#iSustain. Online and Offline Sustainability Conversations Promoting the SDGs in a higher education setting

Dr. Franzisca Weder

University of Queensland, School of Communication and Arts

Contact: f.weder@uq.edu.au

Abstract

In this paper, the combination of an art-based, participatory intervention (#soundslikesustainability; 2022) and an online conversation (#iSustain, public facebook group, 2020-2022) are presented as examples for communication *about* and *for* sustainability (Weder, 2021a) and possible way to promote the SDGs in a local area (here: in a metropolitan region in Australia). These two examples were theoretically conceptualized as "conversational spaces" (offline & online) and, retrospectively, explored and analyzed as case studies with a mixed-method content analysis (thematic & frame analysis). The findings of these case studies show how particularly students and staff in a higher education setting started to collaboratively generate an understanding of sustainability and sustainable behavior by negotiation, by sharing their own examples, perspectives and challenges. Furthermore, the students started to take responsibility, advocacy and authorship for transformation and creating their own sustainability stories for sustainable development.

Beyond these insights, the presented case studies show how *conversational problematization* and *sensemaking* in online and offline conversational spaces around sustainability can be initiated by creating innovative and sometimes unsettling moments of reflection. The paper contributes to the emerging area of sustainability communication, works with a critical environmental communication pedagogical approach (following Weder & Milstein, 2021) and offers innovative ideas for local engagement and community building where transformation and a bottom-up cultivation of sustainability can be realized – especially in a context of missed opportunities, a lack of political strategies and dominant economic interest in sustainability issues, like Australia.

Keywords

sustainability communication, problematization, sustainable pedagogy, authorship, sustainability agency

Introduction

While over 100 other countries developed policies and plans for adaption to the climate crisis, Australia did not. The recently elected Labor government started with a strategy; however, it has not released a net zero plan and is not talking about the actions needed so far. The region of Queensland in the north-east of the Australian continent, politically sitting marginally to the right of other states, is following the national focus on Australia taking leadership in exploring, generating, and exporting future energy sources, in particular hydrogen – however, not putting in extra effort into raising awareness for the climate crisis and for the demand for changed behavior and transformation. Thus, especially on the level of individual and community engagement, Australia and in particular Queensland lags behind other states and countries. Only isolated projects get attention in public communication, there is not necessarily a lack of consciousness for sustainable behavior – but for sure a lack of communication and debate about it.

In 2005, UNESCO published a statement for Education for Sustainable Development (ESD) as "for everyone, at whatever stage of life they are. It takes place, therefore, within a perspective of lifelong learning, engaging all possible learning spaces, formal, non-formal and informal, from early childhood to adult life." The ESD statement calls for a "re-orientation of educational approaches – curriculum and content, pedagogy and examinations." (UNESCO, 2005, p. 6; UNESCO, 2017). This is based on the 17 Sustainable Development Goals (SDGs, UN, 2022), which offer a normative framework that guides political strategies as well as the behavior of organizations of various kind, shape, and scope to get engaged in a socio-ecological transformation process – with a specific emphasis on tackling challenges in a multiple crisis scenario (health, climate, humanitarian, and political crisis). In this framework, goal #4 aims at quality education and lifelong learning opportunities for all.

Accordingly, one of Australia's educational policy goals is that all young Australians become 'active and informed citizens', and "work for the common good, in particular sustaining and improving natural and social environments" (Australian Government, 2005). However, especially in higher education in Australia, the main driver of programs and teaching and learning is the goal to prepare students for employment, which creates a tension between this rather economic and workplace related focus and the principle of 'citizenship education for ecological sustainability', mentioned in the SDGs and the related national policy documents mentioned above.

Another challenge in the context of higher education in Australia is the high percentage of international students, which is mostly above 30 percent; here, predominantly students from China joining Australian Universities (Education.Gov, 2022). Therefore, teaching and learning sustainability in Australia is particularly difficult, reinforced by the general fact that teaching sustainability and sustainability communication generally requires new theories, new methodologies, and new pedagogies (Weder, 2022). The need for innovative ways of transformative and integrative sustainability education is also debated in the literature on sustainability pedagogy. Furthermore, the growing area of sustainability communication sits at the intersections of science and climate change communication as well as CSR communication and sustainability studies; in all the named areas, new roles of teachers as well as didactics in transformation processes within organizations and in the society are debated and requested (Cox, 2007; Davis et al., 2018). At the core of these new ideas around teaching sustainability there are concepts of 'place based transformative learning' (Pisters et al., 2019; Lozano et al., 2019), which will be further elaborated on in the theoretical part of the paper at hand. In their abovementioned statement, the UNESCO also points to the importance of "spaces for learning", which "include non-formal learning, community-based organizations and local civil society, the workplace, formal education, technical and vocational training, teacher training, higher education educational inspectorates, policy-making bodies, and beyond." (UNESCO, 2005, p. 6). This implies that next to the spaces for learning, a constructive perspective on learning processes is required (Sandri, 2020). This also includes moving from a teacher-centric sustainability pedagogy and didactic (Buchanan, 2012), to a transformation-focused didactic (Redman, 2013), where transformation of individual behavior is not only initiated and stimulated but also actually happening *in* the created learning spaces, in the following conceptualized from a communication perspective as *conversational spaces*.

Exploring new ways to negotiate the meaning of sustainability within a certain organizational and pedagogical setting and, thus, learning environment, experiencing new forms of co-creational communication, scenario thinking and strategy development, not only offers students a new way to learn and take authorship for a more sustainable future themselves. It also creates consciousness to apply new tools, strategies, and ideas in their future workplace settings, and thus, strengthens their sustainability competencies and employability (Singer-Brodowski et al., 2018; Diaz-Iso et al., 2019; Brundiers et al., 2020; Sisto et al., 2020).

