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School Strike 4 Climate: the intersection of education for sustainable development, education for global citizenship and the Australian Curriculum

Karena Menzie-Ballantyne*,[1] and Miriam Ham[2]

[1]School of Education and the Arts, CQUniversity, University Drive, Bundaberg, QLD, Australia and [2]School of Education and the Arts, CQUniversity, Cairns, QLD, Australia
*Corresponding author: E-mail: k.menzie-ballantyne@cqu.edu.au

Abstract

In June 2020, an Australian Curriculum (AC) review was announced, particularly regarding content crowding in primary years, flexibility and deep understanding of core concepts. The language of the announcement highlighted again the 'competing-priorities' discourse that suggests a disjuncture between focusing on fundamental knowledge and skills of literacy and numeracy and providing opportunities to develop broader conceptual understandings and skills inherent in the pedagogies of education for global citizenship (EGC) and education for sustainable development (ESD). By contrast, the School Strike 4 Climate rallies exemplified students' integration of knowledge, skills, values and attitudes from a variety of disciplines and broader learning experiences embedded within the AC with the cross-curriculum priorities, particularly sustainability, and the general capabilities. This article claims that the School Strike 4 Climate rallies highlight the interconnection between EGC and ESD and the AC. It will argue that the inquiry-based, pedagogical approaches of EGC and ESD are powerful integrators offering teachers the opportunity to take cross-disciplinary approaches to planning, connecting multiple learning areas from the AC with real-world projects and issues. It is suggested that, far from crowding the curriculum, such integration frees up space and offers opportunities for the deep conceptual understanding the curriculum review seeks.

Keywords: School Strike 4 Climate; education for sustainable development; global citizenship education; Australian curriculum

Introduction

On 20 September 2019, a self-confessed nervous 15-year-old schoolgirl, let's call her Sarah, stepped up to the podium to passionately defend her future and her planet. Her articulate speech and persuasive language, shaped in part by her English and Drama classes, enthused and energised the crowd. Throughout her speech, Sarah demonstrated her level of numeracy by clearly explaining the scientific data of climate change. Despite the fact, she was standing outside the local council chambers, Sarah's understanding of the three levels of government, learnt in her civics classes, meant her pleas to close down coal mining were not directed there but at the State and Federal politicians who had power in this domain. The carefully crafted three-point plan she presented to redeploy workers from the coal mining industry into the renewable energy sector highlighted her geographic conceptual understanding that true sustainability needs to address the social and economic as well as the environmental pillar.

For the education academic standing in the crowd, Sarah's speech and the underlying rationalised decision to take action by not attending the school that day and being an active voice in the rally was a perfect example of what the Finnish system calls phenomenon-based learning:

> The national curriculum conceptualizes learning as a cumulative and guided process in which students have an active and self-regulatory role, setting their own goals and solving problems both independently and collaboratively (Symeonidis & Schwarz, 2016).

In Australia, such learning is better known by terms such as integration, inquiry and student agency (Black, 2017; Buchanan, 2016; Gordon, 2020; Wallace, Venville, & Rennie, 2010). Whatever the terminology, Sarah's presence at the rally and her speech, reflective of thousands of similar speeches by school children around Australia and the world as part of School Strike 4 Climate, demonstrated the knowledge, skills, values, attitudes and actions that lie at the intersection between education focused on sustainability and education designed to foster global citizenship. (Edwards et al., 2020; Littledyke, 2009; OECD, 2020; Oxfam GB, 2015; Reimers, Chopra, Chung, Higdon, & O'Donnell, 2016; Sass et al., 2020; UNESCO, 2017). Knowledge, skills, values and attitudes that are embedded in the key learning areas, cross-curriculum priorities and general capabilities of the Australian Curriculum (AC) (ACARA, 2020f). Whilst acknowledging there are multiple terminologies and frameworks relating to environmental and global citizenship-focused education, the terms education for sustainable development (ESD) and education for global citizenship (EGC) will be used for the purposes of this article.

