



Embedding a sustainability mindset in responsible management education

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Abstract

- Purpose

Organisational responses to the United Nations Sustainable Development Goals depend on the competency and mindset of business leaders to lead responsibly. This study is informed and underpinned by the Principles of Responsible Management Education (PRME). We examine how embedding the ‘sustainability mindset principles’ within a university programme can contribute to responsible management education and, by extension, leadership development.

- Design/methodology/approach

An illustrative case study using 84 students was applied, including undergraduate, postgraduate, and executive MBA students. An exploratory, qualitative design was followed, primarily adopting focus groups.

- Findings

Evidenced learning gains in connecting sustainability knowledge with personal beliefs and behaviours, provide a compelling basis for educational and business practitioners to focus on the sustainability mindset principles. Mapping of mindset against leading global competency frameworks provides important theoretical insight. Learning is illustrated through multiple dimensions (i.e. cognitive, behavioural, and affective) to inform leadership development approaches.

- Originality

This study is original in the pedagogic examination of the learning dimensions of the sustainability mindset principles in a Business and Management programme. It also offers new insights in terms of the implications for leadership development.

- Research limitations/implications

The mapping of sustainability competency frameworks against the sustainability mindset principles, alongside qualitative research insights, provides a compelling basis for further research into the learning gains from embedding the mindset principles. The situated nature of the study and the lack of longitudinal measurement of what students take forward into their lives and workplaces is a limiting factor to be considered.

- Practical implications

This study evidences the value of ‘whole-person’ learning for responsible management, which can helpfully inform the design of both educational and workplace leadership development programmes.

Introduction to the Sustainability Mindset and management applications

This research analyses the Sustainability Mindset as an educational training tool for responsible management and leadership. A case study of undergraduate and postgraduate programme delivery in a UK university business school is the context for this analysis. Organisational responses to the United Nations (UN) 17 global Sustainable Development Goals (SDGs) depend upon individual engagement in behaviours that promote social, environmental, and economic sustainability. University education shapes future business leaders' understanding and behavioural actions and forms the foundations of inner attitudes and values. Rimanoczy's (2021) Sustainability Mindset Principles (SMPs) offer a framework to explore such knowledge, behaviours, and attitudes, based on a study of the defining characteristics of pioneering business leaders that could be intentionally developed in others.

Convened by Rimanoczy, the 'Sustainability Mindset' is a working group within the UN-backed initiative 'Principles of Responsible Management Education' (PRME), composed of scholars and business coach practitioners. As the educational arm of the Global Compact, PRME is concerned with developing future business leaders who are empowered to address concerns on the environment, human rights, labour, and anti-corruption. Rimanoczy's earliest work on the Sustainability Mindset defines it as "a way of *thinking* and *being* that results from a broad understanding of the ecosystem's manifestations, from social sensitivity, as well as an introspective focus on one's personal values and higher self, and finds its expression in actions for the greater good of the whole" (Kassel et al., 2018, p. 7). Twelve SMPs are categorised within four content areas (see framework I), each of which aligns with three learning dimensions; 'knowing' (i.e. eco-literacy), 'thinking' (i.e. systems perspective), and 'being' (i.e. spiritual intelligence and emotional intelligence). Rimanoczy (2021) sets out how the SMPs are premised upon enabling individual and collective action through both objective (external)

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3 and subjective (internal) awareness and understanding (Wilbur, 2000). Its ‘inner’ focus is
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5 rooted in positive psychology (Selgiman & Csikszentmihalyi, 2000), appreciative
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7 inquiry (Cooperrider & Witney, 1999), and transformative learning (Mezirow, 1997). The
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9 forthcoming discussion here maps the SMPs against leading global sustainability competency
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11 frameworks and illustrates its particular contribution through this internal lens of self-
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13 discovery.
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19 The Sustainability Mindset Indicator (SMI) has more recently developed as an online
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21 instrument that provides developmental insights on each of the twelve SMPs, providing a
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23 personalised report with suggestions and resources to develop a mindset. It is premised as an
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25 empowering tool to trigger awareness and insight into individual ways of thinking and acting,
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27 and the implications for wider society (both present and future). Rimanoczy and Klingenberg
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29 (2021) detail its design as drawing from ‘Intentional Change Theory’ (Boyatzis & Akrivou,
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31 2006), and how it enables the reduction of cognitive dissonance (Festinger,
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33 1962) through empowering individuals to behave according to internal values. This research
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35 embedded the SMI into learning programmes and used this as a basis to explore students’
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37 learning reflections.
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45 At the time of writing, this is the first published study to apply the SMI in a responsible
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47 management learning programme and to illustrate how this contributes to differing dimensions
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49 of learning (cognitive, behavioural, and affective). This builds on previous studies across
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51 education and management learning contexts, which include the importance of experiential
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53 learning and the application of the SMPs in shaping future leaders’ social impact and
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55 entrepreneurial action for the SDGs (Tomasella et al., 2022), how the SMPs provide a basis for
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57 ‘deeper’ learning (Hermes & Rimanoczy, 2018), and the SMPs contribution to student learning
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3 for sustainability (Wersun et al., 2019; Yang et al., 2021). It also contributes key theoretical
4 contributions in advancing the discourse around responsible management education through
5 an analysis of the alignment of global sustainability competency frameworks with the SMPs.
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7 This contributes to management learning in terms of learning implications for educating the
8 new breed of future business leaders. As the SMPs are designed as both an educational and
9 business coaching tool, the research findings also inform an understanding of leadership
10 development.

