomes, other areas, and key stakeholders with collaborative roles means the project can continue regardless of staff changes.

City of Townsville

Annamarie Grasso, Water and Waste Directorate

Organisational Information

Since 2005, Townsville City Council have been providing Eco-catchment Education Tours to schools, early learning centres, community/business groups and universities. Tours focus on Townsville's Urban and Natural water cycles and catchment management issues, covering a range of topics from water, waste, energy and biodiversity. All tours integrate components of the Australian Curriculum Standards and aim to incorporate the use of thematic communications and behaviour change strategies to engage participants in learning.

Identified Strengths

- Increased knowledge and implementation of water conservation and waste and recycling practices within schools;
- Ongoing support from already engaged schools to continue tours;
- High demand for tours;
- Allocated budget to facilitate tours and provide transportation services (i.e bus hire for schools);
- Access to relevant Learnscapes within the Townsville area (I.e Ross Dam, Rowes Bay Sustainability Centre, Recycling Facility);
- In-class engagement opportunities for schools;
- Delivering behaviour change resources (water and waste focus) to primary school students.

Identified Challenges

- Highlighting the importance and prioritisation of sustainable education;
- Engaging disengaged schools/community groups;
- Time constraints (limited capacity to deliver multiple tours throughout the year/month);
- Limited budget for waste education;
- Engaging larger proportion of high schools;
- Lack of curriculum linked waste education program to deliver to schools;
- Limited capacity and resources to investigate learning uptake and behaviour change success rate.

Recommendations

Appropriate funding/budget to support, develop and deliver curriculum-linked sustainable education programs. Increase knowledge of sustainable education services available to the community.

Early Childhood Teachers' Association

Keriann Reissenberger, Director

Organisational Information

ECTA commenced in the 1970s and has since been supporting teacher's in the Early Childhood sector. Sustainability is a big focus for ECTA, as they pride their big natural play spaces as a third educator. ECTA believe creating a love of and connection to nature with young children is one of the most powerful ways to ensure the future generations will see the importance of environmental and sustainable practices. ECTA also understand sustainability education goes beyond what they do in the class but also involves families.

Identified Strengths

- Establishment of permaculture garden and fruiting garden that the children and families use.
- Recycle station where families contribute items rather than throw and these are then reused in art and learning or used to support wider community.

Identified Challenges

- Time implementing and cost establishing and connecting with wider community.

- Regional areas do not always have access to as many facilities as those in cities. E.g. reverse garbage and when collecting items such as bread tags for projects there is a cost in posting these.

Recommendations

Central website or place where schools and Early Years Services can access resources, ideas and contacts in their local region.

Eco Schools

Marina Antoniozzi, National Programs Manager

Organisational Information

Eco-Schools is a student-led international environmental education framework and awards program run in 68 countries. Students choose which of the seven sustainability themes available they want to work on and follow the seven-step framework to implement and manage their project. At the end of the seven steps they can apply for an award, the last of which is internationally recognised. Australian Eco-Schools can also choose to work with other international Eco-Schools thank to a twinning program in place. Eco Schools Australia has been operating for 5 years.

Keep Australia Beautiful (KAP: which Marina also mentioned) has been operating for 51 years. KAP also have other smaller programs, some under the Eco-Schools umbrella, such as the Litter Legends Campaign and the Alcoa W5 program, some not, such as the Young Reporters for the Environment (YRE). The YRE competition aims to encourage high school students to investigate a litter issue within their school or community, suggest a solution to the problem and divulgate their findings amongst the wider community through the media of writing, photography or video.

Identified Strengths

- Since its launch, two Queensland Eco-Schools have achieved the Green Flag status, the highest, internationally recognised award given to an Eco-School. A few more Green Flag applications are likely to be received this year.
- Last year, one YRE national winner went on to participate in the international competition, competing with 200 entries from 36 countries, and took home second place, quite an achievement!

Identified Challenges

- Lack of funding and endorsement on a national level.

