

Article

Seeing, Knowing, Doing: Exploring Online Sustainability Induction in a Higher Education Context

Angela M. Brown ^{1,*} , Kim Beasy ² , Peter Brett ² and Catherine Elliott ³¹ School of Geography, Planning and Spatial Sciences, University of Tasmania, Hobart, TAS 7000, Australia² School of Education, University of Tasmania, Hobart, TAS 7000, Australia; kim.beasy@utas.edu.au (K.B.); peter.brett@utas.edu.au (P.B.)³ Department of Sustainability Experience and Engagement, University of Tasmania, Hobart, TAS 7000, Australia; catherine.elliott@utas.edu.au

* Correspondence: angela.brown@utas.edu.au

Abstract

This study examines staff and student experiences of an online sustainability induction module at an Australian university, exploring how such a module can contribute to whole-institution sustainability culture within a higher education institution (HEI). Using Sterling's transformational framework, we analyse participant perceptions and reflections across module content spanning diverse SDGs, including Indigenous land management (SDG 15), ethical consumption (SDG 12), modern slavery (SDG 8), governance (SDG 16) and community engagement (SDG 17). Findings suggest how staff and students may experience the parallels between working across SDGs and learning about sustainable actions within personal, organisational, and community contexts of HEIs. While some participants appreciated the interconnectedness of sustainability challenges, they also highlighted difficulties associated with the breadth and complexity of addressing multiple SDGs within a single induction experience. This research advances understanding of how transition-oriented learning spaces that are situated between individual and institutional development and those involving affective, cognitive, and intentional dimensions of change can support HEIs in considering how to progress the 2030 Agenda. At the same time, it highlights pedagogical challenges in designing induction modules that integrate multiple SDGs in practice.

Keywords: sustainability education; SDG 4; sustainable development goals; higher education; online learning; transformational learning; organisational learning; systems thinking



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1. Introduction

The global push for sustainability in higher education extends well beyond adopting greener practices; it involves reimagining the very purpose, culture, and societal role of higher education itself. Internationally, higher education institutions (HEIs) are increasingly recognised as pivotal actors in advancing sustainable development through teaching, research, operations, and community partnerships. In 2022, UNESCO urged HEIs to take “knowledge-driven actions” and lead institutional transformations to meet the UN 2030 Agenda and the 17 Sustainable Development Goals [1]. This call positions sustainability education as central to SDG 4 (Quality Education), while acknowledging HEIs' role in advancing the interconnected goals addressing poverty (SDG 1), climate action (SDG 13), and responsible consumption (SDG 12).

Despite growing global commitments, research shows that many HEIs struggle to shift from partial SDG integration to deep structural or cultural transformation [2,3] encompassing all SDGs. While HEIs are positioned as both drivers of change and stewards of knowledge, their capacity to reshape higher education at scale is often constrained by systemic and institutional normative cultures [4,5]. These tensions are not unique to any one country; they reflect broader international patterns in the higher education sector, where sustainability agendas compete with entrenched systems, disciplinary silos, and competing institutional priorities.

Even among institutions with a strong sustainability ethos, challenges remain in ensuring that every member of the HEI network feels empowered to act sustainably within their roles. Beyond institutional commitments and broad declarations, meaningful transformation requires engaging entire communities in practical, inclusive action. Measuring whether an HEI has an engaged organisational culture of sustainability or is moving towards sustainability transformation remains challenging, with frameworks like SDGs often mapped to gauge progress.

The University of Tasmania (UTAS) provides a useful case through which to examine these international challenges. As part of its mission to become the world's most sustainable university [6], UTAS piloted an online induction module, *An Introduction to Sustainability at UTAS*, designed to introduce sustainability concepts and institutional commitments to all staff and students. While situated in an Australian context, the module embodies a challenge faced globally: how to leverage induction processes and experiences to cultivate sustainability literacy, shared responsibility, and a deeper sense of belonging to a sustainability-oriented institutional culture.

In this paper, we use the induction module as a contextual case study to explore how inclusive narratives within institutional induction can drive deeper engagement than traditional informational content. Although existing scholarship evaluates sustainability learning curriculum designed for students, there is a shortage of papers that offers transferable approaches to organisational sustainability culture induction in higher education. By examining staff and student experiences in the 2021–2022 pilot, we investigate the module's effectiveness in fostering both individual and collective reflection on or engagement with sustainability.

Central to this discussion is the question: What are the experiences and perceptions of staff and students participating in a pilot online sustainability induction module and how does this relate to the potential for sustainability culture development in higher education?

2. Literature Review

2.1. *Online Induction in Higher Education*

Across higher education systems, online induction has shifted from a peripheral orientation add-on to a strategic touchpoint for socialisation, learning and culture building at scale. Traditionally, induction serves as an onboarding process into a new corporate or institutional culture, involving participation, knowledge acquisition, activities, and reflection [7,8].

Higher education induction pathways vary by organisational context, such as administration, research, or academic roles. Online induction modules for staff typically focus on policies and procedures, while student modules address essential preparatory skills, including academic integrity, cybersecurity, and research literacy. Induction is often compulsory, linked to institutional belonging, probationary periods, and increasingly, credentialing frameworks for professional and workplace learning [9]. HEIs are also using induction as a transition tool to embed organisational values and operational norms.

