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# Participatory processes in sustainable universities – what to assess?

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## Abstract

**Purpose** – This paper aims to connect participatory sustainability implementation with sustainability assessment, exploring learning theories, the principles of Higher Education for Sustainable Development (HESD) and respective indicators applied in the university context. Even though participation is partly considered in existing assessment practices, it is still unclear what and how to measure participatory processes that envision implementing sustainability principles in higher education institutions. Holistic approaches are often proclaimed, but reductionist assessment methods are frequently followed.

**Design/methodology/approach** – The study followed a qualitative approach, inspired by the Delphi method, and includes semi-structured expert interviews ( $N = 15$ ) and two focus group discussions ( $N = 23$ ), with participants coming from a total of 17 different countries. Data were analysed and compared according to qualitative content analysis and systemized according to the underlying theoretical strands.

**Findings** – The findings suggest that participatory processes can be better assessed from a social learning and organisational learning perspective, emphasizing non-linear criteria for the quality of the process in terms of depth and meaningfulness as well as criteria for the quality of the outcome in terms



of knowledge generation and innovation. The findings also point implicitly to the need of considering double- and triple-loop learning, if a culture of participation towards sustainability is to be pursued, and underline the high impact of institutional governance.

**Originality/value** – Although a great volume of literature about sustainability implementation in higher education exists, studies focusing on participatory processes in this context are rather scarce. This research pays attention to sustainability experts working in universities rarely heard in a more systemic manner and also applies a reflective participatory approach itself by using qualitative methods.

**Keywords** Qualitative analysis, Assessment criteria, Higher education for sustainable development (HESD), Learning theories, Participatory processes

**Paper type** Research paper

### Linking participation and sustainability assessment

The debate about the implementation of sustainability principles and values into higher education (HE) has been growing over the past 20 years, and an increasing number of universities are engaged in this implementation process in the most varied ways (Barth, 2013). There can be noted advancements in operational dimensions of a university in curricular and educational transformation as well as in research and outreach activities (Global University Network for Innovation (GUNI), 2012; Leal Filho, 2009). However, despite all progress, in most cases, sustainability has not yet become an integral part of the university system (Lozano *et al.*, 2013), and the requested paradigm change from unsustainability to sustainability in university systems is not yet fully identifiable (Disterheft *et al.*, 2013; Sterling, 2004). Participatory processes are seen as valuable for this paradigm change and can contribute towards the integration of the sustainability concept into the university culture (Disterheft *et al.*, 2013; Sterling, 2004). However, the concept of participation is at present vaguely defined (Brodie *et al.*, 2009; World Bank, 1996 for definitions) but not contextualized to sustainability in HE. Universities tend to focus on social participation, such as volunteering, and distinguish less between other forms, such as individual or public participation, that would also include political dimensions (e.g. voting and direct involvement in decision-making). Even though participation is partly considered in existing assessment practices, for example student engagement in community outreach activities, it is still unclear what and how to measure, as the concept of participation touches areas of institutional governance, social learning and organisational learning. So far, there have been comparatively few research studies on participation within sustainability implementation at university level, and a more differentiated understanding of these processes is still missing, both in practice of conducting a participatory process as well as in the sustainability assessment.

This paper is a part of an ongoing, cross-sectional research project that aims to investigate participatory processes in university sustainability initiatives[1]. The final purpose of the project is to develop more specific assessment criteria and to contribute thereby to a better integration of the dimensions of participation into practices related to sustainability assessment in higher education institutions (HEIs).

The relevance of this work is based on the fact that empirical knowledge in this field is still scarce and practical advice yet to be adapted to the university context. At the previous research stage, failures and successes experienced in participatory sustainability initiatives were analysed. This analysis led to some clusters of critical

success factors that would help to prepare the way for a more inclusive assessment of these processes (Disterheft *et al.*, 2014). This paper continues the previous investigation by focusing on possible assessment criteria derived from and discussed with sustainability experts working in HEIs. It became necessary to extend the theoretical context of the research beyond democratic theories, Higher Education for Sustainable Development (HESD) and stakeholder engagement (dealt with in detail at (Disterheft *et al.*, 2014), and to include in more depth learning theories and sustainability-related indicators that foster, in particular, the learning dimension of participatory processes, as these can be useful for a more meaningful transition towards sustainable HEIs. These theories combine the educational dimension in collective processes with learning for change that is considered essential for sustainability implementation, as a focus is set on critical reflection and space for emerging new world views (Barth and Michelsen, 2013; Cebrián *et al.*, 2013).

The specific objective of this paper is to analyse sustainability practitioners' opinion and experience in sustainability assessment in HE to deduce possible assessment criteria for participatory approaches in sustainability implementation. These criteria are subsequently systemized according to the theoretical context. The results are then critically discussed and linked to the sustainability debate in HEIs, aiming to point out some existing gaps and offering suggestions for taking participatory approaches and their assessment to a next level.

#### *Sustainability assessment in HE*

Sustainability assessment (SA) is perceived as a necessary step within sustainability implementation, as stated in Agenda 21 (UNCED, 1992), and it is seen as very useful for assisting in decision-making and for helping to make policy and charter statements more operational (United Nations, 2007). Furthermore, SA can enhance the communication about the complexity of sustainability, strive for continuous improvement and help identify best practice examples (Shriberg, 2002). In particular, sustainability indicators are used to visualize phenomena, to highlight trends and to provide early warning to prevent economic, social and environmental setbacks (Singh *et al.*, 2009).

