

Article

Education for Sustainability through a Photography Competition

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Abstract: This article describes the development and history of a sustainability photography competition. From its simple beginnings as an environmental officer's idea, an environmental sustainability photography competition began in just one university. Now hosted by Australasian Campuses Towards Sustainability (ACTS), finalist entries are viewed on a public website gaining international attention. A purpose of this article is to demonstrate the diversity of views of sustainability by displaying the winning entries from 2013 and 2012. It is anticipated that readers may replicate these ideas in creative arts and across disciplines throughout primary, secondary and other higher education institutions, community groups and diverse organizations.

Keywords: sustainability; landscape photography; wilderness photography; higher education; education for sustainability; environment; education for sustainable development; universities; learning and teaching; curriculum; pedagogy

1. Introduction

Visual images have dominated our culture and education in the 20th and indeed the 21st centuries. Yet, universities have devoted little attention to visual media [1]. This article highlights how photography can be used to raise awareness about sustainability and potentially influence decisions that have environmental, social, economic, cultural and political implications. While Australia's approach to Education for Sustainability (EfS) has moved on from focusing on raising awareness of the degradation of natural ecosystems to "equipping all people with the knowledge, skills and understanding necessary to make decisions based upon a consideration of their full environmental,

social and economic implications” [2], this article demonstrates how photography and a competition became a pedagogy for EfS in one Australian university.

2. Education for Sustainability (EfS)

There are many definitions for the term sustainability and sustainable development [3–5] from the best known Brundtland Commission definition [6] to the concept of the three-legged stool representing the environment, economic development and social equity [7]. Added to the diversity of concepts of sustainability is the notion that each person or group interprets the terms through their own value lens [8]. The language of Education for Sustainability (EfS) has been constantly shifting [9] and the terms EfS and Education for Sustainable Development (ESD) may be used interchangeably [10] (Sterling, 2011). The Australian government’s view is, in part, that EfS equips “people with the skills, capacity and motivation to plan and manage change towards sustainability within an organisation, industry or community” [2].

Education has been recognised internationally as a solution to world problems [11] and it is higher education’s responsibility to continuously challenge ideas and engage students in socio-scientific disputes [12]. Education for sustainability (EfS) facilitates a shift in sustainability thinking throughout the education sector both within the curriculum and in the governance of the institutions [11]. While EfS is to focus on systemic change and building capacity to re-orient the ways we live and work, its role is to investigate and find solutions for the underlying causes of trends that may be labeled as unsustainable [2]. Providing information, raising awareness, building individual and organisational capacity and motivation to develop innovative solutions and then implement solutions are important to EfS [2]. The principles of EfS are listed in the Australian government’s *National Action Plan* as envisioning a better future, critical thinking and reflection, participation, partnerships for change and systemic thinking [2].

In curriculum terms, EfS invites a systemic, holistic and transdisciplinary approach addressing knowledge, skills, and attitudinal development [13]. EfS requires new ways of teaching and learning for both staff and students [12] (Wals and Jickling, 2002), for example, the framework and organizing principle of head, hands and heart [14]. This paper does not describe a comprehensive large-scale curriculum change [15]. It does, however, heed the call for ideas of curriculum that any higher education institution can implement as a precursor to deeper change [16]. This paper recommends a photography competition on the theme of sustainability for primary, secondary and tertiary education as a way to raise awareness of sustainability and initiate thinking and discussion across disciplines and alongside curriculum.

3. Photography as a Tool in Education for Sustainability (EfS)

Photography is one of the major ways in which modern urban humans relate to nature and nature is mediated to us [17]. Landscape photography, in particular, is one of the major ways in which modern urban humans relate to the land and the land is mediated to us. Our culture is increasingly visual and our values, opinions and beliefs are increasingly shaped in powerful ways by many forms of our visual culture [1]. Landscape photography in advertising, tourism, conservation and culture has played an important role in forming and maintaining national identity and continues to help form our perceptions

and identity [9,18,19]. While landscape painting, and photography, may seem an idyllic genre, its message may be multi-layered involving technological developments, modes of production and symbolic views of particular types of people [20]. Landscape photography has played, and still plays, important, but undervalued and misunderstood, roles. It typically depicts nature aesthetically as sublime, picturesque and beautiful and so Giblett [17] questions what role it will play in developing sustainability, as representing the natural environment as an aesthetic object may not promote sustainability.