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21 The SMPs can contribute to organisational learning by providing a means of ‘framing’
22 decision-making through building awareness of differing perspectives. For example, Fischer-
23 Kreer and Brettel (2022) draw attention to the importance of entrepreneurs’ cognitive capacity
24 (i.e. mindset) to frame impacts across the spectrum of positive to negative, rather than showing
25 cognitive bias towards positive impacts. Similarly, the SMPs provide a spectrum of
26 perspectives that support ways of understanding, connecting to, and shaping progress for the
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SDGs.

40 The concept of ‘mindset’ was popularised by Dweck (2006) as an illustration of how peoples’
41 beliefs, goals, and behaviours drive thought and action, It has been adopted by influential
42 authors on global development such as Raworth (2018, p. 60) who asks “How can we learn to
43 talk again of values and goals, and put them at the heart of an economic mindset that is fit for
44 the twenty-first century?” Mindset is said to influence sustainable entrepreneurship (Arslan et
45 al., 2023), and sustainability value development to inform strategic decision-making (Tollin &
46 Vej, 2012). The SMPs provide a distinct narrative through twelve empirically-grounded
47 constructs, which acts to break down the popular notion of ‘mindset’, with consideration to
48 how each principle can be developed through differing ways of learning (cognitive,
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3 behavioural, and affective). It, therefore, represents a meaningful framework for both
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5 educational and organisational learning development in mindsets that both support and impede
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7 progress toward the SDGs.
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12 The focus of the SMPs on individual inner values and attitudes is fundamental to employee
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14 engagement in the SDGs, and education represents a formative influence on the way we think
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16 and behave. ‘Values-based responsible management education’ (Audebrand & Pepin, 2022)
17
18 aligns with an ‘outside in’ approach to sustainable business practices that seeks opportunities
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20 that businesses can create value for society (Dyllick & Muff, 2016). Saunders et al (2022)
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22 posit that individualised approaches are needed to increase such perceptions of social
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24 responsibility, and Seidel et al. (2018) show how business students’ values impact subsequent
25
26 ‘sustainability management orientation’. The SMPs provide an indicative framework for
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28 inner transformation and values development that underpin behavioural actions for the SDGs
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30 in personal and professional lives. ““Mindset not skillset”” has been described as important
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32 for leadership development by addressing “underlying assumptions” (Kennedy et al., 2012, p.
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34 10), and the SMPs provide a framework for this narrative to develop.
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42 Ehrenfield’s (2008) ‘Tao of sustainability’ features three domains for organisational
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44 sustainability (ethical, natural, and human), and calls for a need to have a strong sense of
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46 ourselves, our place in the world, and a sense of doing the right thing. Individual-level
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48 approaches are referred to as the ‘micro foundations’ of Corporate Social Responsibility (CSR)
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50 (Gond et al., 2017). The SMPs provide a framework for such micro-foundations of change by
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52 moving beyond the ‘what’ and the ‘how’ associated with traditional business training
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54 approaches (i.e. horizontal learning) to the awareness of ‘why’ in tackling new perspectives
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56 and assumptions (i.e. vertical leadership development) (Jones et al., 2020). Such deeper
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3 individual awareness and understanding may, in turn, inspire ‘organisational citizenship
4 behaviours’ (Akterujjaman et al., 2022). The research imperative in this project is therefore
5 scaffolded in terms of enabling effective responsible management education experiences that
6 positively influence individuals’ future professional practices, and thereby, organisational
7 contributions to global developmental goals. This is premised upon embedding the SMPs into
8 the educational experience to analyse students’ learning experiences.
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19 **‘Competency’ and ‘Mindset’**

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21 The language of ‘mindset’ and ‘competency’ is used interchangeably throughout academic and
22 practitioner literature. For example, the UN’s Department of Economic and Social Affairs
23 (UNDESA, 2021) addresses the need to develop capacity through ‘mindsets’, alongside
24 ‘knowledge, skills and leadership competencies’. The terms ‘competency’ and ‘competencies’
25 are adopted throughout this paper unless drawing on references where variations such as
26 ‘competences’ might be used. This aligns with professional association literature which notes
27 that variations are used interchangeably (CIPD, 2021).
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40 The global business school accreditation body, the AACSB (Association to Advance Collegiate
41 Schools of Business), defines competencies as “the intellectual and behavioural capabilities a
42 programme is intended to instill, as well as the knowledge, skills, and abilities expected as an
43 outcome of a particular programme” (AACSB, 2020, p. 37). The framework I conceptually
44 maps the 12 SMPs against leading global competency frameworks (UNESCO, GreenComp,
45 and the Inner Development Goals). This is not suggested to be a definitive alignment, but
46 rather to illustrate the comparability across the language of mindset and competency and the
47 complementarity with the SMPs.
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[insert Framework I here]