Several types of sustainability assessment tools are applied in universities (Disterheft *et al.*, 2012). These include, for example:

- standardized management systems, like ISO 14001, Eco-Management and Audit Scheme (EMAS) and ISO 26000;
- university-specific tools like *Auditing Instrument for Sustainability in Higher Education (AISHE)* or *Sustainability Tracking, Assessment & Rating System (STARS)*, mostly indicators-based, aiming to evaluate overall campus activities; and
- sustainability reporting, partly following the Global Reporting Initiative Guidelines (also based on indicators), with university-specific adapted tools, such as the Graphical Assessment of Sustainability in Universities (GASU®) and the Sustainability tool for Auditing Universities Curricula in Higher Education (STAUNCH®).

These tools have highly promoted the sustainability debate within academia, but general concerns were expressed more recently that SA practices run the risk of catering

more towards market demands than to societal needs and transformative change, in particular, when focusing on competitive benchmarking and quantitative-oriented ranking systems (Fadeeva and Mochizuki, 2010; Jones, 2012). The Alternative University Appraisal model was an output of those concerns and includes self-awareness questions and benchmark indicators questions that focus on introducing or advancing HESD activities (AUA, 2012; Fadeeva and Mochizuki, 2010).

Critical voices claim that many procedures in SA follow a reductionist instead of a holistic approach (Bell and Morse, 2008; Bond and Morrison-Saunders, 2011). While reductionism can be useful to break down complex processes into simpler and easier understandable components, this approach, usually using a number of selected sustainability indicators, would hardly represent the complex interactions of a system (Bell and Morse, 2008; Bond and Morrison-Saunders, 2011). A holistic assessment instead would seek to establish “a process where communities are systematically involved in defining visions of sustainability and also the means to achieve the vision” (Bond and Morrison-Saunders, 2011, p. 2). In this sense, participation can be seen as a means and an end at the same time. It is regarded as well as a pre-requisite for sustainable development (UNCED, 1992). However, like the term “sustainable development”, “participation” has become a buzzword (Cornwall, 2008; Lele, 1991; Stakeholder Forum, 2012), and a more differentiated understanding and use of this term is needed (Disterheft *et al.*, 2012) if participation shall not be merely instrumental or reduced to functions of display (Arnstein, 1969; White, 1996). To overcome some of these types of drawbacks, participatory evaluation (Cousins and Chouinard, 2012; Cousins and Whitmore, 1998) and stakeholder engagement have gained attention, underlining that the process of assessment for sustainability itself can be seen as a thought-provoking process of learning (Bell and Morse, 2008; Fraser *et al.*, 2006; Reed, 2008; Turcu, 2013). In particular, the stream of transformative participatory evaluation (Cousins and Whitmore, 1998) puts emphasis on possibilities of empowerment when constructing knowledge and when participants can gain an “understanding of the connections of knowledge, power and control” (Cousins and Whitmore, 1998, p. 8). Cousins and Chouinard (2012, p. 27) understand the practice of evaluation[2] itself as “a dynamic and emergent process”.

Bell and Morse (2008, p. 147) defend the view that systemic sustainability analysis:

[...] is a participatory deconstruction and negotiation of what sustainability means to a group of people, along with the identification and method of assessment of indicators to assess that vision of sustainability.

For this to happen, SA needs to link the technical perspective of “what can be measured” with the normative perspective by “what should be measured” (McCool and Stankey, 2004), which is still presenting a gap in current practices (Dahl, 2012), as values are usually considered to be intangible. Nevertheless, research has advanced, and a set of value-based indicators for sustainability in civil society organisations, including universities, has been tested (Burford *et al.*, 2013; Burford *et al.*, 2012; ESD inds, 2011). Learning theories can provide further insights in this context.

### *Learning theories and related concepts*

Transformative change that can boost the transition to sustainability is closely linked to system thinking as well as to learning theories, emphasizing double-loop and triple-loop

learning (Argyris and Schoen, 1978, 1996) (Figure 1). These learning concepts are found in theories of organisational learning (Argyris and Schoen, 1978, 1996; Senge, 1990), communities of practice (Wenger, 1998), social learning (Bandura, 1977; Garmendia and Stagl, 2010; Wals, 2009b), transformative learning (Freire, 1972; Mezirow, 1997; Taylor, 1997) and, more recently, in theories of presencing (Senge *et al.*, 2004). These theories can be regarded primarily as constructivist and derive from the critical theory. By focusing on systemic approaches that stimulate continuous reflection and enable changes in underlying values and assumptions, these theories are understood as helpful to tackle the complex problems of our times that institutions and organisations are confronted with (Edwards, 2009; Peschl, 2007) and form the theoretical fundament for this research. These theories challenge existing worldviews and allow new visions to emerge that are needed for the transition to a sustainable paradigm. Figure 1 outlines the loops of learning.

Scholars of sustainability research in HEIs have engaged in these learning theories by perceiving them in an integrative, complementing manner and acknowledge that they can form a theoretical framework for sustainability implementation in HE (Cebrián *et al.*, 2013; Mader, 2013; Moore, 2005; Wals and Jickling, 2002). Other scholars emphasize the potentials of social learning for the development of specific sustainability competencies (Barth and Michelsen, 2013; Wals, 2010b) and underline the institutional role of universities of being change agents towards more sustainable societies (Ferrer-Balas *et al.*, 2010; Hansen and Lehmann, 2006; Peer and Stoeglehner, 2013).

