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Hopes and Prospects for the Sustainability Cross-Curriculum Priority: Provocations From a State-Wide Case Study

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Abstract This article draws on research data from a state-wide case study, intertwined with three key moments that occurred in late 2014, to critically engage with the hopes and prospects of the Sustainability Cross-Curriculum Priority (CCP) in Australian schools. These key moments — the *IPCC 5th Assessment Synthesis Report* (Intergovernmental Panel on Climate Change, 2014), the conclusion of the United Nations Decade of Education for Sustainable Development, 2005–2014 (UNDESD), and the release of the Australian Government's *Review of the Australian Curriculum: Final Report* (Donnelly & Wiltshire, 2014) — illuminate both the imperative of societal change towards sustainability and the difficulty associated with integrating sustainability learning into Australian schools. The research findings presented in this article suggest that while there is reasonable support for the Sustainability CCP in some Tasmanian schools, there are many concerns that may be preventing effective integration of sustainability into curriculum. Most notably, there is a limited level of teacher understanding or capability in relation to the Sustainability CCP, which is probably compounded by a distinct lack of professional learning and development. As the spotlight is increasingly focused on the CCPs, we argue for structural change to the curriculum, alongside increased support for schools and teachers, in order to see sustainability learning effectively weaved into Australian schooling.

In 2011–2012, the Australian National Curriculum began to be implemented in various phases across Australian schools. As environmental educators and researchers, we looked forward with eager anticipation to the inclusion of sustainability as one of three cross-curriculum priorities (CCP). It is fair to say that this excitement was probably shared by educators across Australia and was indeed consistent with calls from many scholars and practitioners in the environmental education (EE) and education for sustainability (EfS) field for such curriculum change over that last few decades (e.g., see Kennelly, Taylor, & Serow, 2011; Skamp, 2010; UNESCO, 2010). Finally, sustainability had a place in the curriculum and, at face value, that place appeared to be prioritised.[1]

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Now, only a few years on from this early, and perhaps misplaced, optimism, we find ourselves asking critical questions about the hopes and prospects of the Sustainability CCP. Is the very concept of a cross-curriculum priority oxymoronic? That is, because it does not have the same place as a learning area (content descriptors, elaborations, assessment standards), is it no priority at all? Moreover, how can the Sustainability CCP live up to its title and actually become a *priority* for teachers, schools, and educational leaders?

Curious about how schools were responding to implementation of the Sustainability CCP in the Australian Curriculum, we conducted a study in Tasmania in 2013. Through a statewide survey, we invited all Tasmanian principals and curriculum leaders (PCLs) to reflect on the place of sustainability in their curriculum, while investigating their existing understandings of sustainability, their integration of sustainability into teaching and learning, along with their perceived receptivity, capabilities and professional learning needs in this area. The article reports on two key sections of the survey by exploring the following questions:

1. How do Tasmanian PCLs perceive the receptivity of their school communities towards implementing the Sustainability CCP?
2. What existing capabilities and future professional learning needs are identified to enable implementation of sustainability as a CCP?

Although these research questions may be seen to be entering into the terrain of 'bald spots' (Reid & Scott, 2013) — that is, questions that have been over-researched — we move beyond mere presentation of the results to reflect on these findings, to provoke critical engagement with the implementation of the Sustainability CCP in Australian schools.

Context and Significance

At the time of writing, three key moments provide provocations that are both cognisant and timely to this discussion. The *IPCC 5th Assessment Synthesis Report* (Intergovernmental Panel on Climate Change, 2014), released in late October 2014, continues to highlight the unequivocal scientific evidence of the (unsustainable) effects humans are having on the climate system of our planet. Meanwhile, a UNESCO conference in Japan in November 2014 sought to distil and synthesise the effects of the United Nations Decade of Education for Sustainable Development, 2005–2014 (UNDESD) as that initiative draws to a close. The third key moment was the release of the Australian Government's *Review of the Australian Curriculum: Final Report*, written by Kevin Donnelly and Kenneth Wiltshire in late October, 2014. These three moments are pertinent in the sense that they remind us of the very real imperative of societal change towards more sustainable patterns of living and the important role that education plays in this development. On the other hand, these moments illuminate how challenging integrating sustainability within schooling might be, given education systems and curriculum that are overcrowded, complex, and increasingly focused and shaped towards the goals of neoliberal ideologues and a global corporatised market place.

Just how the three moments above intersect with the findings of this research will be explored as this article progresses. Of further interest to our discussion is the very notion of cross-curricular approaches and literature that has engaged critically with the successes and failures of attempts across the world to weave various themes or ideas through curriculum. The following sections examine these and other concerns, including the Australian context through which the Sustainability CCP came to fruition. Various findings from our Tasmanian case study will be presented and discussed as a springboard to provocations intended to promote dialogue and critical inquiry into the very

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substance of the Sustainability CCP, how it has been implemented, and what future directions and implications we see for sustainability learning to be integrated into Australian schools.