It is immediately notable from Framework I that the SMPs provide greater comparative emphasis to 'Being' attributes. The Inner Development Goals (2023) are made up of 23 skills under 5 categories – notably beginning with 'Being', and then going on to 'Thinking, Relating, Collaborating and Acting'. The European Commission GreenComp sustainability competence framework (Bianchi et al., 2022) defines 12 competencies under 4 areas which also begin with a focus on 'Being' through – 'Embodying sustainability values', and progressing to 'Embracing complexity in sustainability, Envisioning sustainable futures, Acting for sustainability'. The UN Education, Cultural and Scientific Organisation (UNESCO, 2017, 2020) defines 8 competencies within 3 areas – 'Thinking, Practicing, and Being'. These have been adopted by the UK's Higher Education governing bodies the 'Quality Assurance Agency' and the professional standards association 'Advance HE' (QAA and Advance HE, 2021).

Microsoft (2022) states that digital skills are missing from UNESCO's (2017, 2020) framework, which it argues is essential for a current and future workforce that drives sustainability. This exemplifies ongoing dialogue around competency definition in a fast-paced and changing workplace environment. If sustainability is to be seen as implicit within all employment (WEF, 2021), then it is necessary to drive an understanding of underpinning values and beliefs. By continuing to engage and reflect upon what organisations need, and how this relates to university learning programmes, paradoxical tensions in responsible management education can be revealed and addressed (Smith et al., 2022). This research seeks to inform responsible management education and organisational learning through an exploration of mindsets for ecological literacy, systems perspectives, emotional intelligence, and spiritual intelligence.

Learning dimensions and the importance of 'being'

Each of the twelve SMPs can be understood and taught through cognitive, behavioural, and affective learning attributes (Kassel et al., 2018). These align with Bloom's (1956) taxonomy of educational objectives (cognitive, psychomotor skills, and affective) that underpin ongoing reformulations of these concepts. In addition, they are mapped against other terminology relevant to this study as shown in Table I.

[insert Table I here]

An extensive literature review of competency in management literature by Laasch et al. (2022) found the 'Knowledge, Skills, and Attitude' (KSA) framework to be the most prominent competency dimension, which is also adopted by Muff et al.'s (2020) 'Competency Assessment for Responsible Leadership'. Laasch et al. (2022) extend the KSA to 6 dimensions including 'Relating, Seeing, and Becoming', which applies to the SMPs as it underlines an increasing emphasis on affective learning dimensions.

'Being', is a core concept in the SMPs based on Wilber's (2007) model of external quadrants which are about developing knowledge (thinking), and internal quadrants which are about developing values and beliefs (being). The premise is that while knowledge (thinking) can enable mastery of a subject, it does not necessarily lead to expanded views and perspectives, whereas developing values and beliefs (being) enables a broader lens of exploration, including alternative views (Rimanoczy, 2021).

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3 Educators “wishing to change students’ values, attitudes, worldviews, identities or dispositions,
4 are teaching at the highest level of the affective domain” (Shephard and Egan 2018, p.3), and
5 it is this aspect of the SMPs which emphasises its contribution to ‘whole person’ (OECD, 2022)
6 and ‘experiential’ learning (Kolb, 1984). Nonet, Kassel, and Mejis (2016) identify ‘being,
7 understanding/knowing and doing’ as essential elements to individual development for
8 responsible management, and Haski-Levanthal, Pournader, and McKinnon (2022, p. 18) also
9 state the importance of such learning dimensions in students acquiring “knowledge, skills, and
10 dispositions that make them effective members of their society”.

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24 However, traditional university learning is said to have focused on the cognitive domain based
25 on understanding, analysing, and synthesising facts and knowledge (Shephard, 2008). This is
26 reflected in the QAA and Advance HE guidance (2021) (see Table I), in which ‘Being’
27 outcomes are the least numerous. A mapping of sustainability competency across Spanish
28 university degrees also concluded that priority is given to conceptual and cognitive
29 competencies over attitudinal and behavioural attributes (Sánchez-Carracedo et al., 2021). This
30 is at odds with recent studies into climate change education, whereby Lehtonen et al. (2018)
31 advise that ‘holistic’ programme approaches are required alongside science and technology.

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45 Framework I illustrates how the SMPs extend the focus of other competency frameworks by
46 deeply examining the concept of ‘being’, especially within the principle of ‘spiritual
47 intelligence’. For example, the principle of ‘Oneness with Nature’ is only included within the
48 Greencomp framework, yet is arguably critical to well-being (Guzman 2021) and inspiring
49 connection and experience of the natural world that underpins a desire to protect it (Louv,
50 2005). The comparative lack of comparability to UNESCO (2017)/QAA and Advance HE
51 (2021) in ‘spiritual intelligence’ is especially marked, since SMPs such as ‘mindfulness’ are
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3 arguably key according to the neuroscience of the potential gains from opening new neural
4 pathways in the development of sustainability solutions (Wamsler & Brink, 2018).
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10 Gosling and Grodecki (2020, p. 251) state that “the world of management competences has yet
11 to catch on to calls for radical changes to (or of) capitalism” and call for creating contexts that
12 are conducive to enabling responsible behaviours. Embedding the SMPs into teaching can
13 trigger insights that lead to transformative behaviours that ripple out through students’ career
14 and life trajectories. Effective management practice for sustainability depends upon
15 organisational decision makers ‘walking the talk’, which requires a personal belief and
16 conviction alongside intellectual understanding and practical skills. Therefore, “underlying
17 mindsets to sustainability” needs to be developed to enable the broader perspectives needed for
18 innovative solutions (Salovaara et al., 2021, p. 8).
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32 **Method**