These approaches align more or less with the concept of Education for Sustainable Development (ESD), promoted by the UN Decade for ESD (2005-2014), which envisions providing everybody with learning opportunities that motivate social change towards sustainability (UNESCO, 2011). ESD, also described as a global movement, is as a concept for re-directing educational policymaking, investment and learning practices for sustainability, in which the listed learning theories can be of support. Tilbury (2011) summarizes the ESD frameworks into four types of processes that strive for:

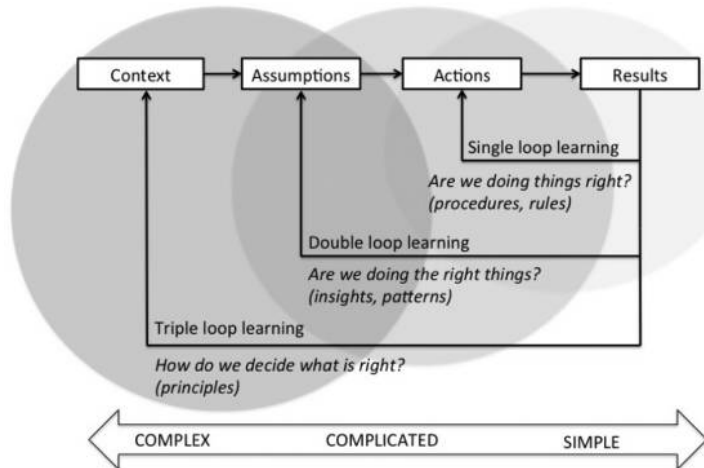


Figure 1.  
Loops of learning

Source: Adapted from Argyris and Schoen (1978) and Holmgren (2011)

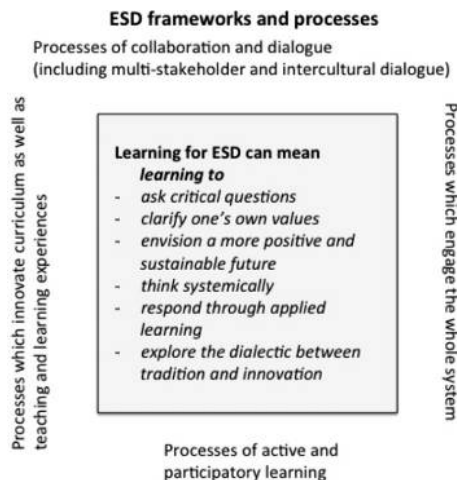
- (1) collaboration and dialogue;
- (2) engaging the whole system;
- (3) active and participatory learning; and
- (3) curriculum innovation and new teaching and learning experiences.

All forms have in common being action-based and aiming at reflective and stimulating ways of learning (Figure 2).

ESD incorporates aspects of transformative and social learning on diverse levels, for example, by strengthening a dialogue, by highlighting the engagement of the relevant stakeholders and participatory learning, and by stressing that learning should be directed towards critical thinking and reflection about personal values (Mulà, 2011; Tilbury, 2011; Vare and Scott, 2007; Wals, 2009a). Some scholars defend a better linkage of the three domains of learning, namely, cognitive (head), psychomotor (hands) and affective (heart), to achieve transformative sustainability learning (Sipos *et al.*, 2008). Wals (2010a, p. 147) adds a political dimension, based on the understanding of deep democracy that he and many others associate to sustainability, by alerting not to “prescribe [...] authoritatively how people should live their life” and that “the processes of searching and engaging are as important, if not more important, than their outcomes” (Wals, 2010a, p. 147). Democratic values and citizenship are core values in education (Dewey, 1916), and so they are in ESD, being simultaneously intertwined with the concept of participation (Cornwall, 2008).

Reed *et al.* (2010) underline the importance of being clear in terminology and interpretation of social learning, as the concept is often wrongly attributed to any type of group processes. They define social learning as a process that:

- demonstrate[s] that a change in understanding has taken place in the individuals involved;



Source: Adapted from Tilbury (2011)

**Figure 2.** ESD frameworks and processes with associated learning



- demonstrate[s] that this change goes beyond the individual and becomes situated within wider social units or communities of practice; and
- occur[s] through social interactions and processes between actors within a social network (Reed *et al.*, 2010, p. 1).

These authors stress that social learning should not be equalized with (public) participation or participatory processes *per se*, but rather see stakeholder participation as a principle and a method for social learning, in which the kind of design of these processes impacts the outcomes in terms of socio-ecological changes (Reed *et al.*, 2010). A better understanding and careful consideration of these related theories could therefore not only enhance the facilitation of participatory processes but also their assessment.

*Indicators for ESD, transformative and social learning*

In the context of the present study, indicators that intend to assess processes, outputs and outcomes directed towards sustainability, with a focus on learning and change, are of particular interest, as they seem to be very useful for analysing the diverse aspects related to participatory approaches.

Various ESD indicator development projects were carried out in different regions of the world (Di Giulio *et al.*, 2012; ESD Quality, 2012; Podger *et al.*, 2010; Tilbury, 2007; Tilbury and Janousek, 2006; UNECE, 2008). ESD indicators can partly overlap with sustainability indicators and educational indicators, as these comprise in more general terms the analysis of the performance of the educational system (Mader, 2013). ESD indicators, instead, intend to capture how well sustainability is integrated into the different levels of an education system. Often, a focus is set on the macro- and meso level, i.e. how well governmental and institutional structures do provide space for ESD (Rode and Michelsen, 2008). Table I outlines the relevance of such indicators.