Australia's Policy and Curricular Engagement With Education for Sustainability

The presence of sustainability as one of three cross-curriculum priorities affords for the first time a clear national mandate for the integration of sustainability across relevant learning areas in Australian schools. Aside from the Australian Education for Sustainability Alliance (AESA, 2014) report, the extent to which integration of the CCP is currently occurring in Australia generally and the state of Tasmania specifically is still largely unknown. There is, however, a lengthy and notable history of engagement with EfS in Australian early childhood, primary and secondary school sectors (e.g., see Skamp, 2010; Tilbury, Coleman, & Garlick, 2005). A range of national and state policy initiatives, and curriculum documents have progressed EfS in Australia over the past 10 years and embraced more socially critical perspectives acknowledging principles such as systems thinking, integration of economic, social, cultural and environmental dimensions, and notions of intra- and intergenerational justice. *Caring for our Future* (Australian Government, 2006, p. 5) outlined the government's commitment to embed EfS in formal schooling throughout Australia during the UNDESD, reinforcing the importance of communicating concepts of EfS and developing suitable training and professional development. This initiative was followed by the development of the National Action Plan for Education for Sustainability (Australian Government, 2009), which is underpinned by seven principles: Transformation and Change, Education for All and Lifelong Learning, Envisioning a Better Future, Critical Thinking and Reflection, Systems Thinking, Participation, and Partnerships for Change.

Most recently, the new Australian Curriculum (Australian Curriculum Assessment and Reporting Authority [ACARA], 2015a) includes sustainability as one of three cross-curriculum priorities; the other two being 'Aboriginal and Torres Strait Islander histories and cultures' and 'Asia and Australia's engagement with Asia' (ACARA, 2015a). Australia's cross-curriculum priorities emerged from the *Melbourne Declaration on Educational Goals for Young Australians* (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2008) and consideration of contemporary issues of relevance to young Australians.

The Sustainability CCP seeks to support students to develop 'the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living'. (ACARA, 2015b, par 3). It is intended for all learning areas to contribute to the sustainability CCP, although this contribution will vary, depending on the content and purpose of the learning area. The CCP emphasises an approach that is 'futures-oriented, focusing on protecting environments and creating a more ecologically and socially just world through informed action' (ACARA, 2015b, par 5). This is further explicated and conceptualised through nine 'organising ideas' that are framed around systems thinking, understandings of worldviews, and a futures orientation. In practical terms, specific directions or possibilities for the Sustainability CCP are provided through the content descriptors of learning areas in the curriculum. Teachers pay particular attention to these content directions when planning for learning and teaching.

As we interpret the Sustainability CCP and the organising ideas, we note some tensions: on the one hand, they seem to be sophisticated, highly involved and ambitious; on the other hand, they could be seen to be complicated, overwhelming, and confusing. We also note that the organising ideas unequivocally interpret sustainability well beyond the environmental domain, extending richly into the domains of systems thinking, worldviews, and futures thinking. While not entirely unproblematic, we believe

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these interpretations of sustainability in the CCP have the potential to position EfS in a more nuanced way that moves beyond narrow environmentalism and certain expressions of Green politics to embrace thinking and acting critically and systemically with regard to social, cultural, economic, political, and ecological domains.

Notwithstanding the potential and theoretical robustness of the CCP, we are somewhat convinced by the findings of the Donnelly and Wiltshire (2014) *Review of the Australian Curriculum*. Despite being much maligned within education circles for its ideologically driven nature, critiques with which we concur, the report provides provocations particularly relating to the Sustainability CCP, which we believe are at least worthy of contributing to this discussion. Donnelly and Wiltshire suggest:

> *claims that the Australian Curriculum has been developed to world's best practice are wide of the mark — especially in the lack of an explicit values foundation, set of design principles, and holistic approach to schooling of which curriculum is a vital part.… The failure to initially consider how all the elements of the curriculum would fit together has led to a monolithic, inflexible and unwieldy curriculum. (p. 2)*

The place and role of the CCPs within this monolithic, unwieldy, and overcrowded curriculum has come under particular scrutiny by Donnelly and Wiltshire (2014). Rather than deleting the CCPs, as some have interpreted the report, Donnelly and Wiltshire call for a 'complete reconceptualisation of the teaching of the cross-curriculum priorities' (p. 4). This is based in their view, one that we find both pertinent and persuasive, that the CCPs are 'possibly the most complex, controversial, and confusing aspect of the Australian Curriculum' (p. 134). As we will later discuss through the findings of our research in Tasmanian schools, we concur with Donnelly and Wiltshire when they argue that there is substantial confusion regarding the way in which the Sustainability CCP has been, or should be, 'embedded' into teaching and learning programs, and how it should actually be taught. Of course the *Review of the Australian Curriculum* is an internal, and some would argue narrow, perspective. We believe it is incumbent on us to also examine the Sustainability CCP within the light of international attempts to integrate sustainability into schooling and curriculum.

Approaches to Sustainability Education: Cross-Curricular, Stand Alone, Opt-In?

Around the world, countries have adopted different approaches to sustainability education. Some, like Australia with our new Sustainability CCP, have taken a cross-curricular approach. The United Kingdom Curriculum, by way of example, includes seven cross-curricular dimensions, one of which is 'Global dimensions and sustainable development'[2] (Fautley & Savage, 2011). In Sweden, education for sustainable development is one of three core values of the Swedish curriculum, along with children's rights and gender equity (Swedish Ministry of Education and Science, 2004). New Zealand likewise places ecological sustainability as one of eight suggested values in the curriculum that students are encouraged to consider alongside other values, including equity, diversity and community, and participation (New Zealand Ministry of Education, 2007). These three examples point to a validation of cross-curricular sustainability learning in an international context but do not provide definitive evidence of the efficacy of such approaches of curriculum integration or the pedagogical realities of how these overarching values or dimensions are actually taught.