Digital photography is inexpensive and commonly available nowadays in Australia as a medium to create and share ideas. People of all ages in Australia can easily access and use a camera without specialist skills, and this is important to education for all and lifelong learning as a principle of EfS [2]. Photography may be a useful medium for the expression of how the term sustainability is conceived and could be incorporated into other disciplines.

4. The Development of a Sustainability Photography Competition

Edith Cowan University's (ECU) *Photography for Environmental Sustainability Competition* began in 2009 as a joint initiative between the environment services and the School of Communications and Arts (SCA), an adjunct to a landscape photography unit of study. Initially, one purpose was to stimulate ECU students to produce photographs aligned to ECU's vision of developing sustainable communities. The competition demonstrates a way of educating students on the topic of sustainability encouraging students to explore their understanding creatively through photography. The competition could produce photographs focusing on people and places, landscapes and land uses that exemplify principles and practices of sustainability. It could be an education tool for students as well as those who view the photographs, raising awareness about sustainability.

Originally, the idea of running a student photography competition on the theme of environmental sustainability came from the University's environment officer. At that time, the University's Environment Committee brought a diverse range of staff interested in the environment together, which provided opportunities for operations, facilities management, research and teaching staff to come together to discuss the campus environment [21]. The environment officer discussed her idea with members of the environment committee inspiring an academic from creative arts to ask photography lecturers if they would promote the idea to their students. The conversation about landscape and wilderness photography and the idea of photography for environmental sustainability became reality due to collaboration between academics and environment officers. The competition was embedded into one unit of study to ensure that some students entered and to give the competition an academic home.

4.1. The Photography Competition as a Teaching and Learning Experience

The curriculum of *Landscape Photography* was redesigned requiring students to submit photographs on the theme of environmental sustainability as one of their assessment items. Other assessment tasks did not relate to sustainability. A teaching and learning goal of the photography competition was to stimulate curiosity, imagination and enthusiasm in nature and the environment beyond their studies, to stimulate students to consider the environment and to stimulate understanding of sustainability. A lecture and required readings for the unit were given to assist students understand the concepts of sustainability. They described how landscape photography is one of the major ways in which the land

and country are mediated to modern urban humans [17]. Required readings and the lecture did not explain the principles of EfS and, in particular, did not attempt to envision a better future. A clear purpose of the lecture and readings for the unit was to develop students' critical thinking and reflection skills, one of the principles of EfS [2]. The author recommends that other principles of EfS could be developed as part of the competition in the future.

Entries for the competition opened on the day of the lecture and closed four weeks later. The following year, the lecture was presented earlier in the semester to give more time for students to reflect on the concepts and produce more relevant photographs [19]. Photography students were not obliged to enter the competition but by doing their assignment they had produced a photograph suitable to be entered in the competition. Giblett's research into the influence of landscape and wilderness photography and how visual images shape modern thinking underpinned the competition as part of an academic program [17–19,22,23], while providing a scholarship perspective and encouraging discussion amongst students and staff about how sustainability related to several disciplines of creative arts.