Online sustainability induction modules occupy a liminal space within HEI structures [10], blending elements of student orientation, employee induction, and educational study. By introducing sustainability literacy as a threshold concept [11], the module encourages individuals to actively commit to sustainability values and behaviours. Given the complex, decentralised nature of HEIs—described as “loosely coupled networks of semi-autonomous centres of influence and decision-making” [12]—designing a single induction module that resonates with diverse personal and organisational perspectives is a formidable challenge.

2.2. The Effectiveness of Online Induction Modules

While induction is a standard practice in HEIs, there is limited research on its effectiveness in driving measurable change [13]. Since induction modules are typically housed within closed learning management systems (LMS), their visibility outside institutional networks is restricted, posing challenges for evaluating and comparing sustainability-focused approaches. Moreover, connections between induction modules and broader models of personal behaviour change, organisational paradigm shifts [14], or systemic transformation in HEIs [1] remain underexplored.

Despite these gaps, the literature on organisational change suggests that induction activities function as distinct “change spaces” with transformational learning potential [8]. Within the scholarship of organisational learning, the challenges of intergenerational learning are acknowledged, coupled with tension between understanding learning as a change as shifting of thinking or a change of behaviour, and the dynamic between individual and collective learning [11]. Given their accessibility, online sustainability induction modules could foster a collective sense of purpose and “response-ability” [3], encouraging staff, students, and stakeholders to embrace systemic thinking and collaborative action.

2.3. Online Learning for Sustainability

Online sustainability learning involves using digital technologies to access interdisciplinary knowledge that integrates ecological, social, and economic concepts of sustainability. This type of learning aims to promote sustainability through introductory exposure, to support deep personal change and competency development, community impact, and to meet organisational HEI goals towards sustainability education [15]. Such cross-purposes suggest a tension about what online sustainability learning can achieve, which can include online learning not considered as a legitimate approach for experiential sustainability education [16]. Some researchers suggest that online sustainability can be “richer and more meaningful” [17] learning experiences when pedagogically designed for the distinctive attributes of both online learning and sustainability education. The question then is, does this pedagogically designed online sustainability education realise transformational learning?

The transformational potential for online sustainability learning is the perceived ability to support deep personal learning and shift worldviews. This relates to the characteristics of online learning as reflective and self-paced. However, a case study of universities in Finland, USA and Colombia found that although institutions designed their online sustainability learning intentionally for change and transformation, such transformational outcomes were not measurable through evaluation [15]. This suggests that a clear purpose, process, pedagogical intent, and evaluation are not a simple cornerstone for realising individual and collective transformation within online sustainability learning.

Another aspect to consider for transformation are the platforms of online learning. Digital platforms that invite reflection and dialogue are often positioned as learning spaces that can bridge the gap between purpose, process pedagogy and evaluation to support transformational online learning experiences [18]. Learning management systems (LMSs)

offer a range of digital tools to build interactive online learning communities, including completion reporting and engagement data. However, the implementation of social and interactive aspects is often shaped by organisational culture and overall attitudes towards the LMS [19].

Attempts to utilise digital learning environments may be hindered by inconsistent understandings of how technical function interacts with pedagogical intent [20]. While emerging technologies such as virtual/extended reality, simulation, artificial intelligence and learning analytics [21,22] are similarly promoted as solutions to enhance the personal and emotional engagement in online learning, this cannot be realised without intentional pedagogical design.

To understand the UTAS pilot module in the context of transformational online learning for sustainability in higher education, it is helpful to contextualise it within global online sustainability learning. Since the 1990s, online education for sustainability, interconnected with the 17 SDGs has been championed by UNESCO and others as a way of broadening access and equity to education for sustainable development [23]. Throughout the 2000s, many universities began developing online sustainability learning through different models. The models include credit-bearing, non-credit-bearing and free online learning offerings. The post-COVID-19 diversification of online learning [24] and changing preferences of learners [25,26] has resulted in a wide variety of online sustainability learning from introductory MOOCs (Massive Open Online Courses) to specialised degree programs and short courses, all catering to different learning needs.

For example, some HEIs developed their own MOOCs to support learning about the SDGs [27]. Other HEIs partnered with sustainability organisations and digital platforms to offer free MOOCs, such as UNESCO's ESD Learning Cities initiative [28] and the SDG Academy [29]. Alongside the rise in MOOCs, HEIs also developed credentialed fully online sustainability degrees, certificates and even pre-undergraduate qualifications, such as the Diploma of Sustainable Living at UTAS. More recently, the focus has shifted to short courses and micro-credentials [30] offering flexible pathways, such as the UK's Open University Climate Change: Transforming your organisation for sustainability micro-credential.

The research evaluating online sustainability learning focuses on two main areas, content (what sustainability content is taught), and pedagogy (how to teach sustainability) [31]. Other evaluation case studies include digital solutions aimed at supporting students to access practical sustainability experiences as extra-curricular learning, such as an online repository of community-based sustainability projects [32]. Experiential online pedagogy emphasises practical and fieldwork components for "immersion in real world experiences" [16]. For example, practical hands-on tasks may take place in homes, workplaces or communities, rather than classrooms.

As detailed in the following case study, the approach taken with the piloted UTAS online sustainability induction module positions it conceptually as a module designed with transformational learning in mind and the experience of the module as somewhere between being a pre-entry online training module (to prepare staff and students for the university) and an online education unit (for students to learn and act in their broader communities for sustainability transformation). This reflects the global development of online learning for sustainability from ESD that sees education of individuals as the precursor to cultural change for sustainability in communities and organisations.