The existing ESD indicators sets currently available and being used differ in both focus and scope, but researchers agree on that these sets are not static and need to be continuously further developed, to be updated and adapted to a given context, seeking in general to follow a whole-system approach and to include quantitative as well as qualitative information (Rode and Michelsen, 2008). Even though ESD is process oriented (see previous section and Figure 1), Tilbury (2011) noted a lack of process indicators, as in most of the existing ESD indicators initiatives, objectives and outcomes are explained but not explicitly the process itself. Specific ESD indicators on the micro level, i.e. on the learning processes and incorporating the dimensions of participation,

Item	Relevance
Quality	ESD indicators attest the quality of the work done
Progress	ESD indicators allow a check if progress has been achieved against pre-set targets
Relevance	ESD indicators enable the thematic relevance of the action undertaken to be identified
Timeline	ESD indicators support the timely achievement of the goals set
Inclusiveness	ESD indicators cater for contributions from the relevant stakeholders

**Table I.**  
Relevance of ESD  
indicators

**Source:** Created by authors

are still lacking (Di Giulio *et al.*, 2012; Mulà, 2011). Furthermore, there have been noted gaps in including ethical and value-based indicators (Burford *et al.*, 2013) for which reason specific indicators integrating the ethical dimension of ESD (and the millennium development goals) were developed (Burford *et al.*, 2012; ESD inds, 2011).

An interesting indicators framework for social learning for sustainability in HEIs has been developed by Mulà (2011): It seeks “to assess whether universities lead, embed, enable, support and measure the impact of social learning for sustainability” (Mulà, 2011, p. 298) and is based on self-assessment and benchmarking. The framework focuses on staff engagement and assesses the contextual as well as structural conditions but not the quality (or depth) of a social learning process itself. Dlouhá *et al.* (2013) offer an indicators set to describe social learning processes with regard to regional sustainability, tested in university-based regional centres of expertise for ESD. This set represents a kind of checklist for self-assessment and in which respondents have to reflect on diverse aspects and impacts related to social learning in their projects. The set considers, for example, the diversity of stakeholder groups, the application of different learning approaches and levels of participation (from informing to decision-making), and aims thereby to foster double-loop learning (Dlouhá *et al.*, 2013). Sipos *et al.* (2008) analysed several pedagogies that relate to sustainability and transformative education and elaborated a matrix for programme evaluation following a division of learning objectives into the categories of *head*, *hands* and *heart*, striving thereby to embody the learning theories regarding transformative learning. The present research aims to build on these insights and to develop them further by focusing on the quality aspects of participatory processes for sustainability implementation, as these have been less considered (Tilbury, 2011). Furthermore, the qualitative approach of this investigation can add new empiric perspectives for SA and HESD.

### Methods – developing assessment criteria for participatory processes in sustainable universities

The data collection method used as part of this work had two main objectives:

- (1) to identify critical success factors of participatory processes in sustainability initiatives; and
- (2) to identify possible assessment criteria.

As the amount of data collected was very large, the authors decided to divide the analysis into two major topics according to the previously defined objectives. Disterheft *et al.* (2014) present the results concerning critical success factors and include a detailed description of methods, considering as well related questions of reliability and validity. This paper, in contrast, deals with the identification of possible assessment criteria and resumes the methods in a shortened way that still allows an easy understanding of the procedures.

Inspired by the Delphi method (Linstone and Turoff, 2002), the data collection was divided into two consecutive phases, consisting, first, of expert interviews ( $N = 15$ ) and, second, of two focus group discussions ( $N = 20$ ) and two semi-structured interviews ( $N = 3$ ). The latter interviews were executed with participants from two further focus groups held within this project but in which the discussion about assessment criteria could not be completed due to time constraints of some other participants. As experts were considered persons working in HE and engaged in sustainability implementation

for more than two years, namely, sustainability coordinators, lecturers, researchers and student activists.

*First data collection: semi-structured expert interviews*

For the first data collection, a semi-structured interview method was chosen to obtain rich and varied data (Bryman, 2012) that would allow to compare different cases of sustainability initiatives involving different stakeholder groups. One part of the interview was about sustainability assessment tools[3] and the interviewee's experience with them (see Disterheft *et al.* (2014) for a detailed interviewees' profile), exploring whether and how participation is or can be better included in assessment practices for sustainability.

A list of quantitative and qualitative assessment criteria could be retrieved, and was then prepared to be discussed in focus group discussions for deeper exploration (Bryman, 2012).

*Second data collection: focus groups and semi-structured interviews*

For the second data collection, focus groups were considered the most appropriate method, because this method allowed to address best the following objectives:

- To investigate further how the participants perceive the list of assessment criteria previously obtained;
- to complete the previous data by integrating further aspects and additional criteria generated in the discussions;
- to analyse how the utility and practicability of quantitative and qualitative criteria in these contexts are understood; and
- overall, to be open for new emerging patterns.