There are other approaches to sustainability learning, such as delivery as a discrete subject within a formal curriculum. By way of example, in Victoria, Australia, students can enrol in a high school course called Outdoor and Environmental Studies (Victorian Curriculum and Assessment Authority, 2014) that has a strong emphasis

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on sustainability education. Sustainability is also embedded into the content descriptors and elaborations of some key learning areas in the Australian Curriculum, such as Science, Humanities and Social Science (History and Geography), Health and Physical Education, and Design Technology. Designated by a leaf symbol, these direct references to the sustainability CCP encourage teachers to explicitly engage learners with sustainability-related content and processes. It is worth noting here that a number of learning areas in the Australian Curriculum have no direct links to the Sustainability CCP, including English, Mathematics, the Arts and, surprisingly, Civics and Citizenship, and Economics and Business. It appears that direct links between the Sustainability CCP and learning areas' content descriptors are underpinned by an understanding of sustainability dominated by an environmental focus, with less attention paid to social and economic dimensions of sustainability. We believe a more in-depth content analysis of the Australian Curriculum in relation to sustainability-focused content would be useful further research.

Another approach to sustainability learning is optional extra/co-curricular programs that schools can 'opt-in' to. They are often available to all schools; however, schools must make a conscious decision to prioritise their involvement within the many competing demands of schooling. Examples include the Australian Sustainable Schools Initiative (AuSSI) in Australia (Department of the Environment, 2014, September 3), Enviroschools in New Zealand (Enviroschools, 2014), and the international Eco-Schools program (Eco-Schools, 2014). AuSSI schools began in 2008 as a partnership between the federal and state governments that sought to support schools and their communities to become more sustainable. Schools could register to become an AuSSI school and would receive support to embrace a whole-school approach to sustainability. At its peak, approximately 30% of Australian schools were participating in the program. As the AuSSI program shifted to be solely governed by state education bodies, support for the program shifted or changed. For example, in Tasmania, the AuSSI program was disestablished in 2011 and replaced by the notion of sustainability-led schools. We cannot comment conclusively on the effect that this has had on sustainability learning in Tasmanian schools, but we suspect that the result has been less support for rather than more.

The debate in relation to how to best deliver sustainability in schools is both complicated and contentious, especially in an educational climate underpinned by mandated crowded curriculums, standardised tests, and increased emphasis on numeracy and literacy. Those who support a cross-curricular approach to sustainability education align with the philosophical underpinnings of interdisciplinary approaches (irrespective of content) that argue for a 'fusion of ideas and concepts within and across subject areas … to make education more relevant and meaningful' (Hayes, 2010, p. 383). The advantages of cross-curricular teaching and learning are well known (see, e.g., Barnes, 2011). Proponents of cross-curricular approaches advocate for the merits of constructivist approaches to learning and content (Barnes, 2011; Hayes, 2010). They argue that the approach 'offers a creative way to develop ... knowledge, skills and understanding, while motivating [students] to learn through stimulating, interconnected topics' (Hayes, 2010, p. 383).

But the risks and challenges of cross-curricular teaching are also well known. Summers, Childs, and Corney (2005) note 'while the theoretical arguments for interdisciplinary implementation are strong … such approaches are problematic' (p. 624). Hayes (2010) speaks to many of these problematic approaches in his provocatively titled article, 'The Seductive Charms of a Cross-Curricular Approach'. He notes a number of practicalities in relation to planning and implementation, including scheduling difficulties and time constraints that can cause 'enthusiasm to diminish' for

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cross-curricular teaching (p. 384). He argues that this approach can be insufficiently rigorous and points to how the fit is more natural in some learning areas than others. Hayes also notes the implications of cross-curricular approaches for teachers. He acknowledges the demands that cross-curricular teaching have on educators as it can often increase workload and challenges educators to embed something they may not be overly familiar with themselves (in this case, sustainability) into their own teaching and learning. This is reiterated by Alexander, Jarman, McClune, and Walsh (2008), who suggest that for teachers, 'all too often, this could mean paying lip-service to the themes and making token gestures in their direction, with the substance of subject teaching remaining unaffected' (p. 24).

It is clear to us that the Sustainability CCP remains a contested concept, not only its place within the Australian Curriculum, but also in terms of the very nature of cross-curricular approaches to learning in an international context. Given this current state of contestation, we believed it was timely, and perhaps even vitally important, to investigate how the Sustainability CCP was being integrated in Tasmanian schools. The following section provides a brief introduction to research design and methods before we engage more fully with the findings in light of the discussion thus far.

Research Design and Methodology

Given our curiosity about the receptivity to and implementation of the Sustainability CCP in Australia generally and the state of Tasmania specifically, we believed there was considerable merit in gathering baseline data about schools' initial attempts to integrate the Sustainability CCP into teaching and learning. Guided by a mixed-methods pragmatic methodology (Cresswell & Plano-Clark, 2010), we employed an instrumental case study (Stake, 1994) approach, whereby we examined a particular 'case'; in this instance, PCLs in Tasmanian schools. While this research was based in only one state of Australia, we believe it provides insights that can be interpreted and adapted to inform developments in relation to sustainability and cross-curricular learning beyond Tasmania. The case study approach potentially offers a strong grounding in reality, utility to practitioners, and high-resolution data that can enable learnings to be transferred or adapted to other similar contexts (Stake, 1994; Yin, 1989, 2011).

