

# Greening higher education? From responsabilization to accountabilization in the incorporation of sustainability in higher education

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## Abstract

**Purpose** – This study aims to investigate how sustainability has been incorporated – or mainstreamed – in a school at one university through techniques of responsabilization and accountabilization.

**Design/methodology/approach** – Inspired by the extended case study methodology, the authors participated, observed and analyzed two audit-inspired processes, whose aims included ensuring that sustainability was integrated into the educational process.

**Findings** – By following two audit-inspired processes, the authors show how teachers were asked to respond to open-ended survey questions and by doing so emerged as responsabilized subjects. Although the teachers were given lots of space to interpret the concept of sustainability and show how it was translated into the programs and courses offered, the teachers were made accountable as established organizational hierarchies were reproduced when responsabilization was formalized through techniques of accountabilization.

**Research limitations/implications** – The analysis moves beyond the instrumental epistemologies characterizing much of the positivist-oriented research in higher education. As with all studies, the authors study also has methodological limitations, such as involving a single higher education institution. There is a general need for more empirical research in this area in order to build theory and to understand whether the concepts of responsabilization and accountabilization can also be applied in other higher education contexts.

**Practical implications** – The study shows that higher education administrators engage in processes of responsabilization and accountabilization through formalized processes of interpellation, as documents and self-assessment exercises tie teachers to organizational contexts.

**Originality/value** – To the best of the author's knowledge, this is the first study that introduces the concepts of responsabilization and accountabilization as social relationships in higher education governance.

**Keywords** Accountabilization, Responsibilization, Sustainability Incorporation, Higher education, Governance

**Paper type** Research paper



## Introduction

Sustainability is increasingly being incorporated into teaching in higher education. Besides the universities themselves, governmental agencies, accreditation bodies and a host of market forces drive this. Research on this topic is similarly increasing and this had led to growing literature, exploring, for example, the role of teachers in incorporating sustainability (Rouhiainen and Vuorisalo, 2019; Srivastava *et al.*, 2019), the role of curriculum development and learning outcomes (Argento *et al.*, 2020; Felgendreher and Löfgren, 2018) and possible barriers and critical success factors (Pompeii *et al.*, 2019; Disterheft *et al.*, 2015; Poon, 2017).

Common to many of these studies is that they are driven by an instrumental knowledge interest and draw upon a positivist epistemology, while also calling for reforms, at various institutional levels, to better incorporate sustainability into teaching in higher education. Lacking are critical studies of how higher education institutions as *organizations* incorporate – or mainstream – sustainability into its educational programs and courses. In this article, the authors want to do just that, by explore how higher education institutions work towards incorporating sustainability into its educational programs and courses.

By building upon the critical research on governance of higher education, where governance is seen as normative concept, the aim of this study is to investigate how higher education institutions reorganize themselves at various levels so as to be able to incorporate sustainability. The authors do this by exploring a School (hereafter the Faculty with a capital F) at a research-intensive university in Sweden, which recently went through a process of sustainability-mainstreaming as part of two external audit-inspired assessment exercises. In this, the authors trace the organizational process of sustainability-mainstreaming by analyzing techniques of responsabilization and accountabilization.

The authors use the terms “responsibilization” and “accountabilization” to probe how sustainability has been incorporated as these concepts show how subjects are interpellated and so forced to respond and make an account of themselves. Responsibilization is a concept that comes from and is built upon the notion of governmentality: that is, a neo-liberal way of self-governing (Amsler and Shore, 2017; Juhila *et al.*, 2019; Olssen, 2015). Included in this concept are ideas of autonomy and choice, governing at a distance, as well as the privatization of risk. Accountabilization, on the other hand, is a significant component of responsabilization as this not only involve the expectation to respond, but also to give an account of oneself and so emerge as a responsible subject (Amsler and Shore, 2017; Juhila *et al.*, 2019). As both responsabilization and accountabilization ostensibly are signifying the characteristics of certain social relationships (Lauermann and Karabenick, 2011; Møller, 2009), the authors will use these concepts as analytical devices to study sustainability-mainstreaming by focusing on the social relationships between subjects in a formal organization: a faculty in one university.