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34 The research involved one undergraduate and two postgraduate module courses (one at the
35 Executive MBA level) over the 2021/22 academic year (see Table II) within a southern modern
36 UK university (which provided ethical approval for the project). The SMPs were embedded
37 into module delivery, and all students had the opportunity to take the Sustainability Mindset
38 Indicator (SMI). The SMPs were embedded into a formal summative assignment in two of the
39 three modules included in this research. The aim was to explore how student engagement with
40 the SMPs influences learning about responsible management with the specific objectives of
41 furthering understanding of how the SMPs enable learning across cognitive, behavioural, and
42 affective dimensions.
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56 The first stage of research in semester 1 (September to January), involved gathering data from
57 MSc student assessment submissions related to the SMPs. The second stage in semester 2
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3 (January to May) drew upon a research-informed design (Healey, 2005) with selected students
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5 from the semester 1 module acting as co-researchers of the undergraduate and Executive MBA
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7 groups. This involved a small survey of undergraduate students with qualitative open questions,
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9 followed by focus groups at the end of the module. Focus groups were also carried out with the
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11 Executive MBA students. Data analysis captured a total of 84 students (with some cross-over)
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13 across assessment submissions, focus group transcripts, and qualitative survey responses (see
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15 Table II). Student demographics were rich in variation as the Executive MBA students
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17 represented working professionals, the undergraduate students were representative of typical
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19 British students aged primarily around 20-21 years in the second year of study, and the MSc
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21 students typically around 22-27 years old, with a significant representation of overseas students
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23 from India.
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31 [insert Table II here]
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35 Data was gathered from two assessments. The MSc assessment required reflective insights into
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37 how consideration of SMPs could contribute to responsible management approaches in a
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39 selected organisational analysis. The second was an undergraduate assessment that required
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41 the application of SMPs to how they could contribute to sustainability reporting approaches in
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43 selected organisational analysis. All assessments were initially scoped for suitability, based on
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45 the depth of responses. This stage of research primarily informed pedagogic insights into
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47 embedding the SMP and SMI into the module assessment.
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54 The focus groups were carried out either in person or online (the latter recorded via Microsoft
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56 software which enabled basic transcription). A student co-researcher conducted the
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58 questioning, with the author present to support. The questioning was structured around each of
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3 the twelve SMPs and we asked students to share what had been written in the feedback report
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5 according to the differing dimensions of learning (i.e. cognitive, behavioural, and affective).
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10 The transcripts were analysed using NVivo based primarily on *a priori* coding (Saldaña, 2021)
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12 of each SMP and associated learning dimensions. Emergent codes were also identified within
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14 ‘well-being’ which included empowerment, difficult emotions, and powerlessness. Quotations
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16 were coded according to the source of data for traceability (see Table II), and the most
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18 illustrative quotations were selected for the presentation of findings below. The analysis is not
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20 differentiated according to undergraduate or postgraduate student response, since this was a
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22 new area of study for both groups and, despite differing life experiences and previous
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24 education, the SMPs are equally applicable to all.
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31 The familiarity of the researcher with the participants meant that the ‘voices’ of the students
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33 were very “real”, rather than “lost in a pool of numbers” (Dwyer & Buckle, 2009, p. 61). This
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35 was enriching from both a teaching and research perspective but also required increased
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37 attention to the potential for both ‘researcher bias’ in looking for positive affirmation of the
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39 concepts that had been selected for teaching. Similarly, consideration was needed of ‘informant
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41 bias’ (Fleming, 2018) whereby the benefits of ‘known’ relationships between researcher and
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43 participant can encourage open discussion, or conversely inhibit it through the power dynamics
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45 of the relationship (Chavez, 2008). As assignments are anonymous when marked, and the
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47 content of the discussion was not sensitive, it is not felt that bias was an issue. Following
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49 Lincoln and Guba (1985), research ‘credibility’ was enhanced through the contextual teaching
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51 relationship with participants, and ‘dependability’ and ‘confirmability’ improved through
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53 presenting rich quotations in the findings.
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Results and Discussion

As the expression of student voices are central to this study, a rich presentation of quotations is provided. This includes comments primarily drawn from focus groups which were structured around each of the SMPs in turn, and student reflections from reading their personalised feedback reports which highlighted if they draw significantly/less significantly on particular learning dimensions (cognitive, behavioural, or affective) for each of the principles. The analysis below draws together differing quotations that illustrate coverage of all the SMPs, grouped according to the most apparent learning dimension (although in some cases they might be inter-changeable and somewhat subjective), as these are fundamental to inform the design of programmes of learning development.