In this paper, the combination of an art-based, participatory intervention (#soundslikesustainability; 2022) and an online conversation (#iSustain, public facebook group, 2020-2022) are presented as examples for the conceptualized *conversational spaces*. In the empirical part of the paper, we present preliminary findings of a qualitative content analysis of the

conversations (Meyer, 2001; Bryman & Buchanan, 2018). The findings show how students started to collaboratively generate an understanding of sustainability and sustainable behavior by talking about it and sharing their own examples, perspectives and challenges and how they developed competences along the framework, introduced by Wiek et al., 2011 and further complemented by Brundiers et al., 2020), namely systems thinking, anticipatory, normative, strategic, and interpersonal as well as intrapersonal and implementation competency.

In the following, the theoretical background around sustainability education and learning is given and the new concept of *conversational spaces* is developed, before the case studies and related findings from the content analysis are presented and reflected on in the final section of the paper.

1. Theoretical background: Why do we need to talk about sustainability

In today's "risk society" (Beck, 2004), the climate crisis is not only about global climate changes and ecological decline but also about the political and communicative capacity of the society to respond (Hackett, 2018). Sustainability issues seem to be everywhere – or nowhere. The most prevalent ones especially in Australia are as mentioned earlier renewable vs. fossil energy sources, waste, and pollution; furthermore, the public is interested in water supply and the risk of scarcity and droughts and bushfires, food, land and water management which has become more visible with reoccurring floods and, since the pandemic, public health issues. However, there is only a limited focus on sustainability education in the very competitive, 'neo-liberal' Anglo-American higher education setting (Martin-Sardesai, et al., 2020; Hong, 2020). In the following, the status quo of sustainability education – generally and in Australia in particular – is presented, before we introduce a new perspective on teaching *for* transformation and the role of *conversational spaces*.

Sustainability education
Sustainability itself is the principle to meet the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987; Mebratu, 1998). Now, decades after the 'Brundtland report', sustainability is now rather interpreted as principle that guides actions through which the depletion of natural resources is avoided. This includes all activities that foster the ecological balance and follow the principle of restoration, meaning to keep ecosystems operating. Learning processes are part of socio-ecological transformation, thus, education, pedagogy and didactics are central areas of change. The main challenge: to develop a critical perspective on sustainability as intrinsic – and potentially universal – social value and reflect on this in research and teaching, which is increasingly mentioned in the

areas of environmental, climate change, sustainability, and CSR communication (Weder et al., 2021; Milstein & Castro-Sotomayor, 2020; Adomßent & Godemann, 2011).

Teaching sustainability is also debated at all levels of education. Mainly in higher education there is a tradition of developing models for teaching sustainability in different contexts, including academic courses, interdisciplinary programs and modules and leadership programs (Lozano et al., 2013). There, the role of the teacher is mostly conceptualized as having an active role as well as being a powerful communicator to *influence* students (Barth et al., 2007) and teach them to design a sustainable society (Tilbury, 2011). In Anglo-American universities and in Australia in particular, due to challenges with integrating indigenous nations in higher education renewal (Wooltorton et al., 2022), sustainability education focuses largely on competences, skills and thus employability with problem-solving is the focus (Weiss & Barth, 2019; Abad-Segura et al., 2020). Furthermore, most of the literature on sustainability pedagogy is focused on teaching sustainability to students who have chosen sustainability as their major or program (Leal Filho et al., 2018; Schrand et al., 2013; Wiek et al., 2014; Wright et al., 2015;), which includes only a very small number of students in Australia; most students get in touch with sustainability related courses or issues in their electives or only in specific courses where sustainable development, CSR or societal transformation is one of many issues, i.e. strategic communication, environmental management or marketing courses.

Overall, the current literature on sustainability in higher education settings focuses predominantly on the design and application of sustainability-related courses and/or programs (Robinson et al., 2022; Schrand et al., 2013; Wiek et al., 2014), with more and more approaches calling for embedding sustainability into entire university curricula and develop new programs (Wright et al., 2015; Leal Filho et al., 2019).

The second stream of research and thinking in higher education of and about sustainability exists around the idea of 'transformational learning'. From this perspective, the emphasis is on the creation of a teaching environment where ideas are expressed freely, where creativity is promoted, and new knowledge is acquired and generated (Barth, 2007; Lozano, 2006; Masschelein, 2004). A prominent model for sustainability education from this second stream is offered by Burns and colleagues, focusing on the opportunities for transformative learning (Burns, 2009). Burns (2015) offers four dimensions (content, perspectives, the process and the context of learning) as core dimensions of sustainability education with inherent transformative potential. This approach also points to the significance of the design process, described as intentional and purposeful interweaving these dimensions into a program or course that mimics ecological systems (ibid.).

However, the approaches mentioned do not clearly elaborate on responsibility, agency and authorship that is further needed in transformation processes (Mezirow, 2000), and they are not as precise in terms of the role of communication and, thus, the *conversational character* of the learning process itself and the dimensions of *conversational spaces.* Also in Australia, despite higher education's growing interest in and focus on sustainability, there is a lack of understanding and common sense about *what* transformative skills and competences are and how the agency can be cultivated in university settings.

Thus, one of the guiding questions for the paper at hand is: How can sustainability be cultivated bottom-up, in and through learning processes? And what role does communication play in these processes? In the next sub-chapter, we will further focus on teaching and learning settings that support and empower students to explore sustainability as guiding principle of action which they can then transfer to the corporate / organizational or even cultural or political world they will work in after finishing their studies.

Teaching for transformation

New pedagogical thinking offers new ways to better understand the bottom-up cultivation of sustainability as guiding principle of action. Here, on the one hand, environmental communication theories and a related pedagogical understanding help to understand responsibility, reflexivity and emancipation as well as eco-cultural identity building processes in their ideas around "transformative learning" (Mezirow, 2000; Milstein & Weder, 2021). On the other hand, newest theoretical approaches in the area of sustainability communication move away from human to nature centeredness (Dessein et al. 2015) and focus on the *constitutive elements and communication processes of a culture of sustainability* – and possible ways to 'cultivate' it (Weder 2022; Reisch 2006).