In this section the authors have presented the research question and the purpose of the study. This is followed by the theoretical framework and the methodology of the study. Thereafter comes the case study, which is followed by an analytical discussion and a conclusion.

## Towards a framework of responsabilization and accountabilization

Here, the authors will present the theoretical framework of the study: first, by delving into sustainability-mainstreaming in higher education; and second, by discussing the concepts of responsabilization and accountabilization.

*Sustainability-mainstreaming in higher education*

Sustainability has become a household term over the past decades. Yet, there are many conceptions of what sustainability means and one way to solve that is often to resort to the Brundtland report from 1988 or to simply refer to UN's 17 Sustainable Development Goals, which were agreed upon in UN General Assembly in September 2015. Subsequently, one common way to categorize sustainability is to stick to its dimensions: environmental, social, and economic sustainability (Blasco *et al.*, 2019; Lozano and Barreiro-Gen, 2019). However, teachers in higher education have found it difficult to address all of these three on an equal footing, and so have taught students about one or two of these dimensions (Rouhiainen and Vuorisalo, 2019).

While the incorporation of sustainability into higher education has been discussed vividly, there is no common agreement in the literature about the term "incorporation". Other concepts, such as implementation, integration and institutionalization, are also used (Kapitulčinová *et al.*, 2018). Even expressions like "education for sustainability" (Shepherd, 2007; Warbuton, 2003) are used synonymously with sustainability-incorporation. Another concept, the authors already have used synonymously with "incorporating", is "mainstreaming". While mainstreaming denotes a process of making sustainability acceptable and part of the core norms in higher education, incorporation refers to "the development of strategies that can enable [the] development of core curriculum, pedagogy and curricular activities to allow [for the] development of values skill and knowledge among students who can contribute to sustainable development" (Srivastava *et al.*, 2019, p. 3).

A literature has merged that tries to understand how sustainability is being incorporated in higher education. It has been done according to the following approaches: "build-on" means that sustainability concepts and analysis are introduced as separate courses or degrees; "build-in", means that sustainability is introduced on all educational courses offered (Disterheft *et al.*, 2015; Ramisio *et al.*, 2019; Shawe *et al.*, 2019). As there are different approaches of doing this, conflicting meanings and agonistic views tend to emerge (Juhila *et al.*, 2019; Andrades *et al.*, 2018).

From an organizational perspective, efforts to sustainability-mainstream higher education is often guided by various managerial techniques, including goals and systematic follow-up of these goals (Finnveden *et al.*, 2020), strategic plans (Poon, 2017), organizational structures and leadership (Argento *et al.*, 2020), principles, tools, frameworks, and approaches that are supposed to ensure sustainability mainstreaming (Kapitulčinová *et al.*, 2018). Furthermore, sustainability-mainstreaming is also guided by lofty ideals about trust, transparency and legitimacy and building teachers' professionalism (Levitt *et al.*, 2008; Reid and Petocz, 2006; Fissi *et al.*, 2021).

In this vein of instrumentalist-positivist research, so-called barriers have also been identified. Barriers may be a lack of "systematic approach" (Shawe *et al.*, 2019), disconnect between policy development and implementation (Poon, 2017), lack of additional support to key actors, such as faculty training and teaching material (Leifer and Dahlin, 2020). But barriers may also be related to managerial accountability systems that focus on outcome measures, which push schools into more conservative patterns (Møller, 2009), and, a lack of resources, joint efforts and collective institutional work (Argento *et al.*, 2020). Emerging from this literature are often calls for a more reflexive take on responsibility and accountability. This feeds into the authors idea that responsabilization and accountabilization are crucial for exploring sustainability-mainstreaming in higher education.