Table III provides a summary of the core themes of learning dimensions mapped against quotations for each principle and indicative insights. As a reminder, the SMPs are represented in four content areas of Ecological Worldview (eco-literacy, my contribution), Systems Perspective (long-term thinking, both+thinking, cyclical flow, inter-connections), Emotional Intelligence (reflection, self-awareness, creative innovation) and Spiritual Intelligence (oneness with nature, mindfulness, purpose).

[insert Table III here]

Cognitive learning

Typical comments indicated that student learning highlighted both what they know and don't know about themselves and the world around them, which is an important precursor to behavioural change, e.g. *"I've thought about it and realised that actually by taking public transport and things that are contributing, whereas before I wasn't aware that I was actually*

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3 *helping*” – ‘My Contribution’ (FUb2). It also showed how understanding approaches to
4 situations and other people can be a step towards change, e.g. *“I think it helps a lot to create*
5 *and influence others because there are more perspectives and you can find better solutions*
6 *with more minds”* – ‘Inter-connections’ (FUa5). Such comments illustrate meaningful learning
7 for career development by providing a platform to explore different ways of thinking and how
8 an understanding of differing personal values and beliefs can help to inform ways of
9 influencing and persuading others towards sustainability actions. One student referred
10 specifically to the principle of ‘Mindfulness’ and commented that *“Exploring mindfulness is*
11 *useful for any kind of job, as it means acting consciously. It improves communication, enhances*
12 *decision making, and helps with creativity and innovation”* (PGA3). Organisations that are
13 responsive to supporting and actively nurturing such ‘whole person’ approaches to decision-
14 making are arguably the most well-positioned to enable the complex, unknown, and untested
15 behaviours that the SDGs may require.
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35 As with barriers to organisational actions for sustainability, instances of ‘cognitive dissonance’
36 (Festinger, 1962) were commonly expressed regarding the perceived barriers in terms of cost
37 and accessibility, e.g. *“It's not feasible in my life to eliminate plastic or eliminate like single-*
38 *use things. So, I understand it, but it's not something I can do personally right now”* - ‘Cyclical
39 Flow’ (FUb2). Similarly, thoughtful insights were made regarding motivations behind positive
40 behaviours that might not be ‘ethically’ driven - *“We try to limit the use of electricity and water*
41 *because it will save us money on bills, rather than limit the use of it because it's going to be*
42 *sustainable. It's a very selfish way to look at things because it saves me money, rather than it*
43 *helps everyone else out”*- ‘Self-awareness’ (FUa4). The comparison with workplace barriers
44 and motivations to engage in responsible business practice are evident, and provide a
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3 compelling context for an individual understanding of what responsible business leadership
4 entails, and to question organisational norms that impact progress towards the SDGs.
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10 Executive MBA students stated their intent to discuss the SMPs with colleagues, demonstrating
11 its application as a workplace learning tool - *“I need to share this concept with people, the*
12 *different principles, the impression I've got, and support others with it” (FP3)*. Another
13 Executive MBA student commented - *“This is a very real way I could get [clients] to think*
14 *about environmental management, [...] how can they make it real in their organisation [...]*
15 *it's a very real and personal way for businesses to improve environmental and social*
16 *sustainability” (FP2)*. Such comments indicate the added value the SMPs can bring to the
17 learning process through deepening more ‘traditional’ knowledge-based learning with a more
18 reflective and personalised approach. Encouraging greater connection across personal and
19 professional contexts, through the framework that the SMPs provide, helps to bring knowledge
20 to life, and therefore ensures it remains central to ongoing thinking and discussion – thereby a
21 proof of continuous learning development.
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40 *Behavioural learning*

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42 The focus of mindset principles on individual behavioural change encouraged student self-
43 reflection and goal setting which can again naturally extend into a professional context, e.g.
44 *“In the workplace, I could create an environment and activities that encourage people to have*
45 *ideas and take risks and help develop my own ideas as well”* – ‘Creative Innovation’ (UGb2).
46 This is instrumental to transformative change, demonstrating an understanding of complex
47 change for the SDGs and how leadership behaviours can model and nurture innovation. If
48 such thoughts linger with students through to their employment, then responsible management
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3 education can lead to a meaningful workplace impact through personal actions and the ‘ripple’
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5 effect in influencing others both formally and informally.
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10 However, Shephard et al (2011) emphasise the importance of applying knowledge in the ‘real
11 world’ for learning to be truly impactful. For example, in discussing the principle of ‘Long
12 term thinking’ responses indicated that despite an awareness of current behaviours and impacts,
13 limited changes were made, e.g. *“I’m not necessarily translating what I know into and feel into
14 actions”* (FP3). This illustrates the value of reinforcement across learning programmes, in
15 addition to experiential opportunities (such as integrating the SMPs into placement and
16 internship learning activities) to enable students to immediately act upon what is learned.
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29 The value of the SMPs in triggering personal development and insight is apparent both in terms
30 of positive behaviours, and where we can do more - *“Rather than just complain about the
31 situation, I need to actually do something about it. It said I’m a very sensitive person that
32 worries about the long-term impact but doesn’t make the jump to do it”* – ‘Long-term thinking’
33 (FUb1). Such personal insight can be a trigger for long-lasting behavioural change, in addition
34 to increased self-awareness of the potential to influence others - *“It has certainly made me
35 more aware of my habits, and how I can change them for the better. I have never questioned
36 my purpose, but, being a strong communicator, it has guided me to educate others on personal
37 change”* – ‘Purpose’ (SU6). Such comments illustrate how learning about the SMPs provides
38 a ‘language’ and framework for ‘change-makers’.
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52 Connected to this, is students’ reflective capacity on both their own and organisational values,
53 and how this influences career aspirations – *“I have become more intentional in learning about
54 the responsible business practice and sustainability actions the organisations I intend to build
55 my career with are taking”* – ‘Reflection’ (PGA4). The SMPs are shown to be a powerful tool
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3 in applying knowledge to our behaviours in personal and professional spheres and to become
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5 more aware of the behaviour of others, including organisations, which is an important
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7 consideration in recruiting and retaining employees that can drive and deliver on sustainability
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9 goals.
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14 *Affective learning*