In the opposite to sustainable education, we assume that teaching *for* transformation means to create a culture of sustainability within the classroom and beyond, which can be further described in terms of a culture of moderation, a culture of attentiveness towards plants, animals or humans, or as 'culture of preservation and nurture' (Reisch 2006; Kösters 1993). This means for learning processes to put attention on the collaborative and participatory character of communication inside and outside of organized learning environments like the classroom (Leon 2013; Ketprapakorn & Kantabutra 2022). Thus, teaching *for* transformation includes all processes that create and maintain a culture of sustainability, bringing in processes of problematization and questioning through which sustainability can be cultivated.

Following Weder 2022, cultivation means *cultural anchoring,* here: anchoring of the principle of sustainability through and in learning processes. This implies that students are

enabled to communicate about, negotiate, integrate, coordinate, and organize all aspects of sustainable action (Weder 2022, 2021; Dessein et al. 2016) and thus cultivate sustainability in their further decision making. Thus, the second question discussed in the paper at hand is on the role of communication and where and how teaching *for* transformation can actually happen.

Conversational spaces

If we think of cultivation as all processes where *sustainability is reproduced* (performativity, reproduction or modification, Weder 2021b) and if we assume that many students in a classroom setting act similarly under certain conditions (course, program etc.), their actions can become a new (or at least changed) practice, because culture (and new norms) is (are) born of practices, a culture of sustainability can develop around sustainability as new norm. Then sustainability becomes a value or 'prism' through which we view the world (Reisch, 2006). This requires a new meaning of *space* and *locality*. A recourse to the biological use of the term cultivation, the proliferation of cells and organisms that are 'cultured', also points to the need for a 'nutrient medium', a space or room where this cultivation happens. Consequently, we introduce the idea of *conversational spaces* like actual offline spaces, localities, forums or mediated spaces like social media platforms or channels which are needed for the cultivation of sustainability. This is again supported by the aforementioned critical environmental pedagogy and philosophy, which suggests that a conversational space is conceptualized as room, timeframe and specific structure where alternative courses of action are negotiated to collaboratively generate restorative alternatives and transformation (Milstein & Pulos, 2015, p. 395). They are also called 'transitional spaces' in which ways of being can be both imagined and experienced (Sandlin & Milam, 2008). Furthermore, existing approaches to transformative sustainability pedagogy point also out that sustainability related learning needs to be connected to real places; here, existing studies describe ecosystems, communities and localities, social and cultural structures and political environments. Otherwise, they stay intangible and abstract for students who are developing their eco-cultural and social identities in relation to a specific context (Komives et al, 2006). Place-based learning and so called situated experiential learning are two concepts, that highlight the place and community as primary resource for processes of learning and empowerment (Fenwick, 2001; Sobel, 2004), for developing ecological awareness and connection (Thomashow, 1995). This can be inside-out settings, outdoor experiences, community-based learning in collaboration with a social movement, a non-profit organization or agency, or writing retreats in the forest to work on a project on waste management with the local council or start-up. In all these learning settings, place refers to the "physical, social, and digital spaces and sites to which individuals attribute meaning and which become more significant when this meaning…is shared or contested by

others" (Gutsche & Hess, 2018, p. 2). The authors point out that "when we develop strong connections to places, there is significant advantage to those who are considered custodians of or holding influence over such places". Giaccardi and Palen (2008) state that involvement, participation and storytelling play a central role in "supporting such a situated, reflective, and narrative mode of interpretation and production of our sense of place" (p. 291) and "it is participants in a culture who give meaning to people, objects events" (p. 292).

However, in all these concepts, the meaning and role of *communication* is not always clear. Therefore, the case studies presented in the following tried to explore communicative dynamics in both conversational spaces and by doing that answer the questions raised before.

3. Insights into two hyper-local conversational spaces

Australia's educational institutions are highly ranked among global universities with a strong emphasis on quality education, student satisfaction and employability. Still, even after being seriously affected by the pandemic, the primary objective of the institutions continues to be focused on making students globally employable (Education Times, 2022). At one University in Queensland, inquiry-based and problem solving oriented so called "active learning" is fostered – in face-to-face, online and hybrid learning environments (Itali UQ, 2022). The two teaching scenarios at a Communication School, described as case studies in the following, had

- between 100 and 150 students in each course setting,
- about 50 / 50 ratio of domestic and international students.
- They happened at one of the largest Australian University
- at a communication department
- in the strategic communication stream and
- on a Bachelor level.

The conversational spaces applied as part of a sustainability related didactic following the idea of teaching *for* transformation, were defined by the five dialectics (Baker et al., 2002): the dialectics of concrete and abstract, inside out and outside in, status and solidarity, discursive and recursive mode and action and reflection. The dialectic relationship between concrete knowing on the one hand and abstract knowing influenced by academic literature and research is one of the core didactic concepts applied. While abstract knowing is very conceptual and objective, concrete knowing involves experiencing the world primarily through feelings, in a subjective way. The inside-out learning process goes back to i.e., Freire (1962), and complements the concept of outside-in learning, which refers to the external ideas and events that act upon us and shape our

knowing. With this, learners can generate a perception expansion through creating public situations and transitional spaces in which people are invited to firstly connect their inner concerns and passions, their perceptions and actions and to imagine and experience otherwise (Milstein & Weder, 2021).

The equality of status between the instructor and participants is a critical issue, especially in the learning settings at hand. The unique and diverse composition of the seminar participants played a significant role in creating and making the conversational learning space possible; students' various cultural background and particular professional experiences contributed to the richness, but also the complexity of the learning process in the courses at hand.

The dialectic between discursive and recursive processes links linear time with organic time, and thus the weekly topic related learning units as underlying structure with individual points of experiences made, with the disruptions that capture attention and stimulate a shift in thinking, attitudes and/or behavior. The intrinsic as well emotional engagements with the course topics operate as primary motives for learners to go back in time and attend to the subject of their interest in a deeper way, which closely related to the active dimension of the active-reflective dialectic of conversational learning. Here any discursive processes drive the conversation and thus the learning process forward in an active way (Baker et al., 2002). With online and offline conversational spaces, learning happens through the dialectical movement of action and reflection as learners move outward into the external world and inward into themselves. The transformative aspect here is that knowledge is created through conversation as learners actively voice their ideas and experiences in conversation and make meaning of the experiences and ideas through reflection.