3. Methodology

3.1. The UTAS Online Sustainability Induction Module and SDG Integration

While the UTAS sustainability induction module directly addresses SDG 4 (Quality Education), and specifically Target 4.7, ensure that all learners acquire the knowledge

and skills needed to promote sustainable development, the module's whole-institution approach also contributes to

- SDG 12 (Responsible Consumption and Production) through operational sustainability and personal action planning;
- SDG 17 (Partnership for the Goals) through collaborative co-design involving staff, students and Indigenous perspectives;
- SDG 10 (Reduced Inequalities) through examining multiple voices in sustainability.

Rather than seeing these SDGs in isolation, the module attempts to embody the integrated nature of the 2030 Agenda and as our findings reveal, this integration creates its own pedagogical and institutional attention.

3.2. Case Study: UTAS Online Sustainability Induction Module

The UTAS online sustainability induction module was developed within the University's learning management system, MyLO (My Learning Online, Brightspace), and aligned with UTAS's commitment to "support the transition to a culture of sustainability" [33]. The pilot module was overseen by the UTAS Sustainability Team, with relevant committees, content domain experts and cultural authorities across UTAS staff and student body. Authors 1, 2 and 3 of this paper were not involved in the content or broader development of the pilot module. Author 4 contributed to the project in a coordination and data curation capacity as part of their role within the UTAS Sustainability team. Structured into eight sequential chapters, the pilot module guided participants through sustainability in the UTAS context. While a detailed overview of piloted module content is out of the scope of this paper, the module begins with an introductory chapter that establishes the strategic framework (SDG 17, 4); the module covers key focus areas, which can be aligned to SDGs, as suggested in Table 1.

Table 1. SDG integration across UTAS online induction module chapters.

Module Chapter	Primary SDGs	Key Focus
Introductory chapter: Strategic framework	17, 4	Institutional partners and educational approach
Aboriginal perspectives on sustainability at UTAS	15, 10	Indigenous knowledge and land stewardship
Operational sustainability	12, 13	Consumption, production, climate action
Engagement and partnership	17, 11	Community collaboration
Governance & leadership	16, 17	Institutional accountability
Barriers, enablers & opportunities	17, 4	Systemic transformation
Personal sustainability commitments	12, 3	Individual action and wellbeing

Note: This mapping of module chapters to the SDGs was guided by the authors and is provided only to give a broad indicative context of chapter focus as we perceive that all SDGs are interconnected. For example, modern slavery was a chapter subtopic not listed here that links to multiple SDGs. The whole-institution approach aims for holistic SDG coverage.

To enhance engagement, the pilot version integrated video case studies, a personal action plan (downloadable document), a reflective responses journal (downloadable document), and an end-of-module completion quiz. These interactive elements were designed to provide participants with both institutional and personal insights, with the intention of supporting a whole-institution approach to sustainability engagement.

The module's co-design process, involving multi-disciplinary collaboration between UTAS staff and students, ensured that it was developed beyond traditional disciplinary boundaries. The induction module initiative reflects a strategic effort to embed sustainability within the broader university culture. As described in the module introduction,

the purpose of the module is “to provide all staff and students with a shared approach to integrating sustainability into everyday decisions and practices on campus.” [34].

Beyond introducing sustainability principles, the module aims to foster cultural and behavioural shifts, encouraging individuals to rethink their engagement with sustainability at both personal and institutional levels. Measuring transformation is fraught, and to move from analysing the perceptions and experiences of participants using the module, into whether participants speak of any depth of this learning as transformational, we draw on Sterling’s Triang Thought Model [3], which offers a valuable framework for examining how participants perceive, conceptualise, and enact sustainability through the induction process.

3.3. Theoretical Framework

Sterling’s Triang Thought Model [3] presents a framework for understanding transformational paradigm shifts within HEIs, particularly in relation to sustainability and systemic change. The model consists of three interconnected domains:

1. Seeing (*Concern/Purpose*)—The perception and awareness of sustainability challenges, reflecting the values and ethos that shape institutional and individual understanding.
2. Knowing (*Conception/Operation*)—The cognitive processes and frameworks through which sustainability is conceptualised and embedded within organisational structures and learning paradigms.
3. Doing (*Consequence/Effect/Impact*)—The practical application of sustainability principles, encompassing behavioural changes, institutional policies, and measurable impact.

These domains reflect the affective, cognitive, and intentional dimensions of learning and change, supporting a holistic approach to sustainability education within HEIs. Sterling argues that meaningful transformation in higher education must move beyond conventional curriculum adjustments and policy implementation, requiring deep systemic shifts in ethos, epistemology, and institutional identity [3].

3.4. Levels of Manifestation in Transformational Change

Beyond these three domains, Sterling identifies four levels of transformation that determine how sustainability is operationalised within HEIs:

1. Paradigm—The foundational worldview guiding institutional priorities.
2. Purpose—The explicit articulation of sustainability as an institutional mission.
3. Policy—The governance structures that formalise sustainability commitments.
4. Practice—The implementation of sustainability within everyday educational and operational activities.

A key insight from Sterling’s framework is the recognition that paradigm and purpose are often assumed rather than consciously examined, leading institutions to focus on policy and practice without addressing the deeper cultural and epistemological shifts necessary for long-term transformation [3].

Below we describe the methodology used to guide our study that examined perspectives from the UTAS pilot module to determine whether—and how—an online induction can provide evidence of the link between personal and organisational transformation for sustainability in an HEI.