In June 2020, the AC, Assessment and Reporting Authority (ACARA) announced that the education ministers had agreed to the terms of reference for a review of the Australian F-10 curriculum. In the media release announcing the review, ACARA CEO David de Carvalho explained:

> Teachers have told us that, particularly in primary years, the Australian Curriculum is overcrowded and does not allow enough time to teach for deep understanding of core concepts or application of knowledge in the learning areas. Schools and teachers want a less crowded curriculum, one that provides flexibility and scope for greater depth of learning – and a more helpful curriculum, one that provides more meaningful connections within and across its three dimensions (ACARA, June 2020).

This paper will argue that the multidisciplinary knowledge and conceptual understanding combined with the social and cognitive skills demonstrated by the Schools Strike 4 Climate students are living examples of the type of deep learning sought in the curriculum review. Further, it will suggest that the integrated, inquiry-based pedagogies embedded in ESD and EGC (Brett, 2020; Edwards et al., 2020; Gordon & Tudball, 2020; Oxfam GB, 2015; Reimers et al., 2016; Sass et al., 2020) hold the key to combining all three dimensions of the AC (ACARA, 2012) and fostering the type of active and informed community members aspired to by the Alice Springs (Mpartnwe) Declaration (Education Services Australia, 2019).

International Recognition of the Intersection of ESD and EGC — Program of International Student Assessment (PISA) and Sustainable Development Goal 4 (SDG 4)

In the same way, the School Strike 4 Climate protests demonstrated the connection between ESD and EGC; two international policy initiatives over the past 5 years have highlighted the connection between these two areas of content and pedagogy.

In 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development that had at its core 17 Sustainable Development Goals (SDGs) (United Nations Department of Economic and Social Affairs, 2015). These goals build on and expand the intent

of the seven Millennium Development Goals (MDGs) recognising that to free the human race from the tyranny of poverty, we need to work collectively to 'heal and secure our planet' (United Nations, 2015). The agenda's preamble recognises that the 17 SDGs are 'integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental' (United Nations, 2015).

An educative element is evident in each of the 17 goals, however, SDG 4 outlines the explicit targets in regard to education. Of specific note for this paper is target 4.7:

> By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

This target clearly highlights the connection between ESD and EGC, including such elements as education for sustainable lifestyles, intercultural and ethical understanding, global mindedness and peace education.

In 2018, the Organisation for Economic Co-operation and Development (OECD) and the Asia Society Center for Global Education stated that:

> Education is crucial for reaching all of the SDGs. Educating for global competence can help engage a rising generation in managing and even solving the social, political, economic, and environmental challenges outlined in the SDGs by 2030 (OECD/Asia Society, 2018).

To this end, the OECD added a global competence assessment to its Program for International Student Assessment (PISA) suite. The global competence assessment and its accompanying questionnaire examine 15-year-old students' (the same age as Sarah) knowledge, skills and attitudes in four overlapping dimensions:

- Examine local, global and intercultural issues.
- Understand and appreciate the perspectives and world views of others.
- Engage in open, appropriate and effective interactions across cultures.
- Take action for collective well-being and sustainable development (OECD, 2018).

In launching the assessment, the OECD acknowledged that values are also an inseparable factor in global competence, but recognised these were too difficult to assess internationally (Schleicher, 2017). Again, the overlaps between ESD and EGC are clearly visible across the PISA dimensions, culminating in Dimension Four's call to action.

Academic debates abound in regard to the definitions of global competence, education for sustainable development and global citizenship education; how PISA is measuring global competence; and the relative balance of the neoliberal economic agenda in regard to the employability of graduates with the broader social justice focus that encourages students to question and challenge the *status quo* in pursuit of a more equitable and sustainable future (Reimers et al., 2016; Sant, Davies, Pashby, & Shultz, 2018; Vaccari & Gardinier, 2019). In the meantime, both the 2030 Agenda and its associated SDGs and the introduction of the PISA global competence assessment highlight the knowledge and understandings, skills, values, attitudes and actions needed by students to effectively engage in the 21st-century globalised world. Attributes that need to be embedded in domestic educational policy and overtly fostered through curriculum and pedagogies. Across the globe, there is growing recognition that education for global citizenship and sustainable development is no longer an educational aspiration but a necessity for which room must be made in curriculum, pedagogy, classrooms, schools and the broader community.