The gradual unfolding of one offline / on campus and one online conversational space was largely dependent upon how safe participants felt in fully engaging their physical, intellectual, emotional, and sensual experiences in conversation.

Conversational space #1: #soundslikesustainability. An on-campus activation

At the University where the conversational space was created, the "Sustainability Office" is the organizational unit that is responsible for the sustainability strategy, related processes and predominantly the infrastructure. Additionally, since the pandemic, every faculty and school developed ways to "normalize" sustainability through the implementation of rules, regulations, initiatives and incentives or at least some guidelines or a sustainability vision. However, in reality, a deeper cultivation of sustainability doesn't happen – at least not on a teaching and learning level. Only very few courses introduce concepts of sustainability via specific learning resources, from texts to guest lectures or certain case studies, as already outlined above. From the

perspective introduced in the theoretical section, there are no conversational spaces created for communication and negotiation about and for sustainability. The only opportunity for conversations about the meaning and important issues of sustainability is the so called "Sustainability Week", happening once a year in the first half of the second semester. During this week, the students are offered activities and programs to participate, from sustainability walks across the campus to movie nights. With a year of interruption due to Covid-19 related lockdowns in 2021, this week was used in 2022 to create a conversational space for students, staff and anyone who passed by to share their sustainability definitions, visions and ideas.

On the center lawn of the local student hub a stall was put up, demarcated by blackboards of about $1m^2$ size. Chalk in various colors was provided and people were approached by the team (lead academic & student volunteers) and asked to come to the board, grab a chalk and share their first associations about sustainability (see fig. 1)

Fig. 1: Students sharing their sustainability associations at the blackboards in the stall on the campus lawn during Sustainability Week 2022

Additionally, they were offered an old piano key; the second question was to share a typical sustainability sound and write / draw this sound on the key which then were hang at the outside of the gazebo / stall (fig. 2). The students could also add a song to the Spotify playlist "soundslikesustainability", which was played during the days of action in the stall.

Fig. 1: Students sharing their sustainability related sounds on an old piano key which was then hang up at the sides of the stall on the campus lawn

With this activity that was ran for 3 days from 10 to 14 h (Mon, Tue, Wed.) as the busiest time of the day on campus, sustainability meanings and ideas were collected on two different associate levels, a more cognitive (definitions of sustainability) and a more emotive, affectual (sounds, tunes of sustainability). During the activities that people were involved in, they also started questioning the activity and – more interestingly – started to problematize sustainability as a concept, language token used and abused in particular by corporates, certain sustainability issues and the way it is talked about and taught at the University, or the fact that it isn't. The volunteers and the leading academic got involved in these conversations (fig. 3).

Fig. 1: Conversations and negotiations in the stall on the campus lawn

Conversational space #2: #iSustain. An online platform

Today, social media platforms are one of the most researched web-based informational and interactional structures. Research looks at digital public spaces and their counterparts, and other forms of deliberation that is possible in forums and on platforms. Social media enable conversations, community and the connections that are created between individuals and between organizations and their groups of interest – and especially interesting for and as learning setting (Ansari & Khan, 2020), particularly in higher education and thus university settings (Franco et al., 2019; Luo et al., 2020).

The lecture entitled "PR project", a lecture that prepares students for working in a communication role, particularly in the PR industry, works with the University's Sustainability Office (see above) as 'real client'. Part of the research and analysis phase in the first weeks of the semester was to explore sustainability and the dimensions of sustainable development. Therefore, the facebook group "iSustain", established in early 2020, was also used in consecutive courses in 2021 and 2022 to share individual experiences and stories that the students related to

sustainability, or which represented sustainble development from the students perspective. The guidelines for sharing (and part of a portfolio assignment) were the following:

- One weekly post at least (during the semester of 13 weeks) of
- either an *individual experience*, something that people stumbled over in their every-day live, or
- some shared examples, media articles, studies, insights from a different source of information.
- Additionally, the students were stimulated to comment other people's postings.

Examples are photos from sustainability related signpost at the University ("take the stairs, get fit and save energy"), of plastic waste or fashion and comments around certain products, brands and packaging and shared media articles, documentaries and facts and figures from facebook and other social media platforms (see fig. 4 & 5).
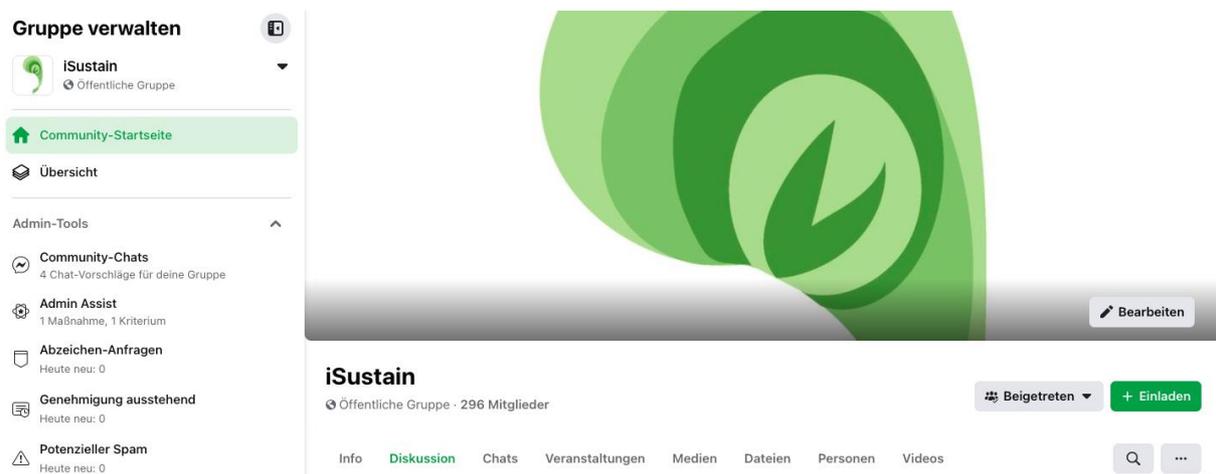
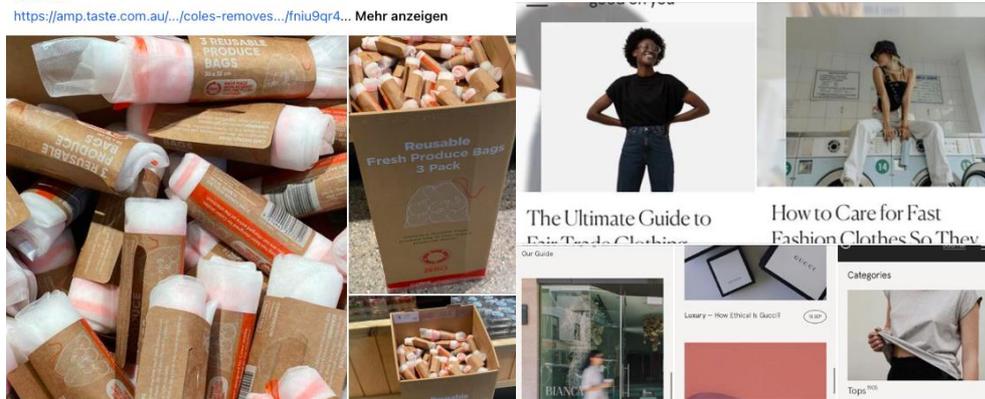