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16 ‘Whole person’ learning (OECD, 2022) and ‘compassionate pedagogy’ (Gibbs, 2017) are very
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18 clearly called for in responsible management learning. Students indicated that they may avoid
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20 engaging in some feelings because of feelings of discomfort or for protection of themselves -
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22 *“I don't connect my heart and my feelings. I have done that to protect myself because if you do*
23
24 *know about sustainability-related problems, it is a risk to your well-being if you can't then*
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26 *execute everything in this space”* – ‘Eco literacy’ (FP3). This comment is interesting in
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28 highlighting the connection between sustainability actions and well-being, which needs to be
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30 considered in striking a balance between encouraging positive action and not adding to
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32 ‘pressures’ already faced in daily lives.
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40 The emotions mentioned included “irritation”, “guilt”, “avoidance”, “decision paralysis” and
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42 “internal battle” - *“My long-term thinking is almost stunted by the fact that I probably don't*
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44 *enter into enough conversations for fear of being told I'm wrong, or not doing enough, or doing*
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46 *too much and making someone else feel like they're not doing enough”* – ‘Long term thinking’
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48 (FP2). The complexity of emotions surrounding sustainability reinforces the notion of ‘climate
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50 anxiety’ and the role of education in constructing positive psychology and determination
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52 (Chawla and Gould 2020). This is important in building the resilience needed for future action
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54 and leadership, and to help counter feelings of ‘powerlessness’ - *“It's not going to make a*
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3 *difference to anyone else, as in I am not going to make a massive impact. My contribution isn't*
4 *going to change anything” – ‘My Contribution’ (FUa3)*
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10 Overall, the comments indicated that the SMPs had enriched learning. Yet, one student voiced
11 an opinion that is also likely to be representative of peers who chose not to participate in the
12 research - *“Personally, I don't care about SDGs or anything like that. It doesn't make me*
13 *money, so it doesn't make sense”* (FUa3). This student's comments demonstrate that teaching
14 on some level ‘failed’ in “helping students see the applicability of the SDGs to their lives and
15 their future careers, and showing them how they can be part of the solution” (SDSN, 2020, p.
16 13). It underlines the need for further research into student perceptions of teaching impact
17 across all learning dimensions, to generate further understanding of how to engage interest,
18 which is of course also fundamental to organisational learning on engaging employee and
19 stakeholder interest and engagement in sustainability.
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35 Empowerment can arise through identifying and naming barriers to positive behavioural
36 change - *“It has definitely shaped my understanding of who I am and how I want to live as it*
37 *has confirmed the way I think and act, and I can now trust myself with what the outcome of the*
38 *feeling will be. I am now prepared for what I will feel despite any situation and can prepare*
39 *for that feeling in advance, creating a backup plan”* (SU3). Such personal empowerment is
40 inextricably linked to responsible leadership, and learning gains could also be seen relating to
41 recognising and responding to the emotions of others with differing perspectives, e.g. *“For me*
42 *to communicate with people when they have different views, it irritates me when they obviously*
43 *don't agree with me. But then I have to learn to see their side and focus on that as well as my*
44 *own” – ‘Both+Thinking’ (FUb1).*
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3 Embedding the SMPs into learning broadens discussions in ways that might not otherwise
4 emerge if focusing on cognitive learning alone, through building a sense of community and
5 shared understanding - *“Learning about myself and other people in my group to discuss what*
6 *emotions we feel and the actions we take as a result”* – ‘Self-awareness’ (SUI2). Encouraging
7 comments were made for future behaviours based on the emotional responses to learning - *“I*
8 *hadn’t thought about it until now, but it has struck me I would like to help to create a difference,*
9 *to do something meaningful, to give back to local communities, to do something good for the*
10 *world, to help charity, to help someone in need”* – ‘Purpose’ (FUa1).
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24 Students’ time at university can be life-shaping in terms of the diversity of experiences it brings,
25 which can in turn shape career aspirations and trajectories. In discussing the principle ‘Oneness
26 with Nature’ a student commented that *“I never really thought about nature before, it was just*
27 *like ‘there’. Since coming to university, I’ve had housemates that love it, and I think that’s*
28 *interested me and influenced me to notice nature more”* (FUa2). This is a further good
29 illustration of the power of influence, both as part of educational and workplace learning. This
30 principle is unique in the broader field of sustainability competencies, and one that should not
31 be dismissed or forgotten about, since it underpins further positive action through building a
32 desire to act to protect nature, and a sense of wellness to be able to act over the long-term.
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47 **Implications, Limitations, and Further Research**