Recommendations

N/A

Glowing Green Australia

Larissa Rose, Director

Organisational Information

Facilitating and embedding greater environmental and sustainability curriculum into Australian schools and early learning centres. For the last 9 years GGA have worked closely with schools to firstly identify their overarching waste, water and energy costings and how these equate to environmental accountability, i.e. carbon footprint intensity of the school. GGA then begin embedding sustainable, environmental management plans to support curriculum, operational systems and create tangible changes in the school day to day practise to support behavioural change. Additionally, GGA has the capabilities to facilitate professional development skills for staff and educators on “*What does sustainability look within your setting?*”

Identified Strengths

- P-12 – Schools are keen to implement positive environmental, economic and social changes as a priority. They can often identify their strengths and weaknesses are regarding sustainability and environmental outcomes. They recognise what current practises are effective, as with identifying greater need of embedding fundamentals of sustainability.
- Key stakeholders, schools and businesses are interested in curtailing their sustainable practise as broaden triple bottom.
- Early Learning: Ideally afforded opportunities to reflect on practices with how they support children’s environmental awareness.

Identified Challenges

- Behavioural change – shifting business as usual behaviour with procedures, methods of managing waste, excessive printing, new digital workbook systems/training/resources and transiting to paperless educating.
- Staff and educators resistant to new procedures.
- Early Learning: Educators knowledge on sustainability is fragmented or have a lack of interest to educate and embed authentic sustainable practices into the learning outcomes.
- Time restrictions to be able to complete effective reflections to be able to influence their practice regarding sustainability.
- The Early Years Learning Framework for Australia has limited guidance that is specifically sustainability – challenges on how to critically ensure support consistent embedding of sustainability into the spectrum of all ages in an early education setting and that all educators are implementing them.

Recommendations

A requirement to have educational services go through an assessment and audit of sustainability – or develop a standard requirement of a sustainability plan as part of their operational costs to the department and requirement for the education regulations of policy. We would recommend the respective Departments State, Territory and Federal level implement frameworks to ensure there are KPI’s in order to deliver on sustainable outcomes – with this framework built on ensuring a requirement of the UN global sustainable development goals are built in.

Professional development opportunities on sustainability and how services can support their educators with strategies on how to implement authentic learning outcomes.

Griffith University, School of Education

Ali Sammel, Smithsonian Fellow

Organisational Information

Griffith University has been in operation for 50 years. The School of Education currently includes education for sustainability embedded in the science education components of the B. Primary Education degree.

Identified Strengths

- To pass the two primary science education courses all students must show competency in understanding EfS.

Identified Challenges

- EfS has many different perspectives with some conservative in nature and some more counter-hegemonic. Each university trimester at GU is only 7-8 weeks long and it can be difficult for the pre-service students to conceive of the more counter-hegemonic perspectives and understand

how to integrate these into their pedagogy. This is especially true when many students are brought up only being introduced to hegemonic philosophies which they think are 'correct' and 'normal'. In this short period of time, it is unreasonable to think that their ingrained thoughts and action could change as fundamentally as may be needed to embed EfS. It does not help that the underlying education system does not align with many EfS perspectives.

Recommendations

EfS is currently viewed by formal education systems as something to be infused as the curriculum allows. This understanding needs to change. Both top-down and bottom-up change needs to occur for EfS to be prioritised in all aspects of teaching and learning.

Holloways Beach EEC

Sandra Charlton, Educator

Organisational Information

Since 1991, Holloways Beach Environmental Education Centre has been delivering the Cairns District Schools Science & Sustainability Enrichment Program. This enrichment program is designed to extend and challenge identified gifted year 5 students using local sustainability issues.

Identified Strengths

- Partnerships with industry professionals.
- Sponsorship from Cairns Regional Council

Identified Challenges

- Crowded curriculum;
- Workload of key teachers.

Recommendations

N/A

Independent Schools Queensland

Jenene Rosser, Executive Manager (Curriculum and Assessment)

Organisational Information

Independent Schools Queensland (ISQ) is the peak representative body for Queensland's more than 210 independent schools which employ in excess of 15,000 staff and educate more than 123,000 students.

As an organisation, ISQ is committed to reducing its impact on the environment and to adopting practices that use resources sustainably. Numerous initiatives have been implemented to improve ISQ's environmental impacts both at ISQ's Spring Hill Head Office and its Professional Learning Centre (PLC) in the Brisbane CBD. ISQ has achieved a two-star ecoBiz rating and has an ongoing commitment to examining how it can further reduce its carbon footprint.

Identified Strengths

Queensland has been promoting sustainability education across the state, independent and Catholic education sectors since 2002 when the Queensland Education for Sustainable Schools Initiative (QESSI) was launched. This work has been supported and further enhanced by the development of the Prep-Year 10 Australian Curriculum (AC) which identifies sustainability education as a cross-curriculum priority.

Many independent schools in Queensland actively engage their students in sustainability education.

Schools such as John Paul College (JPC); Sunshine Coast Grammar School (SCGS) and Silkwood School are exemplary of this practice.