Literacy and Numeracy versus ESD and EGC — A Redundant Debate

Before moving on to show how ESD and EGC can be used, with real-world issues, as powerful integrators of the AC, it is important to first debunk an ongoing myth that is persistent in both political and media discourse that somehow ESD and EGC come at the expense of the 'basics' of literacy and numeracy. Writing recently in the Australian (9th November 2020), education research fellow at the Centre for Independent Studies, Glenn Fahey claimed that:

> School students are being groomed for social activism while too many are still functionally illiterate as they leave the classroom ... It provides yet further evidence that Australia's school system has got its priorities upside-down ... The problem is that efforts of the school system to engineer increased "global competences" comes at a cost — namely the education of our young learners.

Fahey goes on to describe general capabilities such as ethical and intercultural understandings as 'nice to haves but surely not the centrepiece of schooling'. Such comments are reflective of Prime Minister Scott Morrison's comment that students at the School Strike 4 Climate rallies should be doing 'more learning in school and less activism' (AAP, 2018). Both comments show a fundamental misunderstanding of modern educational philosophy as well as the needs of both 21st-century employers (Pang, Wong, Leung, & Coombes, 2018; Succi & Canovi, 2020) and 21st-century globalised communities more broadly (OECD, 2016, 2018; Oxley & Morris, 2013; Reimers et al., 2016; UNESCO, 2017).

Far from being the 'soft skills' or 'nice to haves', as outlined in the previous section, the SDGs, particularly target 4.7, the OECD and, in Australia, ACARA identify skills such as critical and creative thinking, the ability to collectively solve problems, cultural competence and ethical understanding as the skills required to address the 'wicked problems' facing our local and global communities; skills highly sought after by employers (Pang, Wong, Leung, & Coombes, 2018; Succi & Canovi, 2020).

SDG 4 clearly states the need for people of all genders, young and old, to have access to quality education that includes the development of literacy and numeracy, as it recognises that without these fundamental skills, access to information and the higher order skills of analysis and problem-solving are not possible. Why the types of comments outlined above do teachers a disservice is through the implication that it is an either/or situation, either teach the 'basics' of literacy and numeracy or foster global citizens who are culturally and ethically competent and capable of envisaging and working towards an equitable and sustainable future.

Dedicated literacy and numeracy teachers, as well as classroom teachers in the primary, secondary and vocational sectors, understand and demonstrate through their practice every day that the skills of literacy and numeracy are redundant if they cannot be understood conceptually and be transferred to other contexts (Barton & Lennon, 2017; Churchill et al., 2018; Dole, 2017; Ewing, 2016; Gabriel & Machado, 2010; Willis & Menzie, 2013). A Year One student may be taught to 'Recognise, describe and order Australian coins according to their value' (ACARA, 2020d) in the classroom, but it is not until they can take those coins and correctly use them to purchase a Friday treat from the school canteen that we can be confident the skill is truly learnt.

Similarly, the Year Nine Science teacher will reinforce the meaning of matter, organism and abiotic before teaching that 'Ecosystems consist of communities of interdependent organisms and abiotic components of the environment; matter and energy flow through these systems' (ACARA, 2020e). If, however, the science students are not facilitated the opportunity to apply their learnings in an engaging context, one that is important and relevant to the world in which they reside, their understanding will remain theoretical surface learning only and will not transition to what educators call 'deep learning' (Churchill et al., 2018).

In order to explore and analyse the literature regarding the issues underlying the School Strike 4 Climate, Sarah's teachers would have had to develop her skills to 'use a range of strategies to comprehend, interpret and analyse these texts, including retrieving and organising literal information, making and supporting inferences and evaluating information and points of view' as outlined in the literacy general capability (ACARA, 2020b). To form her own point of view, based on her synthesis of the information she accessed, she would have had to engage in the skills of 'applying logic, drawing conclusions and designing a course of action' as outlined in the creative and critical thinking general capability (ACARA, 2020a).