There were several purposes of the competition: to stimulate the production of interesting photographs, to initiate creativity and critical thinking, and to generate ideas. The competition is a learning experience so the competition should relate to graduate attributes. Graduate attributes describe the core abilities and values that a graduate should develop as a result of successfully completing a university course [24]. ECU lists five graduate attributes: the ability to communicate; ability to work in teams; critical appraisal skills; ability to generate ideas; and cross-cultural and international outlook [25]. The intent of these five attributes may be worded differently but are similar to those of most Australian universities [24]. The ability to communicate is enhanced by this competition. Photography is a method of communication, although not necessarily used to communicate a direct message. Another graduate attribute, the ability to work in teams, was not explicitly encouraged by this competition. Yet, some photographs demonstrated that students worked together on their ideas particularly demonstrated by actors posing in stylized ways as shown in Figure 4. Another graduate attribute, critical appraisal skills, was developed. Students were asked to critically appraise landscapes and landscape photography, the environment, people and places in order to submit an entry. A further graduate attribute, the ability to generate ideas, was also achieved by the competition. The final graduate attribute, cross-cultural and international outlook, was not a purpose of the competition. However, readings and lecture material exposed photography students to ideas about Indigenous Australian people and their ways of living sustainably. So, the competition enhanced learning and developed skills that universities recognise as graduate attributes.

The competition was open to all ECU students. So, it was publicized through posters around the three ECU campuses. Calling for entries, students were invited to submit "photographs that focus on people and places, landscapes, and land-uses that exemplify principles and practices of environmental sustainability and that showcase and develop sustainable communities".

The competition was run in alignment with World Environment Day with the day marking the official opening of the exhibition and the announcement of winners and runners up. Prizes were presented in conjunction with photographs being exhibited at the Perth Centre for Photography.

The competition raised awareness of sustainability issues in disciplines beyond photography with many lecturers publicising the competition. For example, lecturers of design and journalism addressed complex issues such as global warming, climate change, energy efficiency and waste in their teaching

as part of professions. Entries were received from students of several courses. Lecturers in several creative arts courses realised that they embed sustainability concepts into their curriculum though some had not made it overt to students. These academics became involved in these public events; for example, the contemporary performance course coordinator who explained how sustainability is embedded in his course noted the following:

“The environment is our strongest, most powerful teacher and I see this in many of these photographs. Our creativity is to be clever, to do great art, without wasting resources and energy. Our relationship with the environment is the first step, then the interconnections. Communicating a message, embracing other cultures and being curious about what is around us are fundamental values and I see this in many of these photographs”.

A performance student, Moana Lutton, wrote words and music for her own song [26] about the environment. In 2010 and 2011, she performed this song at the exhibition opening and it became the first video clip on ECU’s student YouTube.

The competition was successful in raising awareness of sustainability throughout the university and through the School of Creative Arts in particular. The number of entries increased each year. The efforts of several key people were integral to the success of the competition. The environment officers, the research academic, the photography lecturer and the Head of School promoted the competition, working collaboratively with others in the university such as the director of marketing. The Environment Committee was influential in the competition. It broadened into the *Sustainable Communities Steering Committee* with staff from many areas of the University accountable for parts of the *Sustainable Communities Action Plan*. Three broad objectives of the plan are to develop a heightened awareness and practice of social and environmental sustainability amongst staff, students and communities; to embed sustainability principles into curriculum and research; and to continue to reduce the University’s environmental footprint [21]. Other universities were developing similar objectives within a sustainability agenda and ECU’s partnership with Australian Campuses Towards Sustainability (ACTS), a peak body for sustainability across the tertiary sector, led to the competition going national [27]. Readings for the ACTS-run competition referred to the Australian government’s National Action Plan for EfS and included the principles of EfS [27].

4.2. The Competition Promoted across Higher Education in Australia and New Zealand

The sustainability photography competition, from its beginnings as a student competition in one university for three years, then came under the auspices of ACTS in 2012. Submissions are welcomed from students and staff from all higher education institutions that are ACTS members across Australian and New Zealand [27]. The competition was opened to staff with the idea that if staff go through the full process of creating a photograph that exhibits a message about sustainability then they may be influenced and influence others personally and professionally. Many sustainability or environment officers who engage with students on sustainability projects are higher education staff affiliated with ACTS so they raise awareness and influence behaviour as part of their roles. How to raise awareness of sustainability in fun and inclusive ways is often a topic of discussion amongst ACTS members so this competition provides a tangible way to achieve these purposes. Staff from

companies affiliated with ACTS were also welcome to submit entries via the ACTS website promoted alongside the ACTS Green Gown Awards Australasia [28] as a way for ACTS to be socially inclusive.