At JPC rainwater is harvested from classroom rooves and kept in holding tanks to water the garden; solar panels are used extensively; smart classrooms know when the room is empty of people and air-conditioning and lighting is turned off automatically. In geography, science and technology classrooms, students at JPC learn about the technologies that power their sustainable school.

At Sunshine Coast Grammar School (SCGS) Year 4 students build a model of an energy efficient home in class during their technology lessons. Each model is proudly displayed at Grandparent's Day.

Silkwood School received the national Garth Boomer award for its sustainability education approach from the Australian Curriculum Studies Association (ACSA) at the biennial conference in 2017.

These are just a few examples of the many sustainability initiatives and curriculum projects embedded within Queensland independent school operations and education programs.

Identified Challenges

Sustainability education cannot exist in a vacuum but must be linked to the achievement standards of the learning areas to make it meaningful. Good examples of sustainability education draw heavily on their relationship to developing improved student outcomes in the learning areas – whether this is Health and Physical Education, Humanities and Social Sciences, Science or Technologies.

However, quality curriculum examples that model these links for teachers are not always readily available, which puts pressure on individual schools and teachers to invest precious time developing these.

Recommendations

A proposal to consider is the establishment of a cross-sector forum, similar to the way QESSI operated. Such a forum would enable state, independent and Catholic sectors to share and pool resources to support teachers across the state, particularly in the regions, to develop sustainability education and quality statewide curriculum resources.

Jacobs Well EEC

Steve Rowell, Principal

Organisational Information

- Established in 1974 (45 years), Jacobs Well EEC is a Queensland Education Department School. Jacobs Well EEC specialises in field studies that are aligned with the Australian School curriculum. Annually booked out all year, Jacobs Well EEC educates 6000 students per year, which includes up to 100 schools. Delivering programs that align with Australian Curriculum and align with schools needs, this EEC has over 30 different programs and are continually adjusting programs and developing new ones. Partnering with many different organisations over the years, including Griffith University, Mangrovetech, Anita Bell (award winning author), Don Waters OAM (acclaimed artist), Leeton Lee (Indigenous Artist), and so on.

Identified Strengths

- Centre programs completely booked out form year to year;
- Staff are extremely talented and dedicated;
- Evaluation and feedback process as this directs the program design.

Identified Challenges

- Trying to accommodate schools and community groups with programs with limited staff;
- Human and physical resources are limited.

Recommendations

Partner with other organisations to deliver quality programs.

Natura Education

Trudy Mason, Education Coordinator

Organisational Information

Natura Education won the contract to deliver the City of Gold Coast Community Waste Education Program, between 2011-2016. This included 21 different lesson plans delivered to over 80 primary schools and early learning centres across the Gold Coast region annually. The program focussed on recycling, reducing waste to landfill, composting, worm farming, green energy alternatives, reducing plastic bag usage and awareness of packaging with a view to litterless lunches. The lessons were conducted in a purpose-built mobile classroom with each lesson requiring a selection of specially chosen materials to engage the students. Natura education also delivered the Water Watch program from 2009-2016. Natura Education continues to provide EfS programs.

Identified Strengths (Wipe Out Waste)

- Well equipped with engaging physical resources and teaching aids.
- The wide of topics covered catered to different year levels and ages.
- Good promotion, particularly via the mobile van, and support from Council meant the program was well known throughout all schools on the Coast Great resulting in a high level of uptake of the program, year after year. The range of lessons meant students from schools that rebooked year after year, were able to expand on their previous learning.

Identified Challenges

- Reliance on government funding. Once that ceased, schools struggled to find internal funding and external support to continue the program.
- Due to the increased level of support required for schools to implement this program, and the cost associated with providing such support, in 2016 Council decided to limit bookings to 3 schools per term. This new model required a formal commitment by the school's principal, Business Services Manager and champion teacher. As a result, not many schools expressed an interest in signing up for the new program, before all funding was withdrawn mid-2016.
- The range of lesson content meant educators were required to have thorough knowledge of a wide range of formats and activities.
- Logistics of spread resources, including the van, and educators across the Coast meant a high degree of organisation and coordination.

Recommendations

Constant feedback from schools allows for recommendations and improvements. Regular communication with the whole school community is required to provide school support and promote positive waste practices. Regular waste audits to gauge success of the program. School champions need to come from the whole school community (staff/parents/students) rather than rely on one champion teacher – if they leave the program tends to fall by the way side.