Fig. 4, facebook group 'iSustain'

Fig. 5. typical posting on plastic bags and alternatives and fashion

After 2 years, the group now has 296 members, mostly between 18 and 24 years old and 83 % female.

Method of analysis

<u>Material collection</u>

Due to the variety of material shared online and created offline in the #soundslikesustainability-activation, different kind of textual and visual material was collected from both conversational spaces. From the #soundslikesustainability activation on campus, we collected all words and drawings from the boards and the piano keys. From the facebook page #iSustain, we collected all postings and comments, including the photos and visual elements. The different forms of content were analyzed with an inductive content analysis, using QCAmap as software that enables deductive and inductive categorizations and the manual coding of various forms of content (visual and text). The explorative technique applied to analyze the topics, frames, and principles of the conversational spaces (two-step categorization with QCA map, Mayring, 2021; Mayring & Fenzl, 2019) will be further described in the following.

Rehalted to the overarching, rather conceptual questions of this paper of how sustainability can be communicatively cultivated bottom-up and what is the role of place locality and space, the research questions guiding the content analysis were the following:

What are sustainability issues mentioned / problematized?

What are narratives of sustainability that are created?

Findings

In the findings, we will focus on themes and narratives of sustainability that were co-created in the conversational spaces. For the themes, we followed a typology of Hanss & Böhm (2012), expanded by the work on sustainability narratives by Fuchs (2017). For the narratives of growth, degrowth and postgrowth, we rely on Kemper & Ballantine (2019) and Guske et al. (2019), D'Alisa et al. (2015) and D'Amato (2021) and Luederitz et al. (2016).

Themes

Overall, it has to be stated that in both conversational spaces there were dominant sustainability related themes that were articulated both, textually and visually. One is renewable energy and the need to keep the resources that fuel our society, the second one is food, including eating habits and food choices like veganism and packaging, plastic and the waste that is related to food-products. The following tab shows the sustainability related themes that we identified in the material, highlighted are the top 3 in terms of frequency:

	#soundslikesustainability	#iSustain
Environment	**Nature**, nature preservation Biodiversity (loss) Resources (fossil) Water Energy **CO2 / Emissions** Air Soil / Land Animals / Birds Forest / Trees Water / Oceans	**Food** Plastic packaging / Waste **Fashion** Recycling Reuse Water / oceans
Economy	Capitalism Production / products Transport / mobility Fair trade Consumption	Products / production processes Consumption Transport / Mobility
Social	Community Diversity / gender Politics / politicians Engagement, participation, movements Health Food choices / eating behavior	Health, wellbeing Food choices, eating behavior (veganism)
Cultural	**Future generations** Problems to be solved / climate change, refugee crisis, global challenges	Climate change, problems Diversity, cultural backgrounds, customs
Technical	Plastic Recycling Hydrogen	**Recycling** Renewable energy

	Renewable energy	
Communication	Greenwashing Science communication Research Problems to be solved (**climate change**)	Green advertisement, green marketing Events, music, cultural events

Interestingly, there is a dominance of nature and environment related aspects of sustainability that have come up in a more associative, spontaneous way of articulation in the #soundslikesustainability stall and therefore live conversations on campus; 'icons' of sustainability were birds, wind and water / the ocean and waves. In the facebook group #iSustain, where students were asked to post sustainability related experiences, aspects of sustainability they 'stumbled over' in their everyday live and / or share information that the found online, plastic, waste and food related habits, and here expectations and individual experiences where these expectations were met were dominant. Also, while renewable energy sources and the need to reduce CO2 emissions was mentioned in over 30 % of the written associations around sustainability on the blackboards in the #soundslikesustainbility activation, in the online space individual habits and experiences around recycling and waste were the much more often 'problematized' aspects of sustainability. We can thus see that in an associative conversational space, global and larger issues of sustainability come up, while when students had more time to think about their postings on the #iSustain social media platform, the conversation became more specific and more related to individual practices.

Narratives

Next to the themes and keywords, the main research interest was to identify lines of argumentation and sustainability perspectives that emerged in the conversational spaces. After inductively categorizing the themes, we deductively categorized the material into three sustainability narratives, a narrative of growth, de-growth and post-growth. The background for the categorization into three narratives was current literature on "Green Economy Narratives" (Guske et al., 2019), "eco-efficient growth" (Berg & Hukkinen, 2011), and the so called "sunshine perspective" (Weder, 2021a) of sustainability as an alternative within our existing capitalistic system (Guske et al., 2019). The narrative of de-growth is otherwise referred to as "growth critique" (Berg & Hukkinen, 2011), or "rainy perspective" of sustainability (Weder, 2021a), and began as a critique of the dominant narrative of sustainable development (D'Alisa et al., 2015) and is somehow regarded as a story of abandonment, abstention, and limits of freedom. Lastly, the narrative of sustainability as alternative *to* capitalism (Weder, 2022) is also framed as narrative

of post-growth where growth-centric attitudes are replaced by the culture of sufficiency (Guske et al., 2019), including the idea that reduced production and consumption through innovations in science and technology should be complemented by socio-cultural change (D'Amato, 2021).