She would also have had to draw on her numeracy skills to interpret statistical information, identify trends, describe and 'use a wide range of rules and relationships to continue and predict patterns' (ACARA, 2020b). Preparing for and participating in the School Strike 4 Climate rally then enabled Sarah to fulfil the numeracy general capability's intent to allow students opportunities to 'apply their understanding of patterns and relationships when solving problems in authentic contexts' (ACARA, 2020b). The ability to interpret texts, particularly the perspectives inherent in them, as well as the ability to identify patterns, draw conclusions, solve problems in real-world contexts are all clearly identified as those necessary for sustainable development and global citizenship (Hayward, 2012; Littledyke, 2009; OECD, 2018; Oxfam GB, 2015; Sass et al., 2020; UNESCO, 2014, 2015).

From these few examples, it can be seen that it is not an either/or situation where educators have to choose between teaching the fundamental of literacy and numeracy skills or the knowledge, skills, values, attitudes and actions of ESD and EGC. The latter actually provides enormous scope for the type of real-world, contextual practice of these skills specified in the academic literature (Barton & Lennon, 2017; Churchill et al., 2018; Dole, 2017; Ewing, 2016; Gabriel & Machado, 2010; Willis & Menzie, 2013) and the AC (ACARA, 2020b, 2020c, 2020d, 2020e) itself. Weight was added to this argument through the release of the results of the first PISA global competence assessment (OECD, 2020, p. 160) which indicated high correlations between students' achievement on the global competence, reading, science and mathematics tests.

Using ESD and EGC as an Integrator

In addition to providing real-world contexts for the development of literacy and numeracy skills, it is argued here that ESD and EGC also offer opportunities for the integration of content, conceptual understanding and skills from all three dimensions of the AC which could ease the so-called crowded curriculum. Whilst purely subject-based approaches to curriculum and pedagogy centre on what students ought to know and be able to do, integrated, transdisciplinary or phenomenon-based approaches offer greater opportunity for critical and creative thinking and problem-solving, as well as the development of values and attitudes that consider multiple perspectives (Buchanan, 2016; Oxfam GB, 2015; Symeonidis & Schwarz, 2016; Wallace et al., 2010).

Integrated approaches to planning and teaching allow flexibility and support a more holistic view of knowledge, learners and learning. It is argued that such approaches:

- make more sense to children, who don't perceive knowledge in a fragmented or compartmentalised manner;
- allow students to draw on their backgrounds and prior understanding;
- reduce the pressure created by rigid timetables;
- assist students and teachers to develop more efficient means of gathering, organising and processing information;
- enable the logic of mathematics to be combined with the aesthetics of art, engendering new ways of seeing, knowing, understanding and questioning;

- provide genuine, rich, real-world contexts for learning and help to focus on big ideas (Buchanan, 2016; Gordon, 2020; Wallace et al., 2010).

The overlaps between these types of integrated approaches to planning and teaching and ESD and EGC are clear, as they provide students with opportunities to explore the social, political, ethical, relational, economic and environmental aspects of topics, issues and phenomena from multiple perspectives, as well as their local and global implications (Hayward, 2012; Littledyke, 2009; Sant et al., 2018). Integration around real-world issues also provides plenty of scope for community engagement at a variety of levels and the opportunity to nurture the types of active and informed community members to which the Alice Springs (Mpartnwe) Declaration (Education Services Australia, 2019) aspires. For these reasons, ESD and EGC have the potential to alleviate rather than add to what is perceived as a crowded curriculum. This suggests that rather than a curriculum review of *what* teachers are required to teach, the emphasis needs to be on developing and implementing appropriate professional development that looks at *how* teachers' plan and teach the AC. This will be further explored later in the paper.