The empirical data upon which this article reports was gathered through an online survey containing both qualitative open-ended questions and Likert scales. The target population was school principals and curriculum leaders (PCLs) in all K–12 Tasmanian government (DOE) ($n = 213$), Catholic (CES) ($n = 37$), and Independent schools ($n = 29$). The reason for targeting PCLs rather than all teachers was a deliberate effort to gain 'big picture' perspectives about Sustainability CCP integration across entire schools. The research team met with senior administrative leaders in the Department of Education, Catholic Education Service, and Independent Schools Tasmania to establish collaborative and reciprocal relationships with education sector partners. These meetings provided opportunities to review draft survey questions and provide comment on substance and form, with a view to making the survey as relevant and useful as possible for school leaders.

The online survey contained a total 65 questions that were either open-ended or Likert-scale. Aspects of the survey were adapted from a questionnaire on receptivity to curriculum change (Lee, 2000), which employed a 7-point Likert scale, and a recent early childhood EfS survey (Dyment et al., 2013; Hill et al., 2014). The open and closed questions were structured in six sections: (a) demographic information, (b) PCLs' understanding of sustainability and the CCP, (c) integration of the Sustainability CCP into learning areas, (d) support for and issues of concern about Sustainability

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CCP integration, (e) staff capabilities, and (f) professional learning and development needs. A previous article has reported and discussed findings in relation to PCLs' understanding of sustainability and levels of integration into learning areas (Dyment, Hill, & Emery, 2015). In this article we use the quantitative Likert-scale data and qualitative data from the open-ended questions from sections (a), (d), (e) and (f) to provide a synthesis of overall findings from the research.

Data Analysis

With mixed methods research, the credibility of analysis and reporting of results is influenced by appropriate analysis of both quantitative and qualitative aspects, as well as how they work together to help address research questions. Descriptive statistics, based on means and standard deviations, were used with quantitative data to analyse levels of agreement or disagreement with statements in the survey. As the aims of the research questions were not directly related to measuring difference between independent variables, we did not employ statistical tests such as *t* test or ANOVA. We also contend that the use of descriptive statistics provides the most useful lens through which to view the big picture of sustainability CCP implementation in Tasmanian schools. Qualitative questions from the survey were analysed using thematic coding based on the six sections of survey as themes (understandings, integration, concerns, levels of support, staff capability, professional learning). Selected quotes from data themes are used in this article to provide rich descriptions of PCLs' perspectives. In the spirit of mixed methods, we draw on both quantitative and qualitative data to provide deeper understanding, particularly in discussing staff capability to implement the Sustainability CCP and professional learning opportunities.

Limitations

We acknowledge there were limitations with a research design reliant on completion of an online survey with email invitations sent to potential participants, which has an impact on response rate as discussed below. These limitations included PCLs potentially ignoring invitation emails or not seeing the survey as salient. They also included pragmatic constraints such as having to go through a third party in the Department of Education to distribute our survey invitation email. We discuss below how these limitations may have had an impact on our response rate.

Findings and Interpretations

For the purposes of this article, we have integrated findings and discussion for each subsection of data to allow for coherence in dealing with large parcels of data. We begin by discussing and commenting on our response rate before turning to an in-depth presentation of the findings and discussion of our two research questions. We work towards integration across all subsections in the final conclusion section, where we reflect on the data as a whole and ask: 'Where to from here?'

Survey Response

We received responses from PCLs in 68 different schools across Tasmania, which is an overall response rate of 24%. We considered this overall response rate to be disappointing, although not unexpected given the nature of online surveys and the busy-ness of school leaders. In an effort to improve the response rate, the research team employed multiple follow-up strategies such as emails and phone calls to schools. When contacted, a number of principals gave reasons for not completing the survey that we think are worthy of mention here. These included statements such as 'We are too busy implementing

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the National Curriculum to have time for surveys' or 'Staff in my school are overloaded with implementing the National Curriculum to take on anything else [such as the cross-curriculum priorities]', and even 'What is the sustainability cross-curriculum priority?' We posit that these comments speak to both the extremely high workload levels experienced by school leaders responsible for implementing the new Australian National Curriculum and possibly the lack of priority given to integrating the Sustainability CCP.

We believe it is worth commenting on the notably higher response rate from Independent (48%— 14 schools) and Catholic (CES) (43% — 16 schools) schools when compared to government schools (DOE) (18% — 38 schools). We acknowledge that in our research questions and design, we did not directly set out to investigate differences between different school sectors. Moreover, we are very cautious here about inferences that might be made from the differences in response rate outlined above. Rather, we qualify these response rates through sharing our experiences as researchers on this project. In our initial meetings with the three education sectors, we felt a much stronger sense of 'in principle' support for our research from both the Independent and Catholic sector as compared with the public sector. This support manifested as explicit endorsement from senior administrators, ease of access to principal email distribution lists, and ongoing relations throughout the entire project. We were particularly impressed with the priority already being placed on sustainability within the Catholic system. Sustainability, an ethos of stewardship, and an ethic of care were strongly represented in high-level policy directives within the Catholic system. The genuine interest, curiosity, and support we sensed from the Catholic and Independent sectors was in contrast to our experience of working within the government sector, where many logistical aspects of this project proved to be more difficult. Here we sensed a general lack of interest in and capacity for our project. After we received ethical approval for our project, we then had difficulty finding out who should be contacted in order to advance our project. We then faced significant challenges finding contacts for the principals (at the end of the day, we simply trawled through each school's website to find the email contact for each principal), and therefore recruitment proved to be more challenging. While not wanting to be critical of the individuals we worked with in the public system, we do interpret this as a sense of feeling overwhelmed within the public system and that our project (and the Sustainability CCP) was one of many competing priorities in an overly busy public school system.