In the more associative, live conversational space #soundslikesustainability we could see a lot of growth critique and accusations against capitalism, the 'system' or how the market and politics work. Contrary, the facebook group #iSustain was less critical and the sunshine perspective of sustainability was articulated in more than 75 % of the postings. An example is the following:

> Always get the glass bottles recycled after the party👍
>
> Because not only are glass bottles🍾 and jars 🫙 100% recyclable, but it is also one of the easiest commodities to recycle or reuse, saving on both natural resources and landfill space.🌳

Overall, the character of the conversational space apparently does make a difference. Communication flows are very different if we compare an online public forum with an offline, live interaction on campus where students need to leave the classroom setting that they are used to. Place-based learning and live participation fosters processes of learning and empowerment and developing ecological awareness and connection; the interaction itself was significant because the meaning of sustainability, the associations and statements were not only shared but also immediately contested by others. Thus, the dialectics of an abstract principle and very concrete associations (birds, wind), of inside out and outside in thinking, breaking up and negotiation status, and the connection of a discursive and recursive mode and action and reflection were realized in the #soundslikesustainbility activation. With extra elements like the piano keys and the connection between a more concrete and a more affectual way to think about sustainability (words to be written on the chalk boards and sounds of sustainability), the constructive and constitutive role of *communication* has become obvious.

4. Discussion and perspectives

The paper at hand tried to conceptualize conversational spaces and, with two case studies from a higher education institution in Australia, to learn about the importance of negotiation and sense making of sustainability and thus the participatory generation of a sustainability understanding and common sense. The findings of these case studies show how students and the teaching staff started to take responsibility, advocacy and authorship for transformation and creating their own sustainability stories for sustainable development by talking about it, by sharing their own examples, perspectives and challenges.

Beyond particular insights around dominant sustainability elements and themes related to which a narrative of growth was created mainly in the face book group *#iSustain*, the also presented case of *#soundslikesustainability* shows how *conversational problematization* and *sensemaking* in an offline conversational space around sustainability can be initiated by creating innovative and sometimes unsettling moments of reflection. By getting students out of the familiar classroom setting and asking them for associations related to sustainability to be shared on boards and old piano keys on a campus lawn, the teacher created a moment of disruption which irritated the students but supported them to 'make an issue' out of sustainability themes and to problematize certain aspects in a participatory setting.

From a theoretical perspective, this problematization process can be seen as bottom-up cultivation of sustainability in learning settings in higher education. Problematization is the core process of questioning existing norms, the construction of problems or, at least, the strategic creation of confusion over an issue – here: sustainability -, as introduced in Weder & Milstein (2021) and further elaborated in Weder 2021b. Cultivation of sustainability means that existing cultural, social and economic norms and related behaviors become the object of reflection and questioning (Foucault 1988). This allows the exploration of different ideas and approaches (*perspectives*) in a participatory and performative way (Thomas & Van de Fliert 2014).

Through problematization transformation can be collaboratively generated (Weder & Milstein 2021; Milstein & Pulos 2015), because sustainability itself can be turned into a field of conversational contestation. Then every conversation and also the conversational space itself allows something new to 'emerge': personal knowledge and social knowledge shape each other through conversations, the conversations then are 'larger than the consciousness of any single player (Gadamer's, 1994, p. 104).

This paper introduces a new concept of conversational spaces and their meaning in learning processes that aim for a cultivation of sustainability in the abovementioned sense. Considering the limitations of a case study and the partly anecdotal form of the data (postings, comments, words on the boards and keys), the presented case studies show how *conversational problematization* and *sensemaking* in online and offline conversational spaces around sustainability can be initiated. Thus, the paper contributes to the emerging area of sustainability communication and offers innovative ideas for local engagement and community building where transformation and a bottom-up cultivation of sustainability can and needs to be realized – especially in a context of missed opportunities, a lack of political strategies and dominant economic interest in sustainability related issues like Australia. There is future research potential in studying the visuals and 'icons' of sustainability representing social representations of sustainability. Furthermore, intercultural differences of social representations of sustainability and

related worldviews could and should be studied especially in a culturally diverse setting like Australian Universities.

References

Abad-Segura, E., González-Zamar, M. D., Infante-Moro, J. C., & Ruipérez García, G. (2020). Sustainable management of digital transformation in higher education: Global research trends. *Sustainability, 12*(5), 2107.

Adomßent M., & Godemann J. (2011). Sustainability Communication: An Integrative Approach. In Godemann J., Michelsen G. (eds.), *Sustainability Communication*. Springer, Dordrecht.

Ansari, J. A. N., & Khan, N. A. (2020). Exploring the role of social media in collaborative learning the new domain of learning. *Smart Learning Environments, 7*(1), 1-16..

Australian Government (2005). National Framework for Values Education in Australian Schools. Source: http://www.curriculum.edu.au/verve/_resources/Framework_PDF_version_for_the_web.pdf

Baker, A., Jensen, P.J., & kolb, D.A. (2002). *Conversational learning*: an experiential approach to knowledge creation. Westport, connecticut: quorum books.

Barth, M., Godemann, J., Rieckmann, M., & Stoltenberg, U. (2007). Developing key competencies for sustainable development in higher education. *International Journal for Sustainability in Higher Education, 8*(4), 416–430.

Beck, U. (2004). Ulrich Beck: A critical introduction to risk society. Pluto Press: London, UK.