Integrating the Australian Curriculum

The potential for integration in the AC lies in its three-dimensional design (ACARA, 2012) of eight learning areas, three cross-curriculum priorities and seven general capabilities. The possibilities inherent in using these three dimensions with real-world issues, local and global to integrate disciplinary content and concepts with both basic and higher order thinking skills, values and attitudes are realistic. The binary argument of either/or does teachers a great professional disservice, underestimating and devaluing their skills to plan and apply curriculum in an authentic way. An integrated approach is limited only by educators' imagination and expertise and the time allowed them for planning, barriers which are discussed in the next section.

The potential inherent in the curriculum is exemplified through an assessment given to the first-year Bachelor of Education pre-service teachers at the authors' university as part of a curriculum foundations unit. The students are set a task of designing an open-ended, student-led inquiry based on the knowledge, skills and dispositions of the sustainability cross-curriculum priority. Their inquiry must explore a content descriptor from one of the eight key learning areas, but also explicitly embed literacy, numeracy and other relevant general capabilities. Some examples of resultant inquiry units include:

- Mathematics units that offer students opportunities to design sustainable responses to global issues based on the content descriptors 'Identify a question of interest based on one categorical variable. Gather data relevant to the question (ACMSP048)' from Year Two or 'Pose questions and collect categorical or numerical data by observation or survey (ACMSP118)' from Year Five;
- English units that build social sustainability by developing students' understanding and respect for the diversity in their local community, combining the relevant components of the ethical and intercultural understanding general capabilities with the year five content descriptor 'Identify and explain characteristic text structures and language features used in imaginative, informative and persuasive texts to meet the purpose of the text (ACELY1701)'.

Using the lens of ESD and EGC, expressed in the AC as cross-curriculum priorities and general capabilities, not only enables the effective layering of multiple content descriptors but creates rich, interesting, motivating and engaging, inquiry units that are relevant to the students and connect them with real-world issues. This is exemplified by the growth of academic frameworks such as the

International Baccalaureate, Deep Learning (Fulan, Quinn, & McEachen, 2018), the OECD Learning Compass (OECD, 2020) and Oxfam's EGC (Oxfam GB, 2015), as well as a focus on teaching through and assessing the general capabilities (Clarence & Comber, 2011; Scoular, Ramalingam, Duckworth, & Heard, 2020).

Barriers and Mindsets

This article has shown that an integrated approach, using the pedagogies of ESD and EGC, has the potential to:

- enhance rather than compete with the development of literacy and numeracy;
- hold potential for easing the pressures of a crowded curriculum;
- provide students the opportunity to engage with their communities on real-world issues;
- and hold the key to fostering the knowledge, skills, values, attitudes and actions needed for employment and effective citizenship in a globalised world.

If this is the case, the reader may be wondering why are such approaches not the norm?

Beyond the outdated and out-of-touch political perceptions, outlined at the start of this paper and perpetuated by the media, it is argued that the barriers to implementing integrated ESD and EGC pedagogies have more to do with structure and mindset than curriculum. The example of the pre-service teacher assignment and current research being undertaken (Buchanan, Burridge, & Chodkiewicz, 2018; Menzie-Ballantyne & Ham, 2021; Reynolds, MacQueen, & Ferguson-Patrick, 2019) suggests that there is already scope within the three dimensions of the AC to both integrate and incorporate the real-world perspectives and issues typified by ESD and EGC, however, teachers lack the training, confidence and time to undertake this type of planning (Donnelly & Wiltshire, 2014; Dyment et al., 2013; Dyment & Hill, 2015; SEAQ, 2010). In this regard, the Australian educational landscape is reflective of similar concerns and barriers reported internationally (Schulz et al., 2017).

Over the past decade, there have been some attempts in Australia to improve this situation, such as the AusAID-funded Global Education Project, an Education Queensland-funded professional development programme for teachers focusing on social cohesion, and a federally-funded project aimed at pre-service teachers, which have shown some success (Dyer & McNicol, 2015; Global Learning Centre, 2018; Tudball & Forsyth, 2009). The number and extent of such projects have snowballed across Australia in the past few years, showing both the growing understanding of the need to equip students with the appropriate knowledge, skills, values and attitudes for living and working in the 21st-century globalised world and the influence of OECD PISA assessments (Cobb & Couch, 2018; Rautalin, Alasuutari, & Vento, 2019; Sjoberg, 2016).