3.5. Research Design

This study was originally designed as a concurrent mixed methods study, incorporating pre- and post-module surveys to capture change in attitudes and behaviours as a consequence of engaging with the module. However, the COVID-19 pandemic necessitated a methodological pivot: planned focus groups in 2021 were postponed and reconvened

in 2022, and low post-module survey completion rates meant that pre- and post-module surveys could not be paired for analysis. As a result, this paper reports a qualitative design supported by descriptive statistics, with the pre-module survey used solely to report on participant demographics and the post-module survey analysed descriptively only. Ethical approval was granted by the UTAS Human Research Ethics Committee (H0024841).

3.5.1. Surveys

Participants were recruited through open invitation to academic staff, professional staff, and students via institutional communication channels in 2021 and 2022, coordinated by the UTAS Sustainability Team. In total, 31 participants completed the pre-module survey and 11 completed the post-module survey. Both surveys collected quantitative descriptive data through Likert-scale responses and qualitative insights through open-ended questions.

3.5.2. Focus Groups

Focus group participants were recruited separately from survey participants through purposive sampling across 2021 and 2022, with additional participants recruited in 2022 through university communication channels supported by the UTAS Sustainability Team. This resulted in 10 focus group participants across two types of focus group: a participant focus group exploring personal experiences of the module, and a contributor focus group that used a separate question set to explore the strategic and pedagogical intentions behind the module design. Small online focus groups of 3–4 participants were conducted via Zoom due to geographical distribution across multiple campuses.

Participant data is summarised in Table 2. Pseudonyms have been used to de-identify all participants, and open-ended qualitative responses were preserved to avoid reductionist quantification [35].

Demographic data was available for 30 survey respondents; 29 provided gender data. Full demographic information is presented in Figure 1.

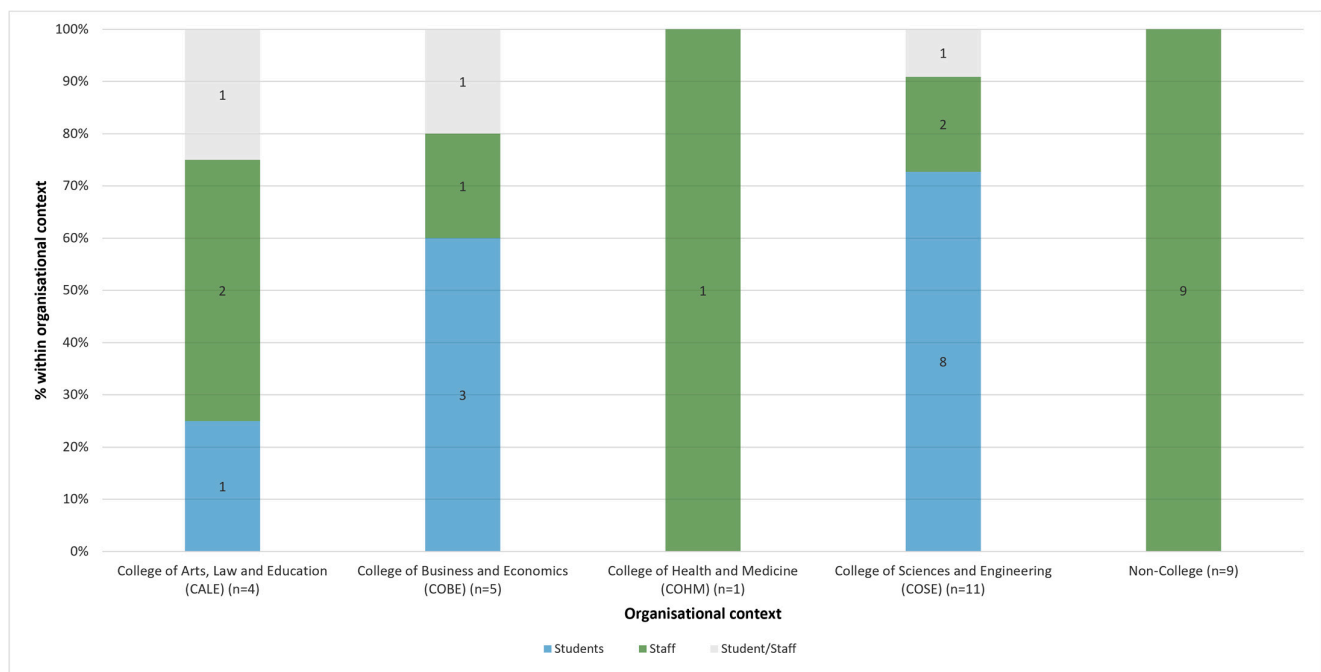


Figure 1. Organisational context and role of pre-module survey respondents ($N = 31$).

Table 2. Survey and focus group participation across 2021 and 2022.

Component	2021	2022	Total
Pre-module survey	16	15	31
Post-module survey	4	7	11
Focus groups	(COVID)	10	10

3.6. Qualitative Data Analysis

To explore the relationship between individual and organisational engagement with sustainability, Sterling's Triang Thought Model guided thematic coding of surveys and focus groups [36]. This framework categorises sustainability learning and thinking into three interrelated domains (Seeing, Knowing, Doing) towards transformative impact, as shown in Table 3.

Table 3. Triang Model: Dimensions and interpretations of paradigm.