Berg, A., & Hukkinen, J. I. (2011). The paradox of growth critique: Narrative analysis of the Finnish sustainable consumption and production debate. *Ecological Enonomics, 72*, 151-160. https://doi.org/http://dx.doi.org/10.1016/j.ecolecon.2011.09.024

Brundiers K, Barth M, Cebrián G, Cohen M, Diaz L, Doucette-Remington S, Dripps W, Habron G, Harré N, & Jarchow M, et al. (2020). Key competencies in sustainability in higher education - toward an agreed-upon reference framework. *Sustain Sci.* doi:10.1007/s11625-020-00838-2

Bryman, A., & Buchanan, D. A. (Eds.). (2018). *Unconventional methodology in organization and management research*. Oxford University Press.

Buchanan, J. (2012). Sustainability education and teacher education: Finding a natural habitat? *Australian Journal of Environmental Education, 28*(2), 108-124.

Burns, H. (2009). E*ducation as sustainability*: An action research study of the Burns model of sustainability pedagogy. (Doctoral dissertation). Portland State University, Portland Oregon. Retrieved from https://pdxscholar.library.pdx.edu/ open_access_etds/942/

Burns, H. (2015): *Journal of Transformative Education*. Transformative Sustainability Pedagogy: Learning From Ecological Systems and Indigenous Wisdom. https://doi.org/10.1177/154134461558468

Cox, R. (2007). Nature's "crisis disciplines": Does environmental communication have an ethical duty? *Environmental Communication, 1*(1), 5-20.

Davis, L., Fähnrich, B., Nepote, A. C., Riedlinger, M., & Trench, B. (2018). Environmental communication and science communication—conversations, connections and collaborations. *Environmental Communication, 12*(4), 431-437.

D'Alisa, G., Demaria, F., & Kallis, G. (2015). *Degrowth*. Routledge. https://doi.org/10.4324/9780203796146

D'Amato, D. (2021). Sustainability narratives as transformative solution pathways: Zooming in on the circular economy. *Circular Economy and Sustainability, 1*(1), 231-242. https://doi.org/10.1007/s43615-021-00008-1

Dessein, J., Soini, K., Fairclough, G., and Horlings, L., (Eds.) 2015. "Culture in, for and as Sustainable Development". Conclusions from the COST Action IS1007 *Investigating Cultural Sustainability*. University of Jyväskylä: Jyväskylä, Finland.

Díaz-Iso A, Eizaguirre A, & García-Olalla A. (2019). Extracurricular activities in higher education and the promotion of reflective learning for sustainability. *Sustainability. 11*(17):4521. doi:10.3390/ su11174521

Education.Gov (2022). https://www.education.gov.au/international-education-data-and-research/international-student-numbers-country-state-and-territory

Education Times (2022): https://www.educationtimes.com/article/study-abroad-au-nz/91492275/the-higher-education-scenario-in-australia

Fenwick, T. (2001). *Experiential learning*: A theoretical critique from five Perspectives. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. Retrieved on April 6, 2006, from the ERIC database. (Information Series No. 38).

Franco, I., Saito, O., Vaughter, P., Whereat, J., Kanie, N., & Takemoto, K. (2019). Higher education for sustainable development: Actioning the global goals in policy, curriculum and practice. *Sustainability Science, 14*(6), 1621-1642.

Freire, P. (1972). *Pedagogy of the oppressed*. Harmondsworth: Penguin.

Gadamer, H. G. (1994). *Heidegger's ways*. Suny Press.

Giaccardi, E., & Palen, L. (2008). The social production of heritage through cross-media interaction: making place for place-making. *International Journal of Heritage Studies, 14*(3), 281-297.

Guske, A.-L., Jacob, K., Hirschnitz-Garbers, M., Peuckert, J., Schridde, S., Stinner, S., Zahrnt, F. W. D., & Ziesemer, F. (2019). Stories that change our world? Narratives of the sustainable economy. *Sustainability, 11*(21), 6163. https://doi.org/https://doi.org/10.3390/su11216163

Gutsche, R. E., & Hess, K. (2018). *Geographies of journalism*: The imaginative power of place in making digital news. Routledge.

Hackett, R. (2018). Planetary Emergency and Sustainable Democracy: What Can Media and Communication Scholars Do?. *The Political Economy of Communication, 6*(1).

Hanss, D., & Böhm, G. (2012). Sustainability seen from the perspective of consumers. *International Journal of Consumer Studies, 36*(6), 678-687.

Hong, M. (2020). A comparative study of the internationalization of higher education policy in Australia and China (2008–2015). *Studies in Higher Education, 45*(4), 768-779.

Itali UQ (20229: https://itali.uq.edu.au/teaching-guidance/teaching-practices/active-learning/case-scenario-problem-inquiry-based-learning

Kemper, J. A., & Ballantine, P. W. (2019). What do we mean by sustainability marketing? *Journal of Marketing Management, 35*(3-4), 277-309.

Ketprapakorn, N., & Kantabutra, S. (2022). "Toward an organizational theory of sustainability culture". *Sustainable Production and Consumption, 32*, 638-654, https://doi.org/10.1016/j.spc.2022.05.020.

Kösters, W. (1993). *Ökologische Zivilisierung.* Verhalten in der Umweltkrise." Darmstadt. Wissenschaftliche Buchgesellschaft.

Komives, S. R., Longerbeam, S. D., Owen, J. E., Mainella, F. C., & Osteen, L. (2006). A leadership identity development model: Applications from a grounded theory. Journal of college student development, 47(4), 401-418.

Leal Filho W, Raath S, Lazzarini B, Vargas VR, de Souza L, Anholon R, Quelhas OL, Haddad R, Klavins M, & Orlovic VL. (2018). The role of transformation in learning and education for sustainability. *J Clean Prod. 199* 286–295). doi:10.1016/j.jclepro.2018.07.017

Leal Filho W, Shiel C, Paço A, Mifsud M, Veiga Ávila L, Londero Brandli L, Molthan-Hill P, Pace P, Azeiteiro UM, Ruiz Vargas V, et al. (2019). Sustainable development goals and sustainability teaching at universities: falling behind or getting ahead of the pack? *J Clean Prod. 232* (285–294). doi:10.1016/j.jclepro.2019.05.309.

Leon, R. 2013. "From the sustainable organization to sustainable knowledge-based organization". *Econ. Insights-Trends Chall., 65* (2).