We also find it noteworthy that the majority of responses were from primary schools (63% of responses). A large number of environmental and sustainability programs target primary schools and align with an interdisciplinary approach to curriculum (e.g., EcoSchools, WaterWatch, AuSSI). Our response rate parallels the large amount of academic literature that examines best practice, as well as drivers and barriers, within the context of primary schools (e.g., see Lewis, Baudains, & Mansfield, 2009; Salter, Venville, & Longnecker, 2011; Whitehouse & Evans, 2010). There is significantly less research focused specifically on the secondary years of formal schooling, when subject disciplines take on greater autonomy. Our response rate adds to the contention that there is a silence in teaching and research around continuity of innovative, whole-school approaches, and student energy and leadership in sustainability education once students enter the secondary years of their formal education.

Of further interest to us was that *every* PCL who responded to the survey reported that their school was making some concerted effort to integrate the Sustainability CCP into teaching and learning. We heard from no schools that were doing nothing in this regard. This leaves us wondering about the extent to which the Sustainability CCP was

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being either integrated, ignored, or put into the 'too-hard basket' by the remaining 76% of Tasmanian schools, something which it is impossible for us to speculate on.

PCLs Perspectives on Receptivity to Implement the Sustainability CCP

One of the key questions of interest in this research related to how PCLs perceived both support for, and concerns about, the implementation of the Sustainability CCP in their school communities. As is the case in most instances of curriculum change, school leadership and broader support from school communities have a role to play in school receptivity to curriculum development and innovation (Lee, 2000). While we fully appreciated that much focus and work was, and is, being given to implementing the learning areas of the Australian Curriculum, we felt it was timely for a specific focus on CCPs, as the intent from ACARA was for these CCPs to be weaved into all learning areas as they were being implemented.

This section contains two main parts. The first deals with levels of perceived support from school communities for implementing the Sustainability CCP. The second examines concerns with this implementation. PCLs were asked to rate nine statements relating to support (Items 1–9) and four relating to their concerns (Items 10–13).

As can be seen in Table 1, there were various levels of agreement with statements relating to support and concerns in relation to the implementation of the Sustainability CCP. Several items were of particular interest that we believe are worth commenting on further.

Support by the principal (Item 1, $M = 5.42$, $SD = 0.98$) and alignment with school philosophy (Item 2, $M = 5.36$, $SD = 1.09$) were given the strongest level of agreement. Our interpretation of these results suggest that the majority of schools who responded to the survey may well have been already engaged in sustainability education initiatives, or at least considered sustainability education to be of importance in their school, as evidenced by the alignment of philosophy with the Sustainability CCP. In these situations, we wonder if and how the addition of the Sustainability CCP might have actually influenced or strengthened any practices, or if schools will just keep doing what they are already doing. We are aware of the literature that points to the important role that the principal assumes in providing leadership and direction for sustainability and environmental education (AESA, 2014; Eames, Barker, Wilson-Hill, & Law, 2010; Evans, Whitehouse, & Gooch, 2012). Since our research targeted principals, and they decided whether their school would respond, this finding lends support to our suspicion that we might be hearing from the 'choir' in relation to schools that are already highly involved in sustainability initiatives. We suspect principals who had different foci and priorities for their schools (e.g., literacy, sport, numeracy, arts) might have been more likely to choose to not respond to our invitation to complete the survey.

Of further interest was PCLs' perception of support of teachers in their school related to Sustainability CCP implementation (Item 4, $M = 4.74$, $SD = 0.72$). While school leaders showed some agreement that the majority of teachers in their schools were supportive, the level of agreement was relatively weak. This may indicate that principals were somewhat guarded about how supportive their staff actually were, given the significant workload challenges of curriculum implementation. It also points to the possibility of some staff being receptive and some being resistant, as was reported by a similar study in North Queensland (Evans et al., 2012). Relatedly, and equally troublingly, 46% of respondents noted that their staff lacked knowledge and skills to implement the Sustainability CCP (Item 13, $M = 4.15$, $SD = 1.28$). We explore this particular theme in more detail in a later section, which focuses on qualitative data related to staff capability and professional learning and development.

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TABLE 1: PCLs Perceptions of Levels of Support, Concerns and Staff Capabilities Relating to the Sustainability CCP

Statement	Mean	Standard deviation
Support		
(7-point Likert-scale with 1 = *disagree very strongly* and 7 = *agree very strongly*)		
1. In my opinion the *principal* in this school supports the integration and teaching of the Sustainability CCP.	5.42	0.98
2. The goals of the Sustainability CCP align with the *educational philosophy* of this school.	5.36	1.09
3. The *whole-of-organisation approach* (W-O-A) to sustainability in this school (e.g., systems, policies and practices) supports the implementation of the Sustainability CCP into teaching and learning.	4.78	1.14
4. In my opinion the majority of *teachers* in this school support the integration and teaching of the Sustainability CCP.	4.74	0.72
5. In my opinion the *majority of parents* in this school support the implementation and teaching of the Sustainability CCP	4.63	1.05
6. There is a knowledgeable senior teacher in this school who can offer advice regarding the implementation of the Sustainability CCP.	4.49	1.32
7. There is good support in the form of books, equipment, IT, and other teaching resources to implement the Sustainability CCP.	4.26	1.46
8. There are regular meetings in this school at which I can discuss the implementation of the Sustainability CCP.	4.16	1.32
9. In my opinion *Education Governing Bodies* provide sufficient suggestions and assistance to help teachers acquire the skills and knowledge to implement the Sustainability CCP in this school.	3.61	1.22
Concerns		
(7-point Likert-scale with 1 = *disagree very strongly* and 7 = *agree very strongly*)		
10. I am concerned that the introduction of the Sustainability CCP will lead to less time being available for the teaching of key learning areas in the curriculum.	2.84	0.99
11. I am concerned that implementation of Sustainability CCP may be compromised by focus on Numeracy and Literacy.	3.46	1.28
12. I am concerned that implementation of Sustainability CCP may be compromised by standardised testing (i.e. NAPLAN).	3.69	1.50
13. I am concerned that most teachers in this school / lack the knowledge and skills to implement the Sustainability CCP.	4.15	1.28
Staff capability		
(7-point Likert-scale with 1 = *very poor* and 7 = *excellent*)		
14. In general, I would rate the capability of staff across this school in relation to the implementation/integration of the Sustainability CCP as …	4.50	0.97
15. In general, I would rate professional learning opportunities in relation to the implementation/integration of the Sustainability CCP as …	3.2	1.12