The focus groups were set up during academic meetings and conferences related to *Education for Sustainable Development in Higher Education* [European Virtual Seminar (EVS) Meeting 2013, Sinaia, Romania) and *Sustainability in Universities* (ESCR-EMSU 2013, Istanbul, Turkey)]. Two focus groups were transformed into one interview in pairs and into one individual interview due to time constraints of other participants. The interviews were held during the Regional Centres of Expertise on ESD Meeting 2013, Kerkrade, Netherlands, and in a German university that is considered a pioneer in holistic sustainability implementation. The participants ( $N = 23$ ) were represented by 57 per cent female and 43 per cent male; were mostly in the age group 30-39 and 40-49 years (39 and 26 per cent, respectively) and pursued mostly a postgraduate degree (48 per cent with PhD, 48 per cent with a master and 2 per cent with a bachelor). The groups were composed of 8-12 participants and one moderator (first author), with a relatively homogenous distribution of gender, age and working experience between the different groups (Table II).

At the beginning of the discussion, the participants were introduced to the scope of the study and discussed first critical success factors for participatory approaches[4]. In the second part, a list of possible assessment criteria, previously obtained from the interviews of the first data collection, was presented and put into debate. Additionally, a quote from a previous interviewee regarding qualitative versus quantitative assessment approaches was used for further stimulating the discussion.

Focus group (FG)/expert interview (Exp.Int.)	Group	N	Nationalities (and gender: f = feminine, m = masculine)	Working in sustainability (average in years)
FG1	n/a	8	Romanian (f/m), German (f/m), Austrian (m), Dutch (m), Portuguese (f) and Greek (m)	8
FG2	A	6	Belgian (f/m), British (f), Swedish (f), Canadian (f) and Dutch (m)	8
	B	6	French (f), Belgian (f), British (f), Mexican (f/m) and German (m)	
Exp. Int. I	n/a	2	Austrian (f) and Greek (m)	5
Exp. Int. II	n/a	1	German (f)	12
	Total N	23		8

**Table II.**  
Composition of focus groups

**Source:** Created by authors

### *Data analysis*

Interviews and focus groups were audio/video recorded, transcribed, anonymised and coded, following a qualitative content analysis approach (Mayring, 2000, 2010), with the support of qualitative data analysis software NVivo 10. Additional materials for the analysis comprised pictures and field notes. A focus was set on similarities and differences as well as on aspects highlighted by the participants to identify trends and relations. In this sense, concrete citations were chosen from the data to represent aspects that were expressed by several participants or groups.

### **Findings and discussion**

The interviewees from the first data collection generally agreed that aspects of participation are or can be included somehow to existing assessment tools but that the existing assessment approaches are rather limited, causing frustration to several of the respondents:

I understand that the rating systems have to have questions to get added things, but it doesn't leave a lot of room for just telling the story what's really happening. (Sustainability coordinator, f, USA-American)

[...]. This is not something STARS is going to pick up on: "Yes, of course, we have students at the table", or "are there students at the table and they're heard". They are one of the most valuable people at the table (Professor, m, USA-American; referring to retrofitting project that followed a participatory approach, engaging the whole academic community).

So you can have a policy (e.g. ESD policy) and say "We're going to do this", not do anything, get maximum points, and actually do it (without having a policy), lead the change and get no points. So, we do report under the Green League, but I think it's a farce, quite frankly. It's very poor methodology (Lecturer, m, British).

The interviewees suggested diverse assessment criteria and referred to positive outcomes and benefits that they attributed to participatory approaches, which can eventually be transformed into further assessment criteria. These criteria were divided into quantitative and qualitative (Table III).

**Table III.**  
Preliminary  
assessment criteria  
for participatory  
processes in  
sustainability  
initiatives in HEI  
(results from the first  
data collection)

Quantitative	Qualitative	
Economic savings	Striving at innovation	
Number of participants	Striving at knowledge sharing	
Number of events/workshops, etc.	Evaluation of what happened as a result of the initiative	
Long-term perspective	“The quality of the shift of the way we do things at the college”	
Inter-and transdisciplinarity (number of different department/faculties etc. involved)	Inter-and transdisciplinarity (quality of the collaboration)	
<i>Outcomes and benefits</i>		
Employability of students	More dialogue	Increase of acceptance
Number of participants as multipliers/champions for sustainability	Better networking	Optimism
Positive image of the university	Confidence	Avoiding resentments
	Collaboration	Capacity building
	Empowerment	

**Source:** Created by authors

Overall, the interviewees considered more qualitative approaches necessary in sustainability assessment when aiming to include dimensions of participation:

So, traditionally, the government tends to use criteria like “how many people attended?” or “how many workshops were held?”, “how many locations were they held in?” [...] very linear, kind of meaningless evaluations [...] statistics. More meaningful data might be what actions resulted from the commitments by the participants during the sessions, “what connections with other participants were made?”, the more non-linear, networking kind of evaluation (Lecturer, f, Australian).

Table III as well as the last quote was put into debate in the focus groups executed during the second data collection and allowed to complement the previous analysis with further insights. Participants discussed *inter alia* divergently about economics savings related to participatory approaches for sustainability: some persons considered options for saving due to more effective decision-making and others pointed to the higher costs on the short term due to extra investments needed for sustainability implementation. General agreement prevailed about inter- and transdisciplinarity as an assessment criterion, with a tendency to a more qualitative perspective that would evaluate the quality of collaboration. The list about positive outcomes and benefits was less present in the discussion, possibly due to time constraints, and already many further aspects having been added. The participants distinguished in particular between process and outcome, and organised the criteria into these groups, expanding them with additional criteria. Emphasis was put on the quality of the process itself and on a qualitative approach to assessment:

In “process indicators” we added not as “how many persons participated” but the depth of participation, so how meaningful did people participate, the breadth of participation (FG2\_B\_f)[5].