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*Responsibilization and accountability*

At a very general level, responsibility derives from the notion of responding or giving a response to something or someone. In the authors understanding, responsibility refers to the obligation of a subject to perform assignments and to that subject's capacity to assess the consequences of his or her actions (Peeters, 2013). Responsibilization goes one step further by asserting that responsibility is a process of governance, where individual subjects are called on to take on the responsibility for managing problems, which were previously handled by public authorities. Inspired by Foucault's governmentality concept (Lemke, 2001), responsibilization "is fundamentally premised on the construction of moral agency as the necessary ontological condition for ensuring an entrepreneurial disposition in the case of individuals and socio-moral authority in the case of institutions" (Shamir, 2008, p 7). This means that responsibilization denotes the formation of neo-liberal subjects, who, without coercion or force, voluntarily come to endorse or adopt certain moral values or objectives (Trnka and Trundle, 2014). In the governmentality-inspired literature in higher education research, responsibilization addresses academic and administrative staff as functions within a production system and stipulates what is 'expected' of each worker in order to integrate academic work into an administered schema for recognizing and rewarding responsible, successful conduct ("leadership") in the university" (Amsler and Shore, 2017, p. 124). Responsibilization involved more than just being obliged to respond, it is built on the idea were subjects are made into responsible subjects and therefore expected to be accountable for their actions. This suggest that is, in short, a technique of self-governing (Tierney and Almeida, 2017).

Accountability is a concept often seen in the context of higher education (Macheridis and Paulsson, 2021). While many definitions circulate, the authors note that a common definition of accountability in higher education is as follows: accountability "is a systematic method to assure that those inside and outside the higher education system [...] are moving toward desired goals" (Leveille, 2005, p. 10). However, such a definition lack analytical value as it does not say anything about the process involved in establishing accountability and it does not say anything about the characteristics of the social relationships either. Accountabilization, the authors suggest, denotes the process in which responsibilized subjects give an account of themselves to someone else. Inspired by Althusser's and Butler's (2001) understandings of accountability, the authors argue that to give an account of oneself could, potentially at least, shape the subjectivity of that person, and thereby make him or her what he or she is (Baroutsis, 2017; Tierney and Almeida, 2017).

Responsibilization and accountabilization relate to each other, as they are social relationships evolving and practiced within the same process (Møller, 2009). This process involves the formal definition of roles, responsibilities and relationships between subjects and their surroundings (Levitt *et al.*, 2008), which, in a formal organization, can take both an upward and a downward direction, or be lateralized (Møller, 2009; Romzek, 2002). While this is the formalized side of the process, meaning and values are on also the informal side (Macheridis and Dergård, 20), and so infused in the process of formalizing what the subject is responsible for and to whom the subject is accountable (Lauermann and Karabenick, 2011; Romzek, 2002).

Responsibilization and accountabilization both focus on the subject, in this study the teacher (Lauermann and Karabenick, 2011; Levitt *et al.*, 2008). A subject may be accountable for deviations from formal objectives, strategies and values. Establishing the responsibility of a subject, e.g. through linking work to specific tasks or objectives, often requires a consideration of to whom the subject is accountable (Møller, 2009). Both concepts are linked to societal norms and to the value-system of the organization (see e.g. Lerner and Tetlock, 1999;

Tierney and Almeida, 2017). One difference that the authors want to point out is that responsabilization may be shared and more informal (Peeters, 2013), while accountability is generally formalized in an organizational context (Lauermann and Karabenick, 2011).

In sum, the authors will mobilize the concepts of responsabilization and accountabilization as “sensitizing concepts” (Given, 2008). According to Blumer (1954, p 8), a sensitizing concept “gives the user a general sense of reference and guidance in approaching empirical instances”. This way of using theoretical constructs should be contrasted with “definitive concepts”, which, according to Blumer, provide prescriptions of what to see, and are thus operationalized and tested against a neatly boxed-in empirical reality. A sensitizing concept, on the other hand, primarily suggests “directions along which to look” (Blumer 1954), and this feeds into the authors method well: the extended case method (Burawoy, 1998).

### The method, an extended case

This article is based on the extended case study method, as it has been developed and conceptualized by Burawoy. The point of departure for Burawoy (1998, p 14) – and for us - is what he calls a reflexive science, in which ethnographic micro-observations are connected to both personal experiences and world-system structures. Although the authors have not conducted ethnographic observations in the Burawoyean sense, the authors have followed the spirit of Burawoy as the authors began their research by looking around us and trying to grasp what the authors were experiencing and involved in. From this the authors “extended” the authors observations to studying formal processes happening “above our heads” so to say, and by connecting theoretical concepts to that as a way of sensitizing what the authors were observing and experiencing.