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Items 5 to 8 show that PCLS neither strongly agreed nor disagreed with the statements related to supportive parents, knowledgeable senior staff, books and other teaching resources, and meetings dedicated to Sustainability CCP implementation. This suggests to us that these aspects of support perhaps have not been prioritised in schools in the curriculum implementation process, particularly with regard to the Sustainability CCP. While some literature (AESA, 2014; Evans et al., 2012) highlights the importance of committed staff support, time and financial resourcing, there appears to be little research in relation to more practical resource support such as book and online resources. There are a number of books available, particularly for primary schools (e.g., Littledyke, Taylor, & Eames, 2009), and web resources such as www.coolaustralia.org. The reach and impact of these types of resources on schools' integration of sustainability would be interesting further research.

The only negatively weighted statement (Item 9, $M = 3.61$, $SD = 1.22$) revealed that 44% of PCLs who responded disagreed that education governing bodies had provided sufficient support for implementation of the Sustainability CPP. Of these, 16% strongly disagreed. This finding adds to our earlier commentary about the response rate. Of particular interest here is how the different school sectors in Tasmania rated support from their respective governing body. Sixty percent of Independent school leaders agreed that insufficient support had been provided. This may be due to the more independent nature of these schools and less reliance they might have on governing bodies. Forty-five percent of DOE school leaders agreed that insufficient support had been provided, while only 28% of CES school leaders thought that insufficient support had been provided. This lower rate in Catholic schools may be due to the support offered through the overarching policy support, as well as the efforts of a full-time sustainability officer/adviser employed by CES in Tasmania, and resources such as the Catholic Earthcare Program. More light is shed on this finding in a subsequent section that highlights the lack of Sustainability CCP-related professional learning opportunities for schools.

The average of responses from principals for items 10 through 12 reveal that the Sustainability CCP can be implemented alongside the focus on all other learning areas and national testing programs such as NAPLAN. This is encouraging, given literature that suggests that crowded curriculums and national testing that concentrates on numeracy and literacy can result in narrowing of curriculum and pressure on teachers to focus on core areas being tested (Berliner, 2009; Kennelly et al., 2011; Nichols & Berliner, 2007).

Staff Capability and Professional Learning and Development

As with all curriculum development, the capability of staff to be able to implement changes and the professional learning and development opportunities that might accompany new approaches to curriculum are vitally important to successful implementation in schools. As such, we were interested in how PCLs perceived staff capability to implement the Sustainability CCP in their schools and the extent to which Professional Learning and Development (PLD) had assisted staff in this process. To explore these issues, we asked two questions (Items 14 and 15, Table 1) and four open-ended questions inquiring about staff capability strengths, capability concerns, PLD that had been conducted, and future ideas or needs for PLD, all relating to the Sustainability CCP.

Item 14 reveals that PCLs neither agreed nor disagreed that their staff were capable of implementing and integrating the Sustainability CCP into teaching and learning. This finding is further embellished by Item 13, as well as responses to the qualitative questions. When asked qualitatively about capability strengths of staff in their schools, PCLs were generally positive about the capability of their staff and their willingness to learn and improve their teaching. PCLs spoke about the commitment of their staff to the overall task of implementing the new Australian Curriculum, open-mindedness to

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new ideas, and enthusiasm to work collaboratively with others. Some PCLs spoke positively of the knowledge of sustainability of some of their staff, although these comments seemed limited to only a few staff who were seen as the 'experts' in sustainability.

While acknowledging that a number of schools have clear strengths in sustainability, there was notable concern reported by PCLs related to specific staff capability to integrate the Sustainability CCP into teaching and learning, particularly in regard to content knowledge. This concern was further emphasised by responses to a qualitative question asking: *What are your biggest concerns related to the capability of staff across this school to implement/integrate the Sustainability CCP?* Twenty-five percent of PCLs expressed unease about teacher knowledge, enthusiasm, or interest related to sustainability or the CCP. Three quotes below illustrate this concern.