Seeing (Concern/Purpose)	Knowing (Conception/Operation)	Doing (Consequence/Effect/Impact)
Perception	Conception	Practice
Affective dimension	Cognitive dimension	Intentional (design) dimension
Epistemology (+axiology)	Ontology	Methodology
Ethos	Eidos	Praxis
Concern (purpose)	Conception (operation)	Consequences (effect/impact)
Participant perceptions before, during, and after the module	Cognitive interpretation and conceptualisation of the module	Impact on participants' actions and institutional engagement

The full corpus of qualitative data was iteratively coded based on Sterling's four levels of transformation within HEI structures: paradigm, purpose, policy and practice. Given Sterling's observation that purpose is often assumed rather than critically examined, a phase of the qualitative coding later emphasised data about paradigm and purpose, seen as gaps in existing analysis and as potential indicators of deeper and transformative language related to sustainability assumptions and worldview [3]. This approach reflects Sterling's systems thinking framework, in which qualitative shifts in mindset and worldview are the primary indicators of sustainability learning [37].

Deductive coding using the framework was undertaken initially independently by Author 1. This was reviewed by the research team with frequent collaborative input to ensure consistency of interpretation and analysis.

4. Results

4.1. Participant Composition

Demographic information was available in the pre-module survey. In total, 31 participants completed the pre-module survey. Percentages reported in this section are calculated against the full sample ($N = 31$); however, raw counts for individual demographic variables may reflect fewer respondents where some participants did not complete every demographic question. For age and gender, one respondent did not provide demographic information, so data was available for 29 of 31 respondents.

Students comprised 12 (38%) respondents, while 15 (48%) were staff, and three (9%) identified as both staff and students. In terms of organisational representation, the College of Sciences and Engineering (COSE) accounted for the largest proportion 11 (35%) of re-

spondents), with students making up eight (73%) of its cohort. This high engagement from COSE may be attributed to a greater focus on environment-related learning and teaching.

The next most represented category was non-College participants 9 (29%) respondents), consisting solely of staff from centralised teams and administrative units. This participation pattern likely reflects the module's development and promotion as a centralised sustainability initiative. The College of Health and Medicine (COHM) was the only college with no student representatives in survey responses.

4.2. Gender, Age and Organisational Representation

Data on gender and age were available for 29 of the 31 pre-module respondents. Consistent with Section 4.1, percentages below are reported as a proportion of the full sample ($N = 31$). Of the 29 respondents who provided gender data, 18 (58%) identified as female, while 11 (35%) identified as male. Age distribution showed that 19 (61%) of respondents were between 30 and 59 years old, with 10 (32%) falling within the 30–44 age group and nine (29%) in the 45–59 age group.

Figure 1 illustrates the breakdown of participants across academic and administrative units.

4.3. Quantitative Post-Module Survey Analysis

Figure 2 presents a comparative summary of three post-module Likert-scale questions that align with the Triang Thought Model used in this research. Respondents were asked to assess their sense of responsibility, knowledge, and ability in relation to sustainability, corresponding to Sterling's transformation framework (Seeing/Knowing/Doing):