This approach turned into a rich and valuable research design. In line with the extended case study method, the authors have seen ourselves not primarily as observers, but as participants in what the authors have been studying. This has allowed us to engage in dialogue with the people the authors have been trying to study. As the authors will explain further below, one of us was involved in the process that the authors observed. The authors have also “extended” the authors observations over time and space, primarily by connecting the studying case with broader structural changes shaping higher education institutions. Burawoy (1998, p 18) suggest that it is crucial to move beyond the observations to incorporate the “external forces”, of which many are hard to observe in a single case study. It was through the extended case methodology the authors could observe how processes of responsabilization and accountabilization were structured by “external forces”, to use Burawoy’s terminology.

Studying case is a HEI in Sweden. Within that case the authors have shadowed, as Burawoy (1998) calls it, two interlinked processes. The first process was centered around a policy-initiative by The Swedish Higher Education Authority (hereafter referred as the Authority), an independent government agency responsible for evaluating quality assurance in higher education and reviewing how higher education institutions apply the laws and statutes (UKÄ, 21 mars 2020). At the end of 2016, the authority asked higher education institutions to give an account of how they worked with ensuring that sustainable development was an integral part of the education. The second process was an accreditation process conducted by the European Quality Improvement System accreditation (hereafter referred as EQUIS). As part of the accreditation process, a survey was conducted in 2018 by the accredited-to-be Faculty in the HEI that the authors study. The survey was investigating to what extent the departments in that Faculty incorporated sustainability in its educational program, courses and modules.

In these two processes, plenty of documents were produced, ranging from minutes of meetings to formalized self-assessments. This documentation, together with us being part of both processes provided us with rich empirical material and allowed us to trace how responsabilization and accountabilization emerged in the efforts to ensure the mainstreaming of sustainability. The Faculty board appointed the same person to lead both processes, which happened to be one of us, one of the authors. This task involved making, circulating and analyzing the qualitative surveys, conduct interviews and writing reports, which both would form the basis for the self-assessments. While writing the reports, 51 teachers were e-interviewed[1], of which 36 were males and fifteen females. They were all formally responsible for course content, or for entire programs. As the questions the authors asked were part of the processes of sustainability-mainstreaming, the authors present them in further detail below in the case description. The first report was eventually sent to the Authority, while the second report was intended to be the basis for the report that the Faculty submitted to EQUIS. In both processes, the reports provided rich sources of material and allowed us to gain deep insights into the processes of mainstreaming sustainability in higher education (Table 1).

### Mainstreaming sustainability

In this section, the audit-inspired processes, whose aims were to ensure that sustainability was integrated in the education, are presented. The authors label the first process the authority process and the second one the accreditation process.

#### *The authority process*

In this process, the policy-initiative by the Authority sparked an administrative process of gaining knowledge about the extent to which sustainability was already incorporated into the offered programs. Involved at the central university level was a section (hereafter referred as the Office), that was responsible for coordinating the work and delivering the self-evaluation report for the university. The Office asked each Faculty board to submit a self-evaluation report to the Office, explaining how sustainability was integrated into the programs. The Office followed the instructions of the Authority and asked the Faculties three questions. First, Faculties had to explain how teachers perceived sustainable development and how they incorporated it into the education offered by the departments in each Faculty. Second, they explored how they integrated issues of environmental challenges and natural resources into the programs. Third, the Office then asked how the Faculties

The authority process	Accreditation process
External level: The Swedish Higher Education, guidelines and documents University level: The university office - (informal) conversations, meetings and meeting notes, guidelines and documents Faculty level: The Dean responsible for ungraduated and graduate education at the faculty Departmental level: Directors of studies at the departments in the faculty – interviews and documents	External level: The European Quality Improvement System accreditation – guidelines and documents  Faculty level: Faculty rector – meetings and meeting notes, documents  Departmental level: Teachers at the various departments at the faculty – e-interviews, documents

**Table 1.**  
Involved actors and data collection in respective process

considered incorporating sustainability into the programs, in terms of design, implementation and outcome.