> *Support of reluctant and disinterested teachers [is a concern]. Some teachers continue to use this knowledge, or lack thereof, to not implement any curriculum or engaging activities for students. (Primary PCL)*
>
> *Shifting their [teachers'] paradigm so that they can see how the sustainability CCP can be integrated within their teaching and learning program and enhance their subject content and not compromise their existing content. (K–12 PCL)*
>
> *Lack of understanding of sustainability and the sustainability CCP [is a concern]. (Secondary PCL)*

The quotes above reveal potential issues with disinterested or unmotivated teachers, as well as lack of knowledge or understanding to meaningfully engage with the Sustainability CCP. We have written extensively in a previous article about issues with teacher understandings of sustainability and the CCP (Dyment, Hill, & Emery, 2015). This lack of understanding about sustainability and how to implement or integrate the CCP by teachers is consistent with other recent findings from Evans et al. (2012) and the AESA (2014). Of further interest here is how mindsets of teachers can influence the integration of sustainability into learning and teaching. As noted by Birdsall (2011), integrating EfS can be seen as a chore by some teachers, while other teachers might exhibit a mindset to more naturally integrate sustainability into the majority of their lessons. We certainly agree that dispositions, beliefs, and preferences that teachers hold may well influence how they integrate cross-curriculum priorities such as sustainability into their teaching programs.

A contributing factor to lack of understanding may lie in a lack of time available for school leaders and teachers to be able to devote to developing competence and resources to embed the Sustainability CCP in teaching and learning. Lack of time was a concern reported by just over 50% of PCLs. Examples included:

> *Learning the priorities of a new curriculum takes time and it is important that teachers fully understand the curriculum before being asked to look at integrating units across the curriculum. I would like to see integration occurring in terms of cross-curriculum priority of sustainability, but would like to take time to unpack the key elements first, hence the slow nature of this process. (Primary PCL)*
>
> *Staff would see the need to incorporate sustainability issues as another demand on their teaching time and workload, leading to further frustration and lack of integration. (Primary PCL)*
>
> *Many staff in this school are stretched to the limit in terms of workload. Those without a background in this area are not provided with the time to catch up. (K–12 PCL)*

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The quotes above reveal that lack of time is a significant issue for PCLs and teachers, which affects their capability to effectively integrate the Sustainability CCP. This lack of time applies equally to teachers who need to upskill their knowledge of sustainability and to teachers who may have the knowledge but lack workload capacity to devote time developing ways of weaving sustainability into their teaching and learning programs. There is little doubt in our mind that the pressure that schools are under with curriculum change is substantial. Lack of time is further compounded by PCLs' perception of a crowded curriculum where there are multiple and often competing demands on teachers, as revealed below.

> *Teachers are already trying to get their heads around new curriculum, cross-curricular priorities, general capabilities and NAPLAN issues and now four terms. There is a lot for teachers to contend with. (Primary PCL)*
>
> *In the face of the extremely high rate of change and the demands of curriculum review across the board — time to effectively review, upskill if necessary, and meaningfully integrate sustainability across the curriculum is at a premium. The main issue is to meaningfully implement Sustainability as a CCP — not just as a unit in Science at a particular year level. (K–12 PCL)*
>
> *Curriculum content is the primary focus of the Department currently and doesn't embrace a more holistic approach to learning. Sustainability isn't explicit in the achievement standards and therefore lacks priority. (Primary PCL)*

Clearly, there is a risk that the Sustainability CCP can be pushed to the margins by more overt and privileged areas of the curriculum (such as subject learning areas) whereby it comes to be seen as an optional extra or an add-on. Over 25% of PCLs commented that the pressures of competing demands of curriculum is a concern. Of particular note is the comment above, relating to lack of assessment, and therefore perhaps lack of accountability, with regard to the Sustainability CCP. As one PCL stated, 'sustainability isn't explicit in the achievement standards and therefore lacks priority'. For us, this is a telling statement that speaks to the oxymoronic nature of the Sustainability CCP. It is called a priority, yet within the structures of the curriculum, there is lack of clear mandate and explicit coherence that force schools to make it a priority. This lack of priority is perhaps further highlighted by the lack of professional learning and development opportunities provided for schools in the sustainability CCP.

Item 15 suggests that PCLs viewed professional learning and development opportunities related specifically to the Sustainability CCP as limited. Almost 50% of PCLs suggested either there had been no professional learning and development opportunities available to them and their school or chose not to provide a response to the question. The following responses provide more context and detail.

> *There has been very little formal PL happening in this area. (K-12 PCL)*
>
> *This [sustainability] has not been a school priority therefore we have not supported people to attend any such [PLD] activities. The Department Plan and the School Improvement Plans drive this type of decision-making. (Primary PCL)*
>
> *There has been none applicable for ages. I applied for leave to attend the Environmental Education Conference in Melbourne last year, but was declined. (K–12 PCL)*

The comments above reveal examples of dissatisfaction about the lack of sustainability-focused professional learning and development, which again points to the lack of priority given to cross-curricular elements of the curriculum. This is further emphasised by 20% of PCLs suggesting that lack of professional learning and

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development resources was a concern for them in relation to developing staff capability. This concern is echoed by Donnelly and Wiltshire (2014) in the *Review of the Australian Curriculum* where they argue the 'cross-curriculum priorities are also a resource issue, and the availability of good quality resources and teacher knowledge to do them well is already affecting successful implementation' (p. 138). These findings are also consistent with those from other parts of Australia (AESA, 2014; Evans et al., 2012), which leads us to conclude that this is a pervasive issue in schools. The quote below summarises the need for PLD that we believe echoes the sentiments of many principals, curriculum leaders, and teachers in Tasmanian schools, and indeed throughout Australia:

> *We need PL opportunities to guide teachers in meaningful and effective ways to implement the Sustainability CCP in a variety of curriculum areas and at different year levels. The notion of a 'crowded curriculum' is all too real, and assisting teachers to maximise the opportunities to address the CCPs in their teaching without increasing the load further is vital. (K–12 PCL)*

Where to From Here? Hopes and Prospects for the Sustainability CCP

We are left grappling with how these findings intersect with the three key moments and provocations outlined in the introduction and literature sections of this article. The evidence of human-induced environmental degradation, disruption of ecological and climate systems, growing social inequalities, and economic destabilisation are not new to readers of this journal. Nor are the repeated calls for rapid and transformative shifts in systems, thinking and actions that might lead to a sustainable future. The role that education has to play in this transformation, as the UNDESD reminds us, cannot be understated. What then are the hopes and prospects for not only the Sustainability CCP, but the broader imperative for effective, coordinated, and coherent sustainability education and learning in Australian schools and indeed across the world?