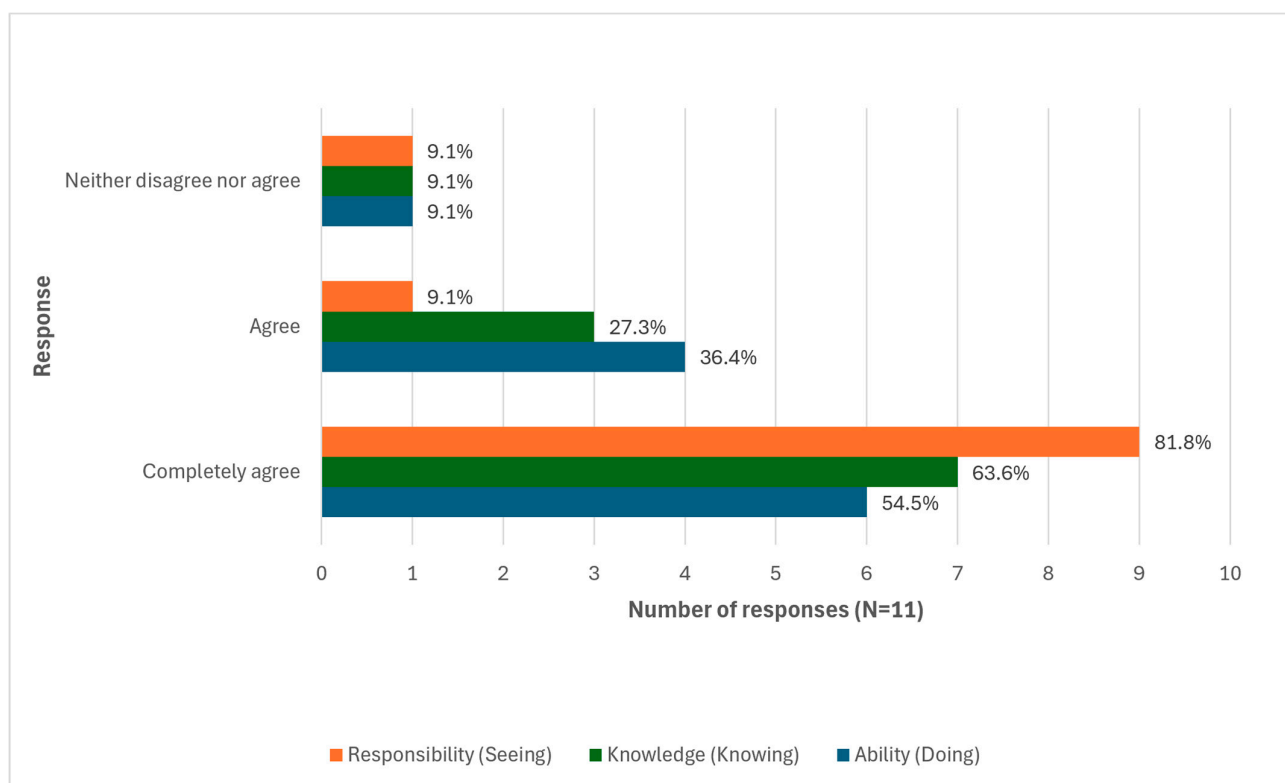


Figure 2. Summary of selected post-module survey Likert responses by Sterling's Triang framework domain ($N = 11$). Responsibility (Seeing): "It is my responsibility to practice sustainability as a staff member and/or student at UTAS"; Knowledge (Knowing): "I know how to personally practice sustainable actions at UTAS"; Ability (Doing): "I am able to practice sustainability in my role as a staff member and/or student at UTAS". Triang Thought Model: Seeing (Concern), Knowing (Conception), Doing (Practice).

The data shows that no respondents disagreed or strongly disagreed with the statements regarding responsibility, knowledge, and ability to act sustainably. Participants exhibited high levels of responsibility (Seeing) and knowledge (Knowing), reinforcing engagement with sustainability concepts in their professional roles. However, confidence in Consequence/Doing—the practical application of sustainability—was slightly lower among those who strongly agreed with responsibility and knowledge.

This finding suggests that while participants recognise their role in sustainability, they may also perceive barriers to implementing sustainable practices within their institutional contexts. Given that the study primarily engaged individuals already interested in sustainability, responses suggest that structural or procedural challenges may hinder broader action at UTAS.

Open-ended qualitative survey responses and focus group responses were then thematically analysed as a corpus, using Sterling's transformation framework, as follows:

4.4. *Seeing*

Participants' emotional and ethical engagement with sustainability was reflected in their commentary about the induction module—how they perceive the issues and locate themselves within them. Qualitative responses suggested that for several participants, the module initiated a reorientation of awareness, especially in relation to Indigenous knowledges and their foundational relevance to sustainability in the Australian context. Charlie, a student, reflected on this shift in perspective:

"This is kind of embarrassing because I didn't know this, but I didn't sort of put two and two together that obviously we should be consulting Aboriginal people with sustainability because they have looked after this country for 60,000 years sustainably. . ."

Others questioned the purpose and intentions of the module, pointing to a need for greater transparency around its goals:

"My concern would be though, taking a little bit closer look at what you're expecting as the outcome for the module. . . What's the underlying purpose of it?" [Frances, student]

There was a shared desire across staff and students to "see themselves" [Lee, staff] reflected in the module and to understand how it related directly to their role or identity: "To see the immediate link to themselves." [Frances, student]. Yet, this was juxtaposed with confusion and overload, as some participants found the breadth of the content disorienting: "Even as a person who's been doing sustainability stuff for ages. . . some of the things kind of felt a little bit random. . . why is this in the sustainability module?" [Charlie, student]; and, "There was almost so much information that I was overwhelmed" [Alex, staff].

Unexpected content—such as modern slavery—prompted moments of cognitive dissonance but also opened new avenues for critical reflection: "Surprise at not having really thought about the modern slavery piece. . . it feels like it's a different way of thinking about teaching sustainability" [Ari, staff].

The tension between clarity and complexity in how sustainability was presented points to the challenge of cultivating both relevance and critical awareness in induction contexts. These reflections also may reflect challenges in SDG 4 goal of education for sustainable development regarding whose knowledge systems are validated and how Indigenous perspectives are integrated, toward reducing inequalities in education.

4.5. *Knowing*

Participants shared their conceptualisations of sustainability and the knowledge systems they brought to, or developed through, the module in survey and focus group responses. Conflicting worldviews and the politics of sustainability were highlighted, with

several participants noting how assumptions embedded in the content may unintentionally alienate or exclude:

“It’d be good at the start to have a page about what sustainability is... I think that would help more people feel included, especially people from different ethnic backgrounds/religions or that are not politically left-wing aligned.” [Sasha, survey]

Staff reflected on the importance of engaging with these epistemic tensions, not avoiding them. For example, Billie suggested, “There’s these competing ideas around what sustainability is... from that, you develop a greater self-awareness about okay, well, this is my worldview”.

Student commentary related specifically to the module’s structure. The compulsory nature of knowledge-checking quizzes provoked discomfort among students who lacked confidence in their prior knowledge. In trying to address this, Pat suggested that “maybe if it’s more simple or more like the terminology... maybe they will feel stressed before they start to do the module”.

A common reflection among both staff and students related to a need for the format of the induction to be more customisable and exploratory. Frances, a student, suggested, “Like a library... you can browse the catalogue and go into a deep dive at any point.” While Jamie, a staff member, suggested the learning journey itself should be curatable by the learner: “Take a different path... depending on your specific interests”.

Collectively, these reflections suggest a desire for an induction experience that acknowledges different learning journeys and offers space for critical, contextualised meaning-making rather than passive knowledge acquisition as well as careful consideration about how “tests” are embedded in the material—their purpose and connection to “successful completion” as well in their content. Participant calls for multiple definitions and entry points align with SDG 4 and inclusive approaches, yet highlight tensions in how sustainability competencies are assessed, which is important in the context of whether standardised knowledge checks can support a transformational intent.