At the Faculty level (i.e. a separate School at the university), the dean responsible for ungraduated and graduate education was involved. At departmental levels, the directors of studies were involved. Through interviews with the six directors of studies at each department in the Faculty, a broad picture emerged. This also provided input for self-assessment and the report. The report was developed and delivered to the Office in January 2017.

Regarding issues of environment, resources and areas the interviewees were asked to show, these were the main factors:

- The work done to ensure the pedagogical and research-based competence of relevant teachers in matters relating to the sustainable development of education.
- Collaboration with students and the labor market, respectively, regarding sustainable development in education.
- Promotion of interdisciplinary collaboration in working towards sustainable development in education.

Regarding issues of design, implementation and outcome, the interviewees were asked to show, these were the main factors:

- the integration of sustainable development into education;
- that program managers or their equivalents work systematically to follow up and develop the integration of issues concerning sustainable development in education; and
- the identification of specific educational areas where research into sustainable development in education will take place.

Each interview began with an explanation of the purpose of the interview in order for the interviewees to understand its purpose. Additionally, formal documents, such as program curriculums and course material, was collected and sorted based on the questions above.

According to the instructions from the Office, the self-evaluation was supposed to be related to sustainable development, as stated in the Higher Education Act, and to the University's definition found in the policy document "Sustainable Development Policy", which sounded like this:

Achieving sustainable development that meets today's needs without compromising the ability of future generations to meet their needs requires that society tackle a number of major and complex ecological, social and economic challenges.

This was echoing the Brundtland report in 1988, not least by pointing to the issue of intergenerational justice and the three dimensions of sustainability. The Higher Education Act (Higher Education Act 1992: 1434, Chapter 1 § 5) also specified that:

Higher education institutions shall promote sustainable development to assure for present and future generations a sound and healthy environment, economic and social welfare, and justice.

The first part of the self-assessment report, which related to the university's definition and to the Higher Education Act, explained how sustainable development was perceived in the Faculty. The six departments at the Faculty represent different academic subjects and therefore understandings varied. Subsequently, sustainable development involved different things, for example (Table 2):

On paper, the Faculty supports the incorporation of sustainability in education in various ways, for example by communicating that sustainable development is about mentality and values, not least sustainable energy consumption. In terms of pedagogy, students collaborate with each other to push for and strength sustainable development across the academic disciplines. Formal documents, such the “Action plan for equality, equal treatment and diversity” and the “Guide on discrimination, harassment and abusive treatment of students” touch upon social sustainability, at least superficially. Equality, equal treatment and diversity, as well as fundamental human rights, but also democratic and academic values, are found in in the University’s and Faculty’s values and extend beyond these. Furthermore, formal Faculty documents such as program syllabuses and policy documents were revised as part of the audit-like self-assessment process, the authors discovered, to highlight the importance of sustainability.

When answering the questioned posed by the Office, the Faculty highlighted two areas.

The first area referred to issues about environmental challenges and natural resources. Teachers who do research on sustainable development in one way also taught about these things. When recruiting new teachers, research profiles including sustainable development was seen as an advantage as that was considered to strengthen the research-based competence at the Faculty. The research-based competence was also incorporated into education by involving researchers in course-development and in undergraduate and graduate teaching. Students also ask for and demand more knowledge about sustainable development. Students in business administration tend to ask for sustainable accounting and business ethics, while students in economics tend to ask for knowledge on environmental and social aspects of economic decision-making and policies.

The second area dealt with issues of design, implementation and outcomes in courses and programs. In the programs offered by the Faculty, sustainability was incorporated either through courses in sustainable development or course modules that dealt with sustainability in some ways. However, the formal responsibility for sustainability incorporation belonged, and still does, to the director of studies in each of the departments. The formal governance-devices that are available to strengthen sustainability-mainstreaming are various policy documents. But increasingly, the self-assessment showed, teachers believed the corporations and the labor market drive sustainability incorporation at the university.