Photographers were asked to submit a title with their photograph and also a very short description or caption. The judges would not see either the title or the caption but it would be posted alongside each photograph as is common practice in art exhibitions. Photographs are judged by several reviewers who have expertise in photography, tertiary education and/or sustainability. Photographic quality of the image and the theme of sustainability are the judging criteria for the competition. Consideration was given to the clear centre of interest, composition, appropriate exposure and focus, if the image tells a story and if the approach is creative and original [27].

5. Winning Photographs and the Photographers' Comments

The winners of the ACTS sustainability photography competition were announced at the conference dinner and subsequently on the website [27]. The judges did not know which photographs were from staff or students, which university and were to judge the photograph itself without reference to the title or photographers' explanation. All delegates at the conference were given one vote for the People's Choice award.

In 2012, ACTS received four photographs from three photographers at three different Australian universities as entries in the staff category as shown in Table 1. Each of the four photographers entered again in 2013. ACTS received 16 student entries from eight Australian universities with four students submitting two entries in 2012. In 2013, staff from 10 different higher education institutions entered the ACTS sustainability photography competition. Three of the four winning staff submitted two entries.

Table 1. Number of entries in the sustainability photography competition.

| | Number of entries in the competition | |
|----------|--------------------------------------|------|
| | 2012 | 2013 |
| Staff | 4 | 19 |
| Students | 16 | 14 |

In 2012, entries were received from staff or students at 10 universities as shown in Table 2. In 2013, entries were received from eight universities and two institutions in the vocational education sector across Australia and New Zealand. Interestingly, only one university was represented in submissions from both staff and students. So, in total, there were entries from 15 institutions of higher education. This data is relevant to ACTS as it demonstrates that staff are interested in submitting photographs. ACTS included staff in the competition as a strategy to inspire academic staff who may influence curriculum as the creative arts lecturers embedded sustainability at ECU. Entries were submitted from many institutions demonstrating how widely the competition was promoted and potentially could have an impact. It seemed that photography lecturers had not promoted the competition as student winners were not studying photography. It is relevant to note that the winning entries did not come from any one or only a few universities.

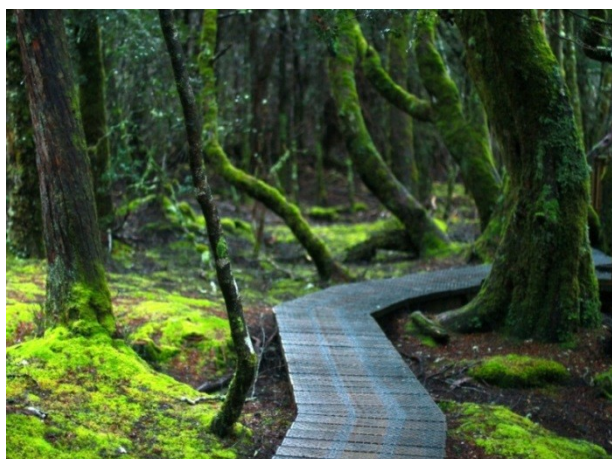
Table 2. Number of higher education institutions represented in entries in the competition.

| | Number of institutions with entries in the competition | |
|----------|--|------|
| | 2012 | 2013 |
| Staff | 3 | 10 |
| Students | 8 | 6 |

The winning photographers were asked for their comments on why they submitted an entry and what their photograph means about sustainability to them. The first question reveals the photographers' motivation to enter the competition and potentially could be useful to organisers in targeting particular students or staff in the future. The second question reveals the photographer's concept of sustainability. Although readings for the ACTS-run competition referred to the Australian government's National Action Plan for EfS and noted in the principles of EfS, in particular [27], there is little or no evidence that photographers reflected on these EfS principles. Hence, it is recommended that alignment of the photograph to EfS principles be made more explicit in the future.