Professor Jellybean

Sherry Bruce and Marissa Ward, Founder and Partner (respectively)

Organisational Information

Marissa and Sherry created and trialled the Earth Action Plan after 15 years of conducting their business, Professor JellyBean (and three years of running a not-for-profit environment youth club. Professor Jellybean provides fun and interactive science workshops to numerous Early Child Care,

Primary Schools and OSHC within the SE Qld Region (predominantly Sunshine Coast, Brisbane, Gold Coast Regions).

Identified Strengths

- Partnership with Principal and Deputy.
- Provided knowledge, skills and resources to empower the students and other school stakeholders to act for sustainable development.
- Encouraged stakeholders to act at school, at home and within their local community, as well as understanding their connection with the global community.

Identified Challenges

- The Earth Action Plan evolved out of our curiosity to discover why many of the schools that we visited over the years had either.
 - A lack of comprehension, and/or commitment to provide EfS, despite converging crises which threaten humanity and the natural world.
 - A physical school environment, both built and natural, unable to foster sustainable behaviours (ie. No recycling bins available for the children to access, etc.).
 - Or had a previous sustainability initiative in place that is no longer operating.
- During our time developing the Earth Action Plan, we were “stretched to our limits” both physically and financially managing our business, the program and our personal lives. These constraints delayed some intended actions for the development of the Earth Action Plan.

Recommendations

While implementing behaviour change intervention tools proved quite effective for engaging the characters involved in our story, it became apparent that we would also need to reframe the story to one of connection with each other and the environment: To support personal agency for a “shared vision” (Earth Charter). “To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace.”

Reef Magic Education

Marie Taylor, Reef Education Manager

Organisational Information

Since 2014, Reef Magic Education has been delivering place-based learning on the Great Barrier Reef; Indigenous Traditional Owner knowledge, content and partnership; and utilising the Great Barrier Reef as a learning resource.

Identified Strengths

- Local Cairns students using reef research sites as part of their curriculum in Biological Science.

Identified Challenges

- Offshore education has many challenges, but the main challenges are acceptance of place-based learning on the reef, safety and logistics, cost.

Recommendations

Placed based learning projects within World Heritage environments need to be supported by government and education institutions.

Sustainable Schools Network Limited

Katie Norman, CEO

Organisational Information

The SSN aims to educate and connect school communities to imagine a sustainable future. Commencing in early 2019, the SSN operate in NSW and QLD to build partnerships for sustainability education. Providing an annual symposium, awards, and regional sustainability summits, the SSN also provide a bi-monthly Journal, networking nights and aim to deliver a Sustainable Youth Leadership Program in 2020. It is the goal of the SSN to ensure sustainability education is embraced in educational contexts and becomes a mainstream practice.

Identified Strengths

- Partnerships and resource sharing.
- Willingness for teachers, students, parents and community members to contribute in a voluntary capacity.
- Commitment from youth to lead programs.
- Support from community to help schools.

Identified Challenges

- Lack of staff, time and money.
- Lack of pre-service training for teachers.
- Lack of whole-school approach to sustainability.
- Champion students, teachers, parents or administration staff not-supported by larger school community.
- Volunteers not being valued.

Tangaroa Blue Foundation

Heidi Taylor

Organisational Information

Operating since 2009, Tangaroa Blue Foundation is an Australian-wide not-for-profit organisation dedicated to the removal and prevention of marine debris, one of the major environmental issues worldwide. To assist in solving the problem, we created the Australian Marine Debris Initiative (AMDI), an on-ground network of volunteers, communities and organisations that contribute data from rubbish collected during beach and river clean-up events to the AMDI Database, and then work on solutions to stop the flow of litter at the source. The AMDI helps communities look after their coastal environment by providing resources and support programs and collaborates with industry and government to create change on a large scale.

Identified Strengths

- Willingness and proven track record of collaboration with Government, industry, Councils, Traditional Owners, businesses, environmental organisations, community organisations and individuals
- Actively running the ReefClean program through the GBR regions of Queensland
- We have an Education Kit, aligned with national curriculum standards, freely available for download on our website
- The Australian Marine Debris Initiative Database (AMDI) is a united, national Database that has been running since 2004
- We have ongoing engagement with Queensland schools and there is a high demand for services
- We provide professional development opportunities through online resources
- Historical awareness of program challenges and success factors
- TBF is a national organisation currently advocating for an Australian-wide approach to EfS
- Interactive programs are linked to curriculum, including engaging resources and teaching aides

- Intensive engagement with schools whereby they contribute to project planning
- Actively removing barriers for schools to promote participation, most recently by delivering presentations virtually, thereby circumventing issues around COVID;
- Allocated budget, through the ReefClean project, to facilitate presentations and workshops.
- Dedicated and talented staff
- Good promotion and support from Councils, even when education is not their responsibility
- Willingness for teachers, students, parents and community members to contribute in a voluntary capacity
- We encourage youth to lead programs
- Using citizen science data to highlight issues impacting the environment
- Data-centric approach.