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49 Competency in responsible management education and learning is said to deserve “complex
50 treatment” (Gosling and Grodecki 2020, 260). This paper has synthesised the academic and
51 practitioner literature on competency and mindset and shown the similarities between the SMPs
52 and other leading sustainability competency frameworks. The findings resonate with what
53 Ellsworth (1989) in Hibbert and Cunliffe (2015, p. 186) calls “a pedagogy of the unknowable;
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3 a pedagogy in which we can never fully know ourselves, our experience, others, nor the impact
4 of our actions”. The research has featured the voices of those who ‘reject’ the imperatives of
5 sustainability, questioning its relevance and feasibility to their lives. But by facilitating such
6 discussion, the SMPs have been found to provide a space for the expression of such emotions,
7 which is an essential precursor to understanding and behavioural action.
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17 Practically, the research provides a case study application that responds to Sánchez-Carracedo
18 et al’s (2021) call for ‘educating for life’ through increasing the presence of competencies
19 associated with values, attitudes, and emotions in curriculum design. Through embedding
20 SMPs into teaching activities and assessment, the findings demonstrate a broader
21 understanding of “triple bottom line related issues, their values, soft skills, and holistic vision”
22 which Nonet et al. (2016, p. 730) state is required by business school education to develop
23 responsible managers. ‘Whole person learning’ is at the heart of developing global competence
24 for an ‘inter-connected’ world (OECD, 2022) and the SMPs have been found to provide a tool
25 and language that students can use to prompt personal discovery that hopefully extends beyond
26 education into career development.
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42 It is not claimed that the SMPs are an exhaustive representation of all possible mindsets that
43 can contribute towards both sustainable change and enhanced personal and professional lives,
44 and it cannot yet be evidenced that they are directly correlated with positive change. While the
45 teaching intention was to inspire student thought and actions for sustainability both in current
46 and future actions, this can only be investigated through a longitudinal study. Chankseliani
47 and McCowan (2021) highlight the need for more research into the links between the formal
48 curriculum and positive impacts on society, and the sustainability mindset provides an ideal
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3 mechanism to build data on longer-term learning impact since the principles can be applied
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5 both in educational and workplace settings.
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11 The most significant limitation of the study was that due to operational restrictions, the SMI
12 tool was only rolled out to students on each module once, mid-way through the module. Ideally,
13 it would be implemented pre-module, and again at the end. This would generate a group profile
14 of results for the educator, that could inform any changes/journey travelled in student
15 responses. It could also present a potentially innovative assessment reflective exercise for
16 students to compare pre and post-personalised reports. If applied in a workplace context, it
17 would be helpful for participants to complete the SMI pre and post-training programme
18 interventions.
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33 **Conclusion**

34 This study adds insight into how personal development and growth inspired by engagement
35 with the SMPs can enable students on the journey to becoming strong voices, and even
36 activists, for change. Learning about the SMPs can trigger transformative and radical insights
37 and actions, based on building self-awareness of values and beliefs, emotions generated
38 through deep reflection, alongside building a strong sense of individual purpose. The
39 combination of learning about sustainability from the perspective of cognitive, behavioural,
40 and affective dimensions of learning empowers learners whether in education or the workplace,
41 to promote actions for the SDGs throughout their personal and professional lives. The SMPs
42 straddle transformational learning (Mezirow, 1997) and transformational leadership (Burns,
43 1978), providing a framework to structure thought and discussion on complex issues using
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3 readily definable and understood terms and concepts that truly encompass ‘whole person’
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5 learning that is required in a global world (OECD, 2022).
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10 If the purpose of education is to inform and inspire, then the sustainability mindset provides a
11
12 pathway to navigate through learning that embraces mind, body, and spirit in pursuit of the
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14 SDGs and beyond. Relating to responsible management education, Parkes et al. (2017, p. 61)
15
16 state that as educators “We have agency with the potential to facilitate the mindsets,
17
18 commitments, and potential behaviours of scores of organisational leaders for decades to
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20 come”. The SMPs provide a learning tool that straddles educational and professional contexts,
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22 enabling transitions from ‘safe to brave’ spaces in individual and organisational behaviours
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24 that positively contribute to our common future.
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Framework i: Mapping the sustainability mindset principles against leading competency frameworks