5.1. Winning Photograph in the Student Category in 2012

Since the competition originated from ECU, it was fitting that a winner in the inaugural ACTS sustainability photography competition was from ECU. Zaki Habibi's photograph *Symbiosis to preserve biodiversity in Cradle Mountain, Tasmania*, shown in Figure 1, won the student category. Zaki explained that he did not take the photograph especially for the competition and did not study photography but had been interested in sustainability for several years in his home country of Indonesia before he came to Australia. So, when he heard of the competition, he was interested in entering. Looking through his photographs he found two that he thought suited the theme. Habibi noted that pristine undisturbed wilderness epitomizes sustainability to him.

Figure 1. Winning photograph in the 2012 student category by Zaki Habibi.

5.2. Winning Photographs in the Student Category in 2013

In 2013, Rebecca Taylor from University of Adelaide submitted the winning entry titled *Just a Cupple of Carrots* shown in Figure 2. She wrote "I pledged that I would reuse any used disposable cups when I forgot my Keepcup, for seedlings. These cups represent several aspects of sustainability:

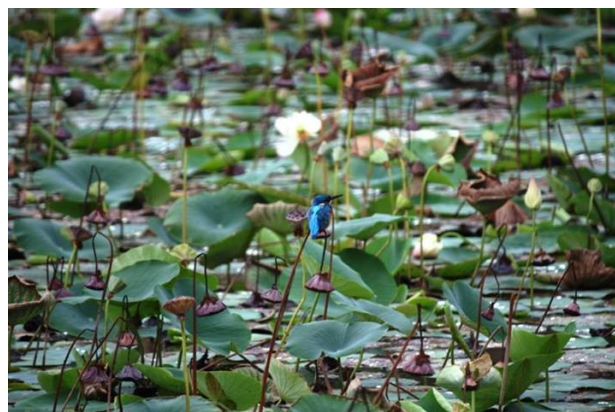
growing food, recycling, organic produce, purchasing fair trade, biodegradable materials, and respecting Indigenous knowledge and stories, from which we can learn a lot about sustainability”. Rebecca, an Honours student of environmental management, notes that her photograph “depicts many elements of sustainability—re-using cups to grow food, fairtrade, organic, and links to cultural heritage with Indigenous art”. It is relevant that the winner is not a photography student and also that an environmental management student knew about and values the competition.

Figure 2. Winning photograph in the 2013 student category by Rebecca Taylor.



In 2013, Saba Nabi, a mother of a four year old toddler from Charles Sturt University submitted the entry that came second in the student category titled *Lone survivor—let's change their destiny* is shown in Figure 3. Saba commented that she entered because she wants the best for her daughter. She described her photograph: “We had an immense collection of birds which beautified our land but deforestation has now been the real culprit for destroying vast areas of migratory bird habitat. ...We need to preserve these lone survivors”. Both the title and this caption alludes to a view that sustainability is represented by large numbers of wild birds but this species of bird is not normally found in a flock but rather it is often solitary. She further commented that as a child she used to see groups of birds sitting together enjoying each other’s company but now it’s common to see a lonely bird everywhere. As a mother she is thoughtful of the world that her child will inherit.

Figure 3. Photograph judged second in the 2013 student category by Saba Nabi.



In 2013, Matthew Goodman's photograph *Deep Sea Surfing*, shown in Figure 4, came third in the student category. Matthew, from Christchurch Polytechnic Institute of Technology, comments that his photograph was "inspired by the New Zealand Government's decision to begin exploring for potential deep sea deposits of oil. Inspired by the images that came from the Gulf of Mexico disaster, I wish to show what may happen if New Zealand does follow through with this. Using a number of surfers in the Christchurch area I wanted to show how this will affect not only the marine species but also all those who seek enjoyment and employment from the ocean".

Figure 4. Photograph judged third in the 2013 student category by Matthew Goodman.