In the introduction to this article we asked if the notion of a Sustainability CCP was an oxymoron, and wondered how it could live up to its title and become a priority for teachers, schools, and educational leaders. There is no question that some schools are making good progress in embedding the Sustainability CCP into teaching and learning as we have discussed here and elsewhere (Dyment, Hill, & Emery, 2015). Yet there is still substantial work to be done. A majority of PCLs in this research saw sustainability as important, yet as we have discussed in a previous article (Dyment, Hill, & Emery, 2015), most PCLs had only limited understanding of the Sustainability CCP, and levels of integration across learning areas were variable at best. In this article, we have discussed multiple concerns the PCLs have about inadequate teacher knowledge and skills related to sustainability, lack of support and resources — especially time, and a paucity of professional learning and development opportunities, which combine to severely compromise the ability for schools to prioritise the types of sustainability learning that is so desperately needed. Perhaps it is unreasonable for us to expect school leaders to make the Sustainability CCP a priority as they implement the new Australian Curriculum. After all, schools are expected to assess and report on key learning areas and focus on numeracy, literacy, and NAPLAN (national testing).

On a larger scale, there remain issues related to the manageability and coherence of the Australian Curriculum, worries that were identified and discussed over 20 years ago by Hargreaves (1991), albeit in an English context. Sadly, it appears that many of the critiques of the Australian Curriculum made by Donnelly and Wiltshire (2014) are echoes of those previously made by Hargreaves. An overcrowded curriculum, as Donnelly and Wiltshire argue the current Australian Curriculum is, can easily become unmanageable and incoherent. An unmanageable curriculum becomes characterised by

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lack of time and capacity to relate various parts of curriculum together into a coherent whole (Hargreaves, 1991). Hargreaves goes on to argue that 'when the curriculum lacks coherence, it becomes fragmented and confusing, both to teachers and pupils' (p. 33). This lack of coherence seems to be most acutely felt with regard to the cross-curriculum priorities in the Australian Curriculum, as clearly stated by Donnelly and Wiltshire.

So, should the Sustainability CCP and the hugely important, yet challenging, task of embedding sustainability meaningfully and purposefully into schooling across Australia be abandoned? The readers of this journal would, we are sure, agree that this path would only lead to further entrenchment of the unsustainable status quo. We need to remain hopeful of the place sustainability has in our curriculum. Hope, in this sense, is not about sitting back hoping the bureaucrats in Canberra do not take their knives too forcefully to cross-curriculum priorities. Rather, in the words of David Orr (2014), 'hope is a verb with its sleeves rolled up'. That is, the hopes and prospects of the Sustainability CCP in some regard rest in the collective hands of educators across Australia. Our findings unequivocally point to the need for additional teacher support and professional learning. Yet we are not at all confident, given the findings of this research, that waiting for departments of education and governing bodies to provide such professional learning will be fruitful. It may well be incumbent on non-governmental organisations, such as the Australian Association for Environmental Education and the Australian Sustainability Education Alliance, to take a more substantive role in the professional learning space.

The call for diverse avenues of professional learning for individuals does not relegate the importance of systemic issues that currently constrain sustainability learning in schools. If the cross-curricular priorities are to live up their title, that is, actually become priorities in the curriculum, we believe there needs to be structural change alongside increased agency from teachers. We are persuaded by Donnelly and Wiltshire's (2014) recommendation that the cross-curricular priorities need to be reconceptualised and, where educationally relevant, be made explicit and mandatory within the content of the curriculum (see recommendation 17, p. 247). To us, this seems reasonable in practice and may well be welcomed by teachers who currently feel they lack the knowledge and skills to interpret the nine organising ideas of the sustainability CCP and convert them into meaningful and purposeful teaching and learning opportunities.

Our concern here, and a significant caveat we might add, is the process for how the Australian Curriculum, and particularly the cross-curriculum priorities, might be reconceptualised. We believe there is a real risk that sustainability education and learning could be seen to be excised from the curriculum, thus relegating sustainability to just another passing fad. The reality facing our own and future generations is that transformative shifts to more sustainable ways of living is not an optional extra or 'add-on'. It is an imperative that simply cannot be ignored. The role that education must play in these shifts is well established. In many ways, the hopes and prospects of the Sustainability CCP are intricately tied to the hopes and prospects of our planet and future generations.

Endnotes

[1] It is important to note that while curricular inclusion of sustainability as a CCP in the Australian Curriculum is new, it has been present within various levels of state curriculums for some time. For example, in Tasmania, the state-based curriculum was built around seven shared values, one of which was 'responsibility', which elaborated as 'contributing to sustainable community development' (Tasmania Department of Education, 2011).

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[2] A new UK Curriculum is being implemented from September 2014 and it is currently unclear as to whether these cross-curriculum dimensions will remain in effect.

Keywords: curriculum, sustainability, school, leadership, case study, environmental education, cross-curricular, education for sustainability

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