It is evident, however, that this work needs to not only continue but expand to broader perspectives of teacher professional development and school structures in order to truly give schools and educators the understanding and tools needed to most effectively implement integrated ESD and EGC pedagogies. Although primary teachers successfully integrate content and concepts across disciplines as part of their daily practice, they themselves need opportunities and training to develop the global mindedness to identify the relevant elements of the curriculum and connect these to real-world issues (Buchanan et al., 2018; Ham & Dekker, 2019; Zhao, 2010).

In high schools, such integration is even more difficult due to the multiple teachers involved and the rigid structures of timetabling. Frameworks such as the Finnish phenomenon-based learning, International Baccalaureate and Deep Learning (Fulan et al., 2018; Symeonidis & Schwarz, 2016), however, demonstrate that even in high schools, space can be made for the planning and implementation of integrated curriculum and pedagogies if there is the political will and appropriate leadership to do so. In addition to structural change, teacher professional development

needs to give teachers the confidence to 'let go'. They need to be allowed the opportunity to try new ways of engaging with and empowering their students through experimentation with the curriculum and new pedagogies that incorporate the overt teaching of literacy, numeracy and other general capabilities, and provide students with greater agency over their learning (Hayward, 2012; Menzie-Ballantyne & Ham, 2021; OECD, 2020; Zhao, 2011).

Conclusion

The School Strike 4 Climate rallies highlighted that the current generation of students are not only capable, but willing to embrace the transdisciplinary thinking and approaches needed to consider and take action on real-world issues. This is reflective of broader citizenship research that indicates the current generation are not only interested in local and global issues but, disillusioned with not having their voices heard through traditional social and political channels, are actively engaging with them at grassroots level (ACARA, 2017; Bailey et al., 2016; Schulz et al., 2017; White & Wyn, 2013). Now their schools and education systems need to catch up and provide teachers with the mandate, knowledge and skills to explore new ways of planning and teaching and new approaches to student agency. It is heartening to see the number of professional development approaches now being implemented to develop the global mindedness of educators and enhance their skills in identifying and implementing integrated ESD and EGC pedagogies but more needs to be done.

As a positive change in the future sustainability of our planet is clearly in safe hands with the School Strike 4 Climate student protestors and their supporters, perhaps a broader spread and adoption of the protestors' ESD and EGC knowledge, skills, values and attitudes lie with the upcoming generation of teachers. It is interesting to note that a conversation with Sarah after her speech at the rally revealed that she is aiming to be one of these pre-service teachers.

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Dr Karena Menzie-Ballantyne is a Senior lecturer and pre-service teacher educator based at the Bundaberg campus of CQUniversity. Karena has designed and taught courses in global and active citizenship, sustainability, diversity and intercultural understanding at ACU, QUT, UQ and the University of Tasmania, as well in the not-for-profit sector working on the AusAID-funded Global Education Project. Karena's doctorate focused on comparing the reports of adolescents engaged in active citizenship with the knowledge, skills, values, attitudes and actions identified as necessary for global competence. Karena is currently working on multiple research projects exploring educators' interpretation and implementation of global citizenship/competence in schools and classrooms.

Dr Miriam Ham is a Senior lecturer and Campus Lead of the Cairns campus for the College of Education at CQUniversity. She was awarded a Vice Chancellor's Award for Exemplary Practice in Learning and Teaching (Tier 1) for 2020. Her passion is working with teachers to solve identified problems specific to their context through a flexible, innovate approach. Miriam's doctoral studies were based on an investigation of Nepali teachers' beliefs about education and their classroom practice, particularly in response to the implementation national educational reform. Her current research projects focus on exploring how teachers define and foster global competence in their classrooms.