4.6. *Doing*

Findings suggest that learning about activities that support sustainability and implications for action were of particular interest to participants. Many emphasised the value of real-world case studies in anchoring sustainability in relatable, everyday contexts. For example, in reference to a story shared in the induction module about worm farming, they noted that this “...was the first point at which I felt a sort of shared journey... I would start this story there” [Sam, staff].

Several staff participants noted the importance of embedding reflection and personal engagement into the module’s design. For instance, Billie acknowledged that “knowledge itself is not enough... aspects that encourage active interaction... those really need to have a key place”. Despite this, barriers to action were also mentioned. Some feared that only those with a prior interest in sustainability would engage with the module, while others pointed to institutional culture as a limiting factor. Charlie, a student, believed that “If it’s not compulsory, the only people that will do it are people that kind of already know a reasonable amount about it”. Others perceived a lack of authority to act by the institution: “So much is resting on the idea that people get it... but we then don’t have the permissions to actually enact.” [Billie, staff]

Data also suggested interest from staff and students in extending their sustainability impact beyond the university, into their communities and future careers. Frances, a student, asked: “How are they going to embed this into their future career or their local community?” From the staff perspective, Frankie expressed their interest in understanding “...how it’s going to help me within my own community”.

These statements suggest that while the module may successfully seed ideas and reflections, structural and cultural conditions need to be in place to support sustained, meaningful action. The question then becomes as to the role of, and capacity for an institutional-specific HE induction module to expand possibilities into spheres outside the institutional context. The desire to simultaneously extend sustainability induction and learning into workplaces, homes and communities reflects the spectrum of the SDGs, where education (SDG 4) is seen as leveraging action across other SDGs including SDG 12 (responsible consumption), SDG 13 (climate action) and SDG 11 (sustainable communities).

5. Discussion

The findings highlight both the promise and the limitations of induction as a vehicle for sustainability education interlinked with the SDGs in HEIs. Given the exploratory, small-sample nature of this study, the following discussion offers tentative interpretations intended to generate interpretive heuristics to guide future research, rather than generalisable conclusions. As Sterling [3] proposes, sustainability transformation is multi-layered, involving shifts in *paradigm*, *purpose*, *policy*, and *practice*. Each of these levels can be explored through participants' experiences of the UTAS sustainability induction module. Across all levels, we see a tension between institutional aims and individual sense-making, revealing the complex terrain of embedding sustainability across all SDGs in online induction contexts. This links to [38] findings in transitioning business organisations from induction, suggesting that impactful cultural sustainability-oriented transition within organisations require "clusters" of collective actors at micro, meso and macro levels of organisations, to connect individual and smaller collectives to policy shifts that help transition a whole organisation towards sustainability.

5.1. *Paradigm: Sustainability as a Worldview-in-the-Making*

Sterling [3] describes *paradigm* as the deepest level of transformation, where institutions reveal their guiding worldviews and assumptions. These findings invite a reframing of sustainability induction not as an act performed upon staff and students but as a shared encounter in which institutional culture can be subject to question and potential change. In the context of the UTAS module, this layer remained largely implicit. The absence of an explicit discussion about what sustainability or the SDGs mean—or could mean—left some participants unsure of the underpinning ethos of the module. Sasha, for example, commented on the need to offer multiple definitions and contextual entry points, especially for people who might not identify with dominant political or cultural framings of sustainability.

This aligns with critiques by Gourlay [10] and Irving et al. [11], who describe induction spaces in HE as "liminal"—where identity, culture, and belonging are negotiated rather than imposed. Without an explicit invitation to explore competing worldviews, the module risked reinforcing sustainability as a predetermined, normative agenda rather than a shared and evolving commitment. As Billie observed, self-awareness arises from engaging with competing ideas, not from being handed a single version of sustainability.

This raises questions about whose paradigms are prioritised, and how educational spaces can open rather than foreclose possibilities for paradigm-level reflection. The need for explicit engagement with worldview further echoes Daskalaki's [8] argument that transformative learning requires exposure to difference and dissonance—not just the transmission of assumed norms.

5.2. Purpose: Induction or Invitation?

While many institutions use induction to communicate institutional values [39], this study suggests that the purpose of the sustainability module was unclear to some participants. Frances asked directly: “What’s the underlying purpose of it?” This ambiguity is significant. When institutional purpose is assumed but not communicated, or worse, is interpreted as a box-ticking exercise, it becomes difficult for learners to locate their own motivations within the experience.

Yet, there is also evidence that participants hoped for a broader and more expansive purpose—one that extended beyond compliance and toward shared meaning-making. The module, positioned between compliance and capacity-building, seemed to straddle this divide, but not always comfortably.

Additionally, Pat raised feeling “stressed” at the ambiguity of knowledge-checking quizzes alongside personal sustainability goal planning, which illustrates the blurring of purpose between institutional and student perspectives. On the one hand, the institution is utilising the tools of a learning management platform to more easily track an organisational induction process, while for students, the use of the same learning spaces associated with formal unit assessments and grading creates an almost fearful online experience because of “traversing the unknown” [18] in a formal online learning environment.

The module’s location at the intersection of education, professional development, and institutional onboarding [38] creates a unique complexity. Its liminal status—as both training and education—echoes the literature’s framing of online sustainability learning as flexible, contextual, and evolving [16,25]. Yet this very hybridity also invites confusion. Are participants being trained in a competency, or inducted into a values-based community of practice? The answer seems to be both. And therein lies the challenge.