The photographer noted his intention for the photo to present the message with few words to explain it as was requested by the competition guidelines. Other competition photographs seemed to rely on the words of the accompanying caption and also the short explanation of how the photograph suits the theme of sustainability that were both requested as part of the entry. This request may have led potential entrants to believe that judges would take these explanations into account when appraising the alignment of the photograph to the theme of sustainability. It is suggested that it be written clearly that the judges evaluate how the photograph conveys the theme of sustainability and they do not read the caption or explanation.

The photographer was affiliated to a New Zealand polytechnic so the ACTS competition reached beyond Australian universities.

5.3. Winning Photographs in the Staff Category in 2013

In 2013, Simona Galimberti from University of Technology Sydney won the staff category with her photograph titled *Celery Stalk Sprouting Tall as the Buildings in the Landscape* shown in Figure 5. Simona, a graduate of environmental sciences, commented that she has "a strong belief in photography being a powerful tool in communicating". She wrote that her photograph shows that "amongst high-density CBD dwellings there are spaces for nature to flourish, spaces made to bring communities together" and that a "sprouting seedling of celery can be as majestic as the buildings surrounding the city landscape".

Figure 5. Winning photograph in the 2013 staff category by Simona Galimberti



It is relevant that environmental sciences students value photography and also to notice that high rise of Sydney is in the background and a focus.

The photograph that was judged as second in the staff category titled *The Balance of Power is in our Hands* shown in Figure 6 was submitted by Suzy Keys from James Cook University (JCU). Suzy commented that she entered so that JCU would be represented. Her motivation reveals her loyalty to her institution and her competitiveness and reminds us that there are many factors at play that are not always about learning or commitment to sustainability.

Figure 6. Photograph judged second in the 2013 staff category by Suzy Keys.



Anselm Bradford from Auckland University of Technology submitted the photograph titled “Urban Forest” that came third in the staff category in 2013 shown in Figure 7. Anselm described the photograph: “Singapore’s ‘supertrees’ contain a sophisticated infrastructure of technologies that mimic the role of real trees in an ecosystem. They collect solar power for powering their systems and rainwater for irrigation. Exotic epiphytic plants dot their ‘trunks’ and are sustained by tree systems”. “There is a certain symbolic meaning to having urban structures such as Singapore’s supertrees that imitate natural processes. On the one hand, it shows a world that has become so divorced from nature that artificial trees need to be constructed because natural trees do not have a place in the urban landscape any longer. On the other hand, it shows a variety of sustainable practices working together (sustainable power, water irrigation, heating/cooling) in an urban context. It’s exemplary of building practices that can and should be incorporated into urban infrastructure where possible”. Interest in the topic and to contribute to the aims of the conference through photography skills inspired Anselm to enter the competition.

Figure 7. Photograph judged third in the 2013 staff category by Anshelm Bradford.



The winning photographs demonstrate the diversity of thinking about sustainability. The number of entries may have been small but the competition seems successful in that it achieved its aim of promoting thinking about sustainability. The annual competition is planned to continue through ACTS.

6. Conclusions and Recommendations

Education is often seen as a solution to world problems. Education for sustainability (EfS) aims to facilitate a shift in sustainability thinking throughout the education sector both within the curriculum and in the governance of the institutions [11].

This article describes the development of a photography competition in one university to raise awareness of Education for Sustainability (EfS) in the curriculum and also as a co-curricular activity. The sustainability photography competition, now under the auspices of ACTS, began as the environmental sustainability photography competition at one Australian university. The photographs focus on people and places, landscapes and land uses that exemplify principles and practices of sustainability. With an education focus, the competition fits principles of EfS: transformation and change; education for all and lifelong learning; systems thinking; critical thinking and reflection; participation and partnerships for change and fits the *National Action Plan* objective of re-orienting education systems by integrating EfS into all university courses [2]. The competition offers all higher education institutions that are members of ACTS an avenue to promote sustainability amongst staff and students. It is anticipated that readers may replicate these ideas in creative arts and across disciplines throughout primary, secondary and other higher education institutions, community groups and diverse organizations.

Conflicts of Interest

The author declares no conflict of interest.

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