Sustainability Mindset Principles	UNESCO/QAA Education for Sustainable Development Competencies	European Commission Greencomp sustainability competence framework	Inner Development Goals
ECOLOGICAL WORLDVIEW (Knowing)			
Ecoliteracy	Critical Thinking (<i>Thinking</i>)	Critical thinking (<i>Embracing</i>)	Empathy/compassion (<i>Relating</i>) Complexity awareness (<i>Thinking</i>)
My Contribution		Problem framing (<i>Embracing</i>)	Humility (<i>Relating</i>) Optimism (<i>Acting</i>)
SYSTEMS PERSPECTIVE (Thinking)			
Long Term Thinking	Anticipatory (<i>Thinking</i>)	Futures thinking (<i>Envisioning</i>)	Long term orientation and visioning (<i>Thinking</i>)
Both+Thinking	Systems thinking (<i>Thinking</i>)	Systems thinking (<i>Embracing</i>)	Inclusive mindset and intercultural competence (<i>Relating</i>) Critical thinking (<i>Thinking</i>)
Cyclical Flow	Strategic (<i>Practicing</i>)	Adaptability (<i>Exploratory thinking</i>)	Sensemaking (<i>Thinking</i>)
Inter Connections	Collaboration (<i>Practicing</i>)	Political agency (<i>Action</i>) Collective action (<i>Action</i>)	Trust (<i>Relating</i>) Connectedness (<i>Relating</i>) Appreciation (<i>Relating</i>) Perspective skills (<i>Thinking</i>) Communication skills (<i>Collaboration</i>)
EMOTIONAL INTELLIGENCE (Being)			

Reflection	Normative (<i>Being</i>)		Perseverance (<i>Relating</i>) Openness and learning mindset (<i>Being</i>)
Self-Awareness	Self-awareness (<i>Being</i>)	Valuing sustainability (<i>Embodying</i>)	Integrity and authenticity (<i>Being</i>) Self-awareness (<i>Being</i>) Courage (<i>Relating</i>)
Creative Innovation	Integrated problem-solving (<i>Practicing</i>)	Exploratory thinking (<i>Envisioning</i>)	Creativity (<i>Acting</i>) Co-creation skills (<i>Relating</i>) Mobilization skills (<i>Relating</i>)
SPIRITUAL INTELLIGENCE (Being)			
Oneness with Nature	n/a	Promoting nature (<i>Embodying</i>)	n/a
Mindfulness	n/a	Supporting fairness (<i>Embodying</i>)	Presence (<i>Being</i>)
Purpose	n/a	Individual initiative (<i>Acting</i>)	Inner compass (<i>Being</i>)

Source: Author based on Bianchi et al (2022), Inner Development Goals (2023), QAA and Advance HE (2021), Rimanoczy (2021), UNESCO (2017)

Table i: Learning dimensions categorizations by author

Author	Learning Dimensions		
Bloom (1956)	Cognitive	Psychomotor	Affective
UNESCO (2017)	Cognitive	Behavioural	Socio-emotional
Kassel et al (2018)	Cognitive	Behavioural	Affective
Muff et al (2020) and Laasch et al (2022)	Knowledge	Skills	Attitudes
QAA and Advance HE (2021)	Thinking	Practicing	Being

Table ii: Sample participants and codes

Module	Research data and number of participants	Code
Semester 1: MSc Responsible Management	- Content analysis of usable assessment submissions (N = 8)	AP+transcript number
Semester 2: BA (Hons) Year 2 – Sustainability in Business	-Content analysis of usable assessment submissions (N = 54) - Qualitative survey responses (N = 12) -Focus groups x 2 (N = 11)	AU+transcript number SU+participant number FUa/b+participant number
Semester 2: Executive MBA Leadership, Sustainability, and Ethics	- Focus group x 1 (N = 3)	FP+participant number

Table iii: Summary of findings per learning dimension and principles

Learning Dimensions	Quotations provided per Sustainability Mindset Principle	Indicative insights for learning development
Cognitive (what we know)	<p><i>-Ecological Worldview (My Contribution)</i></p> <p><i>-Systems Perspective (Inter-Connections, Cyclical Flow)</i></p> <p><i>-Emotional Intelligence (Self-awareness)</i></p> <p><i>-Spiritual Intelligence (Mindfulness)</i></p>	<p>The SMPs provide a framework of language that support applying knowledge based learning to broader contexts and our ‘deeper’ selves/more ‘hidden’ drivers of organisational behaviours. By taking a step back and reflecting on what is known and not known, and how we effectively learn and translate this into behaviours for the SDGs,</p>

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		<p>the findings here show the learning opportunities that arise in connecting areas of knowledge.</p>
<p>Behavioural (what we do)</p>	<p><i>-Systems Perspective</i> (Long-term thinking) <i>-Emotional Intelligence</i> (Creative Innovation, Reflection) <i>-Spiritual Intelligence</i> (Purpose)</p>	<p>The SMPs trigger personal and professional insights into our own behaviours, and the behaviours of others, including organisations. Learning development programmes designed to attract and retain employees that can drive and deliver on the SDGs depend upon linking knowledge to action</p>

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		and enabling positive behaviours.
Affective (how we feel)	<p><i>-Ecological Worldview (My Contribution. Eco Literacy)</i></p> <p><i>-Systems Perspective (Long-term thinking, both+thinking)</i></p> <p><i>-Emotional Intelligence (Self-awareness)</i></p> <p><i>-Spiritual Intelligence (Purpose)</i></p>	<p>The SMPs enable exploration and discussion at a deeper level, enhancing knowledge based learning through recognising negative emotions, and building on empowering emotions. Through recognising our own and others' emotional responses, a capacity and desire to act is developed.</p>