Identified Challenges

- Getting the right stakeholders to the table for source reduction projects.
- Government/industry changes take a long, long time to progress.

Recommendations

Our organisation is one of many that is focused on environmental issues. The school system doesn't need to reinvent the wheel when there are so many able and willing organisations available to support the process. We have the tools, experience and motivation to share our mission with children, educators and other community members to effect change. We invite and encourage schools and administrators to reach out and have a conversation with us on how we can help them meet their needs.

Survey Results

The SSN conducted a survey from January 2019 - September 2019 regarding education for sustainability. Nine participants engaged 1 state primary school, 3 state high schools, 2 independent schools and 3 private schools. The following is a snapshot of the results.

- 3 schools had not commenced sustainable resource management, whilst 7 had in some capacity or were starting.
- 6 schools identified they embedded sustainability into their school curriculum. However, comments were made that this is generally driven by some teachers or departments more than others, is most often not a whole-school approach, and that some teachers are overloaded and don't want to add to their workload .
- 5/10 participants identified no appropriate professional development was supported by their school, meaning 5 participants are supported to access EfS professional development. Indeed, comments indicated a willingness of teachers to share their ideas with others and a culture of prioritising other subjects/matters and not permitting EfS to be on the PD agenda. Further, one respondent indicated a loss of motivation after years of repeated barriers and another mentioned there will be increased opportunities in 2020 when a new Principal started.
- Positively 6/10 respondents identified a governance system that would support sustainability education. However this conflicts with the following question responses whereby all 10 participants reported there were no school sustainability policies in place whilst 6 identified strategies were occurring, and 4 schools reportedly didn't have policies or strategies.
- 3 schools reported having a sustainability club out of the 10 respondents. One comment was made that teachers recycle in secret at their school, whilst two participants identified no student involvement in their committees until recently.
- With regards to partnerships, 4 schools identified benefiting from community partnerships, whilst two others reported valuing parent assistance although not receiving it. Sadly, one school reported having access to a positive waste educator in Council however the school has not welcomed her support.
- Teacher commitment and drive was reported as the biggest success factor regarding EfS in QLD. However, many weaknesses were reported including:
 - There is no strategic planning regarding EfS, it is not mandated and sporadic activities don't change the culture.
 - Lack of partnerships between stakeholders
 - Busyness of schools impacts outcomes
 - Teachers are often unsupported by administration staff
 - Lack of strong direction
 - Not enough TDA
 - Lack of resources or specific initiatives
 - Not enough student involvement
- Finally, the last question asked participants to identify what support would be beneficial. The responses included:
 - Whole school approach and guidance to see how it fits with curriculum plus parent partnerships;
 - Leadership from the Education Department. A culture of genuine care and consistency. Reinstate questions about env ed on school opinion surveys. Reward and support teachers and students trying to bring in positive changes in tuckshop practices, purchasing and procedures.
 - On the teaching level there needs to be a national requirement for some form of sustainability programs in the curriculum. On the services level schools must implement and be accountable for resource management schemes

- Engaged parent involvement. Teacher training. Other staff training e.g. cleaners, purchasers, grounds staff etc A QLD policy for schools on EFS. Sharing best practice from other schools! Healthy competition.
- Case studies
- To collaborate with other schools. Local council funding for projects. Professional development opportunities
- Professional development, best practice website, sharing. Would love to know what other schools are doing.
- Executable and achievable programs supported by the entire shareholders. Significant in some areas, minimal in others. Waste Management is a large area the School would like some better information on and ideas.
- It just isn't a widely held priority with the executive and therefore unlikely to occur in an authentic way. I will continue to model EFS, however when students are told NOT to collect litter on a beach walk due to parental concerns, even though their art activity is using marine debris collected by Tangaroa Blue on NQ beaches, you can see the hypocrisy and inauthenticity in what could be a fabulous integrated cross-disciplinary activity.

For more information about this Discussion Paper please contact:

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