5.3. Policy: The Constraints of Compliance

Induction, onboarding or transition into higher education is increasingly digital and aligned with institutional mechanisms—completion tied to probation, contracts, access, or organisational status [39,40]. In this context, the module’s compulsory nature loomed large. While some saw this as a necessary signal of institutional commitment, others viewed it as a source of anxiety or disengagement. The assessment components, in particular, were perceived by some as arbitrary or disconnected from learning goals.

This reflects broader tensions in higher education policy, where risk, audit, and compliance frameworks have become dominant [12]. While policy instruments can formalise commitments, they do not, on their own, foster trust, empowerment, or critical engagement. For sustainability induction to be more than procedural, it must allow for learners to encounter complexity, engage affectively, and be invited—not mandated—into reflexive practice.

The literature on online sustainability learning [31,32] emphasises the importance of experiential and values-based approaches. Yet, when assessments privilege recall over relationality, or completion over contemplation, induction becomes a missed opportunity. The danger, as Sterling [3] notes, is that institutions remain fixated on policy and practice without ever interrogating the paradigms and purposes that make those policies meaningful.

5.4. Practice: Connecting to Everyday and Elsewhere

The most positively received aspects of the module were those that felt grounded, real, and relational. Stories like the Burnie worm farm offered a tangible link between institutional messaging and personal or community practice. These stories appear to support the kind of “response-ability” that Sterling [3] advocates—where knowledge is not only acquired but situated in everyday lives and potential futures.

Participants expressed a clear desire to extend their learning into broader contexts—into workplaces, homes, and communities. As Frances and Frankie both articulated, sustainability learning needed to be more than about “here” (the university), but also about “there” (beyond). This may reflect an important trend in global sustainability education, where experiential learning—often online—connects personal reflection with systemic action [16,23].

Yet again, institutional structures appeared to lag behind participant aspiration. A lack of clarity around permission, capacity, and support for sustainability action—both within and beyond the university—created friction. The message seemed to be “you are responsible,” but not necessarily “you are resourced.” As Billie put it, the missing piece is “very clear articulation across the institution—the permissions to engage.”

5.5. SDG Integration

The UTAS module illustrates the potential and challenges of a holistic approach to operationalising sustainability through the SDGs using a single online induction/educational intervention. While the special issue calls for understanding how the 17 SDGs can be operationalised, our findings suggest caution over attempting to provide comprehensive SDG coverage as an induction, which may be an overwhelming experience like some participants described. Given that some participants were confused about why topics like modern slavery were sub-chapters in the module, deciding on the purpose of the module between broad literacy across all SDGs and deeper interconnections of the detail of each of the 17 SDGs, and whether to make the complexity of the interconnections explicit rather than assumed, seems essential.

6. Limitations

As with all studies, this research has limitations that should be considered when interpreting findings. The small sample size, single institutional context, and lack of pre-post survey pairing mean that findings are not generalisable in a conventional sense. Convenience and purposive sampling, combined with the likelihood that participants who voluntarily engaged with a sustainability induction module already held pro-sustainability orientations, means that the sample may not represent the full diversity of staff and student views across the institution. Social desirability effects may also have influenced responses, given the collegial institutional context in which the study was conducted.

Measuring transformation is inherently challenging, and the perceptions and reflections captured here are best understood as indicative proxies for transformational engagement rather than direct evidence of change. This is a limitation shared across the field of sustainability education research, where the gap between individual learning experiences and measurable institutional transformation remains an ongoing methodological challenge [15]. Context-specific pilot studies of this kind nonetheless provide an evidential foundation for understanding how structured organisational approaches to sustainability induction can be designed, experienced, and refined, and have value for other institutions seeking to develop similar approaches.

7. Conclusions

The UTAS online sustainability induction module reflects efforts to align institutional onboarding with global sustainability imperatives, while also revealing the tensions inherent in trying to standardise what is, at its core, a deeply contextual and values-driven journey.

Through the lens of Sterling’s Levels of Manifestation, the findings suggest that the module engaged learners with ideas about *practice*; it did not consistently support paradigm

exploration or purpose-driven connection. For sustainability induction to support genuine transformation, it must do more than inform. It must invite. It must not just orient learners to institutional culture and the SDGs but create space for an emergent sustainability culture and identity to develop from within.

As HEIs continue to explore how best to support sustainability literacies in staff and students, induction must be reframed not as a neutral top-down process but as a cultural one. And cultural change is slow, relational, and resistant to checklists [14].

Additionally, as HEIs aim to embed the SDGs across organisations and curricula, this study suggests that sustainability induction is a critical yet underexamined intervention point related to SDG 4 (Quality Education) and whole-institution change. Our findings suggest that approaches like induction modules that advance multiple SDGs simultaneously navigate some fundamental tensions between

- Breadth and depth of SDG coverage and meaningful engagement with specific goals;
- Institutional and personal accountability, such as completing induction compared to self-directed exploration;
- Standardisation to ensure all community members receive sustainability education, but contextualised, to honour diverse roles and worldviews.

These tensions are not design or implementation flaws of content scope and coverage but features of attempting transformational induction at institutional scale.

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Abbreviations

The following abbreviations are used in this manuscript:

ESD	Education for Sustainable Development
HEI	Higher Education Institution
LMS	Learning Management System
MOOCs	Massively Open Online Courses
MyLO	My Learning Online
SDGs	Sustainable Development Goals
UTAS	University of Tasmania

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