Lozano, R., Barreiro-Gen, M., Lozano, F. J., & Sammalisto, K. (2019). Teaching sustainability in European higher education institutions: Assessing the connections between competences and pedagogical approaches. *Sustainability*, *11*(6), 1602.

Luederitz, C., Abson, D. J., Audet, R., & Lang, D. J. (2016). Many pathways toward sustainability: Not conflict but co-learning between transition narratives. *Sustainability Science, 12*(3), 393-407. https://doi.org/10.1007/s11625-016-0414-0

Luo, T., Freeman, C., & Stefaniak, J. (2020). "Like, comment, and share"—professional development through social media in higher education: A systematic review. *Educational Technology Research and Development, 68* (4), 1659-1683.

Martin-Sardesai, A., AM, J. G., & Parker, L. (2020). The neoliberal reality of higher education in Australia: How accountingisation is corporatising knowledge. *Meditari Accountancy Research*.

Mebratu, D. (1998) Sustainability and Sustainable Development: Historical and Conceptual Review. Environmental Impact Assessment Review, 18, 493-520. http://dx.doi.org/10.1016/S0195-9255(98)00019-5

Meyer, C. B. (2001). A case in case study methodology. *Field methods, 13*(4), 329-352.

Mezirow, J. et al (2000). *Learning as Transformation.* San Francisco, CA: Jossey-Bass.

Milstein, T., & Castro-Sotomayor, J. (Eds.) (2020). *The Routledge International Handbook of Ecocultural Identity.* London, UK: Routledge.

Milstein, T., & Pulos, A. (2015). Culture jam pedagogy and practice: Relocating culture by staying on one's toes. *Communication, Culture, & Critique, 8* (3), 395-413. https://doi.org/10.1111/cccr.12090

Pisters, S. R., Vihinen, H., & Figueiredo, E. (2019). Place based transformative learning: a framework to explore consciousness in sustainability initiatives. *Emotion, Space and Society, 32*, 100578.

Reisch, L. 2006. "The cultivation of sustainability." *Int. J. Environ. Cult. Econ. Soc. Sustain. 1*, 2005/2006.

Robinson, J., Ariga, A., Cameron, S. & Wang, R. (2022) Reaching the Rest: Embedding Sustainability in Undergraduate Student Learning, *Journal of Integrative Environmental Sciences, 19*:1, 171-187, DOI: 10.1080/1943815X.2022.2131829

Sandlin, J.A., & Milam, J.L. (2008). Mixing pop (culture) and politics: Cultural resistance, culture jamming, and anti-consumption activism as critical public pedagogy. *Curriculum Inquiry, 38*(3), 323-350. Doi: 10.1111/j.1467-873X.2008.00411.x

Schrand T, Benton-Short L, Biggs L, Bryson M, Habron G. 2013. Teaching Sustainability 101: how do we structure an introductory course? *Sustainability. 6*(4):207–210. doi:10.1089/sus.2013.9853

Singer-Brodowski M, Wanner M, Schneidewind U. 2018. Real-world laboratories as an institutiona- lisation of the new social contract between science and society. Padmanabhan M. (ed.). *Transdisciplinary Research and Sustainability.* Routledge.

Sisto R, Sica E, Cappelletti GM. 2020. Drafting the Strategy for Sustainability in Universities: a Backcasting Approach. *Sustainability. 12*(10):4288. doi:10.3390/su12104288

Sobel, D. (2004). *Place-based education.* Great Barrington, MA: The Orion Society.

Thomas, P. N., & Van de Fliert, E. (2014). *Interrogating the theory and practice of communication for social change*: The basis for a renewal." Springer.

Thomashow, M. (1995). *Ecological identity.* Cambridge, MA: MIT Press.

Tilbury, D. (2011). *Education for sustainable development*: An expert review of processes and learning. Paris: UNESCO.

UN (2022). *The Sustainable Development Goals.* https://sdgs.un.org

UNESCO (2017). *Education for sustainable development goals*: learning objectives. Paris, France: United Nations Educational, Scientific and Cultural Organization (UNESCO).

WCED (1987). Report of the World Commission on Environment and Development: Our Common Future. Source: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf

Weiss, M., & Barth, M. (2019). Global research landscape of sustainability curricula implementation in higher education. *International Journal of Sustainability in Higher Education*.

Weder, F. (2021a). "Sustainability as Master Frame of the Future? Potency and Limits of Sustainability as Normative Framework in Corporate, Political and NGO Communication." Weder, F., Krainer, L., and Karmasin, M. (Eds.), *The Sustainability Communication Reader*. A Reflective Compendium. Wiesbaden et al. Springer, 103-119.

Weder, F. (2021b). Strategic problematization of sustainability reframing dissent in strategic communication for transformation. *Public Relations Inquiry,* 2046147X211026857.

Weder, F. (2022). Nachhaltigkeit kultivieren. Öffentliche Kommunikation über Umwelt, Klima, nachhaltige Entwicklung und Transformation. *Communicatio Socialis (ComSoc), 55*(2), 146-159.

Weder, F., & Milstein, T. (2021). Revolutionaries needed! Environmental communication as a transformative discipline. In *The Handbook of International Trends in Environmental Communication* (pp. 407-419). Routledge.

Wiek A, Withycombe L, & Redman C.L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustain Sci. 6*(2):203–218. doi:10.1007/s11625-011-0132-6

Wiek A, Xiong A, Brundiers K, & van der Leeuw S. (2014). Integrating problem- and project-based learning into sustainability programs. *Int J Sustain High Educ. 15*(4):431–449. doi:10.1108/IJSHE- 02-2013-0013

Wooltorton, S., Guenther, J., Poelina, A. et al. (2022). Learning regenerative cultures: Indigenous nations in higher education renewal in Australia. Asia Pacific Educ. Rev. https://doi.org/10.1007/s12564-022-09789-y

Wright MF, Cain KD, Monsour FA. 2015. Beyond sustainability: a context for transformative curricu- lum development. *J Teach Educ. 8*(2).