Another group added the aspect of representativeness over time and during different stages of a process:

Then, depending also on what your topic is, you have to include people from other disciplines, let's say, but it would not be good to measure it quantitatively, it's not like, "ok, we have five faculties involved", or something, and that's good, - no, it depends, on what you have been talking about [...], so we didn't like really the quantitative things like "how many persons participated", we don't find that relevant, we want to know whether the relevant groups were included, and whether they were included throughout the whole process, like in the beginning, in the middle and also in the end, like not (only) the one nice event where everybody showed up [...]. So more like the relevant people were there, and they were there the whole time (FG2\_A\_f).

All groups underlined the importance to deal constructively with expectations, conflicts and failures, some being pessimistic about the university context and frustrated based on their own experience. To avoid frustration, it was suggested that expectation and failures management should be included in the assessment:

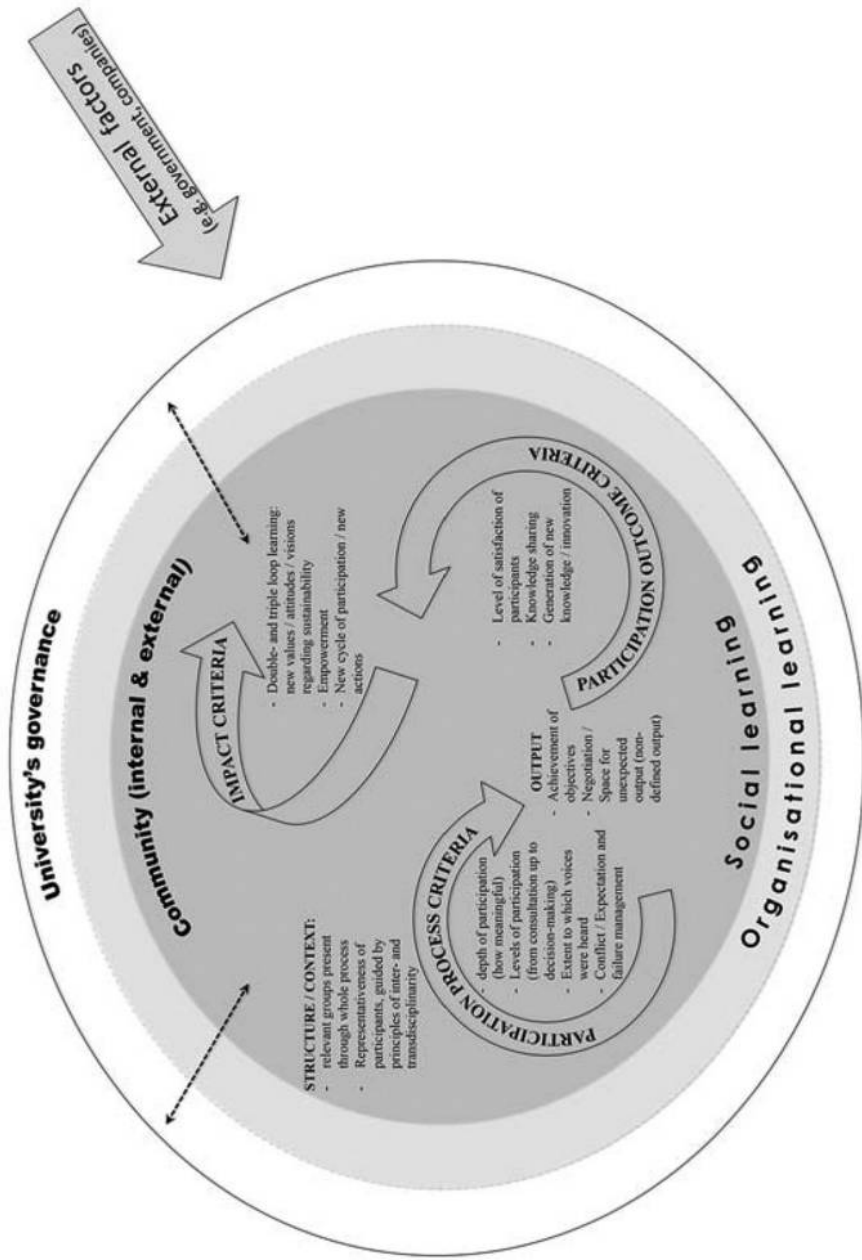
So I think, an important thing is the expectation management; to be very clear on what is possible, what is not, what can people expect and what not. That is an important thing (FG1\_m1).

[...]. Expectation management - I like it very much, it should be included and I would say also possibly failure management, because failure is an option (FG1\_m2).

In a similar sense, it was underlined that the output of a participatory process might be different from initial plans and could therefore remain undefined. Assessing the achievement of previously defined objectives needs therefore to leave space for *negotiation*.

The division of participatory approaches into process, output and outcome, with different criteria for the different stages, suggests a perception of participatory processes in forms of cycles or loops that succeed each other. This perception was reflected in the light of learning theories and translated into a schematic representation of assessment criteria for participatory approaches (Figure 3).

Ideas related to process and output criteria are described above. In the category of outcome criteria, the focus group members placed, for example the *level of satisfaction of participants*, highlighting that a link between their contribution and the outcome should be identifiable. As an additional criterion, it could be looked at *new knowledge/innovation* that was generated due to the previous process. Furthermore, it was suggested that one process might lead to *new processes of participation* connected to the idea of *empowerment*. This new cycle would therefore result from a learning process in which reflection about personal values and assumptions took place and participants feel empowered to undertake new actions towards sustainability, leaving therefore an impact in the academic community. To embed these findings in the theoretical context, the cycles of participation illustrated in Figure 3 are linked to the dimensions of social and organisational learning whose boundaries are understood as being permeable, influencing each other on diverse levels. Participants in this research emphasized to look at "the quality of the shift how things are done (at the university)" (Table III), as well as on the depth and meaningfulness of participation, and underlined the necessity of emerging new values, with a focus on empowerment that, in turn, may lead to new cycles of participation. This perception can be related to double- and triple-loop learning, as described by Argyris and Schoen (1996) (Figure 1) and as also defended by Vare and Scott (2007). Vare and Scott apply this kind of learning to ESD, and point out:



**Figure 3.** Schematic representation of assessment criteria, organised in cycles of a participatory process and interdependent with the university system

Source: Created by authors

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In ESD2[6], we can't measure success in terms of environmental impacts because this is an open-ended process; outcomes will depend on people's unforeseen decisions in future, unforeseeable circumstances. But we can research the extent to which people have been [...] enabled to think critically and feel empowered to take responsibility (Vare and Scott, 2007, p. 194).

If these reflections go beyond individual values and start being embedded in the academic community, social learning is taking place (Reed *et al.*, 2010). If the university's governance also adapts to these ongoing changes and incorporates new values at an institutional level, one can speak of a learning organisation (Senge, 1990). These aspects are to be understood as interdependent: The university's governance structure provides the *context*, which has a strong impact on the overall process conditions (e.g. these structures reflect the space and time provided for participation and learning of the academic community, defining or at least influencing who can participate to what extent. They also demonstrate the overall support and authentic interest shown by the university's top management [or its absence] (Disterheft *et al.*, 2014)). At the same time, outcomes and impact of participatory processes can lead to change in the university's governance and rebalance distorted power relations (Wals, 2014; Wals and Jickling, 2002), for example through new emergent bottom-up processes, and contribute therefore to organisational learning.

The call for transformative learning, made by many ESD scholars and other sustainability practitioners (Moore, 2005; Sipos *et al.*, 2008), can also apply to sustainability assessment. As participatory approaches for sustainability are associated to change, in the assessment of these processes, it could be reflected about what kind of learning loops (Figure 1) were fostered and to what extent values and worldviews were challenged. Moore (2005) rightly asks whether HE is ready for this kind of learning, as transformative learning is very complex and requires specific training and support for educators as well as for students. A skilful facilitator therefore seems indispensable, as suggested already in the previous analysis of this research (Disterheft *et al.*, 2014), and that person would also have the adequate role to help balancing divergent expectations and dealing with eventual drawbacks or even failures.

The need of negotiation about objectives, leaving the outcomes previously undefined as underpinned by the focus group members, promotes in particular a quality of the learning experience that can also be seen as aligned the understanding of deep democracy. Prescribed forms of worldviews and lifestyles should be objected, as explained by Wals (2010a), and can point indirectly to Dewey's picture of a "democratic public" (Dewey, 1916, p. 87) that he sees as "the process of deliberation and communication over collective goals" (Dewey, 1916, p. 87).

Existing social learning indicators as presented by Dlouhá *et al.* (2013), or the Graz model for integrative development in HEIs by Mader (2013), include the differentiation of levels of participation (Arnstein, 1969) and point therewith to the importance of using participatory approaches not only for informing or consulting but also for truly engaging by attributing decision power to participants. This democratic understanding of participatory approaches is also reflected in the present findings and can be seen as an argument for including the political dimension of participation into sustainability assessment practices. This inclusion could enhance diversity and pluralism of thought and in the end contribute also to new knowledge generation: "Grasping something of the other's point of view, one



grasps something of one's own limit. The result, paradoxically, is not a diminution but an expansion of knowledge" Meggill (1995, p. 35) in Wals (2010a). By highlighting space for negotiation and new knowledge generation as assessment criteria, the participants in this study seem to be supportive of this perception.

The current developments in the academic landscape of industrialised countries (referring in particular to the European context from where the authors are coming from) do not generate optimism for a sustainability transition that endeavours empowering its academic communities:

- Many HEIs have been facing enormous financial cuts;
- students are confronted with raising tuition fees;
- there is a growing trend of performance evaluation based on mainly economic aspects in terms of efficiency;
- quality seems to be equalised with productivity in terms of numbers of publication or with number of students enrolled; and
- social security is decreasing for HEIs' employees (teaching and non-teaching staff), impacting significantly on motivation and satisfaction (Schuetze, 2012; Wilson, 2013).

At first sight, participatory approaches for sustainability implementation in the university context and reflections about their assessment may therefore not appear to be a priority topic when looking at the challenges ahead. But participatory approaches offer a great opportunity for rethinking and recreation of practices and underlying values, including the possibility to construct together a new meaning for "sustainable university", which would be urgently needed for a paradigm change. Reflecting about what a sustainable university constitutes, Wals (Sterling *et al.*, 2013, p. 26) suggests:

A sustainable university is a university that contributes to the quality of life and the well-being of the planet through its education, research, management and community outreach. Doing so requires continuous critical scrutiny of its own assumptions, values and practices. Since "quality of life" and "well-being of the Planet" are contested and dynamic concepts a sustainable university has a fundamental role to play in recalibrating their meaning as the world changes and new knowledge and insights emerge. Despite progress in recent years, this ideal remains a core challenge for most universities.

HEIs are challenged to engage better their academic communities in this transition process towards sustainability. It appears to be more difficult to develop criteria and indicators for shaping and assessing this process than to formulate desired outcomes (Tilbury, 2011), but the findings of this research propose that combining double- and triple-loop learning with democratic principles can provide orientation for designing and executing participatory approaches. It is therefore intended with this research to contribute to the ongoing debate about sustainability in HE. A better integration of the dimensions of participation into sustainability assessment practices can help in defining and establishing participatory approaches on institutional level, fostering a culture of participation in the transition to sustainable universities. The criteria or future indicators to be used for assessment would require, however, being adaptable to the specific context and should be agreed on by the participants involved. Thereby, cultural circumstances and different

perceptions of importance or urgency of certain issues could be considered and respected more adequately. It is intended to use the present findings, in particular from [Figure 3](#), to develop an indicators set for participatory processes in sustainability initiatives in the forthcoming research phases.

### Conclusions

The linkages between participation and sustainability implementation, complemented with the sustainability assessment, form the starting point for this ongoing research.

The data collected from the study suggest in particular the need for paying more attention to the learning dimensions when aiming to assess participatory approaches directed towards sustainability implementation in HEIs, considering as well deep democracy; i.e.:

- (1) The level of participation (avoiding simply consulting and emphasizing engagement in decision-making and empowerment);
- (2) The scope of participation in terms of representativeness of diverse stakeholder groups (stressing inter- and transdisciplinarity);
- (3) The quality of the process in terms of:
  - stimulating system thinking, critical thinking and reflecting about values;
  - providing space for negotiation of goals and outputs;
  - analysing the level of satisfaction of participants; and
  - sharing existing and generating new knowledge.
- (4) The impact of participation in terms of new, preferably shared, values and disposal to join a new cycle of participation.

Sustainability assessment does not yet give much attention to which extent initiatives foster transformative learning and critical thinking. The concept of participation offers possibilities for transformative learning to take place and to incorporate its assessment in a more holistic manner. The study confirms previous calls for more qualitative, non-linear assessment to address more adequately the complexity of sustainability implementation in HE.

As the present study is based on subjective experiences of a relatively small sample group, the findings can be considered neither complete nor representative and are to be understood as suggestions for further reflection. Even though the study is internationally orientated, with participants coming from 17 different countries, the geographical scope is still limited and cultural aspects are not taken into consideration.

Future research could explore in more detail differences between stakeholder groups in HEIs (i.e. students, teaching and non-teaching staff, and relevant external groups), as well as investigate more deeply system-thinking and transformative learning. Furthermore, the inclusion of the natural world ([Jones, 2013](#); [Kopnina and Meijers, 2014](#)) into participatory approaches for sustainability and their assessment, as exposed in the Earth Charter ([Earth Charter Initiative, 2010](#)), could offer valuable qualities to reflect better a truly holistic understanding. As this is an ongoing study, these aspects are to be included in following research phases.

This study brings the sustainability debate in HE further by strengthening the learning and transformative aspects in sustainability implementation processes. These aspects are not only applied on students as being the change agents and future decision-makers but on all members of the academic community and the university itself as an institution in transformation. By focusing on the qualitative aspects and more holistic approaches that participatory processes in sustainability implementation offer, the first principle of the Higher Education Sustainability Treaty from Rio+20 is underlined (Copernicus Alliance, 2012): “#1 To be transformative, higher education needs to transform itself”.

### Notes

1. The authors working definition for participation in the context of ESD in HEI is based on definitions for public participation (International Association for Public Participation, 2007) and follows an integrative understanding of HE for sustainable development (Fadeeva and Mochizuki, 2010; Mader, 2013): “By participatory processes within sustainability initiatives we understand the engagement of all critical stakeholder groups into a deliberative process design to define goals, responsibilities and actions toward the transition to a more sustainable university now and in future”.
2. Evaluation and assessment are related terms and sometimes used interchangeably; however, they represent different purposes. Whereas *assessment* seeks to improve a performance or an outcome, *evaluation* seeks to determine the quality of a performance or outcome and to make decisions based on the quality (Baehr, 2013). For a more detailed differentiation, see Baehr (2013). For this research, the term “assessment” is considered to be more adequate, as sustainability implementation implies the intention of improving the sustainability performance of universities bearing in mind long-term outcomes and impacts. However, participatory evaluation research is a useful resource in this context.
3. For a better contextualization and understanding, the interviewees were shown a list of 11 assessment tools applied in the university context, namely AISHE, CSAF, GASU, STARS, STAUNCH, Sustainability Report Card, Ecological Footprint, EMAS, ISO 14001, ISO 26000, GRI (Disterheft *et al.*, 2012). The interviewees only responded about those tools they have experience with.
4. As this part is not a subject of this paper, please see Disterheft *et al.* (2014) for further details.
5. The code refers to the focus group compositions of Table 2, indicating first the specific number of the focus group, then the subgroup where applicable (A or B) and, third, the gender of the participant (m = masculine, f = feminine).
6. These authors distinguish between ESD1 and ESD2 understanding the first as “the promotion of informed, skilled behaviours and ways of thinking, useful in the short-term where the need is clearly defined” and the second as a “building capacity to think critically about what experts say and to test ideas, exploring the dilemmas and contradictions inherent to sustainable living” (Vare and Scott, 2007, p. 191). ESD2 is perceived as a complement to ESD1, as it would add more loops of learning.

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