#### *Accreditation process*

In this process, EQUIS (and its representatives) was a key actor. The central university and its Office were not involved in this process at all, only the Faculty and its six departments. While conducting interviews and writing the report to EQUIS, the authors gathered material on how sustainability was incorporated across the departments at the Faculty. This process was also organized as an audit-like self-assessment process, and structured around the following questions:

Academic disciplines	Examples of sustainable development in courses
Commercial law	Human rights, corruption and labor/environmental rights
Economic history	Peace, wealth distribution and social development
Economics	Health issues and social aspects of social economy
Informatics	Smart IT solutions that realize “green” operations
Business administration	Business ethics and CSR

**Table 2.**  
Academic subjects  
and examples of  
sustainable  
development in  
education

- How is sustainability perceived?
- Which books/chapters in books/articles related to sustainability are used in education?
- Which lectures are related to sustainability?
- Which assignments or cases are related to sustainability?
- Are written exams or questions in the exam related to sustainability?
- Are assessment criteria related to sustainability?

While a great variety emerged from this, the authors were able to single out a pattern nonetheless. Sustainability was equated with “sustainable social development” to a large extent, which is about social justice, equal access to resources and human rights. Yet, the answers showed that sustainability was a context-dependent concept and often integrated in the course content, both at undergraduate level and graduate levels.

Of the 51 the authors interviewed, 37 replied that on their course, the textbooks and course materials dealt with sustainability, either entirely or in specific modules on the course. 21 persons replied that scientific articles on sustainability were used in their course. Because many courses used both textbooks and scientific articles, 44 of the 59 courses explicitly had incorporated sustainability in one way or another.

A total of 35 courses had specific lectures on the topic of, or related to, sustainability. Many teachers said that the lectures went through the content of book chapters or articles that they mentioned in the questions above. Other teachers specified particular chapters or explained how they integrated it into their courses.

It’s about how companies need to use financial management to achieve sustainability goals and be “compliant” with regard to different sustainability certifications, etc. (teacher in informatics).

Culture and ethics in international business (teacher in business administration in international business program).

The lecture is based on the definition of sustainable development in the UN report ‘Our common future’ to show the three dimensions the concept encompasses (teacher in business law).

The lectures take up issues relating to sustainability in terms of fair competition and welfare effects for consumers (teacher in economics).

Twenty-six courses had assignments and problem-solving cases related to sustainability. Some examples were the following:

Case on information system. One of the main problems to be solved is just sustainability (a company that distributes fruit and thus naturally has a lot of food waste) (teacher in informatics).

Ethics in accounting decision-making (teacher in business administration)

The course includes one innovation project that the students work on for a company. Even though the project relates to different perspectives of sustainability it is more focused from an economical perspective in the project (teacher in business administration)

Case on performance measurement. [...] the most important criterion when choosing cases is that it should be an organization where work on sustainability issues/environment/ethics is at least as important or more important than profitability (teacher in business administration).

Seventeen courses had a written exam or questions in the exam related to sustainability. The teachers answers showed some variety, but sustainability was generally understood to be part of examination, not only teaching. In cases where sustainability was not part of

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examination, it was part of traineeships or ungraded tasks or assignments in modules. Some teachers specified by giving examples:

Take-home exam [...] Question: Long-run growth – Pessimistic vs. optimistic views [...] c) According to you, is long-run growth sustainable? (teacher in economic history)

Ethical systems are: A. a set of moral principles, or values, that are used to guide and shape behavior. B. shared beliefs and rituals that are concerned with the realm of the sacred. C. routine conventions of everyday life. D. social rules that govern people's actions toward each other (teacher in business administration in international business program) (teacher in business administration)

[...] Discuss on the basis of economic theory whether the effects of international trade can be conceived in other ways to favor or disadvantage the labor force in developing countries (teacher in economics).

A total of 23 courses responsible responded that the course has the assessment criteria related to sustainability. Examples of assessment criteria:

Demonstrate an awareness of ethical issues relating to accounting and the ability to make an assessment of the moral and social implications of their decisions. Demonstrate insights into the potential and limitations of accounting, its dynamic nature, role in society, and people's responsibility for how it is used (teacher in business administration).

That there should be a reasonable balance between financial considerations and measures and non-financial measures where the focus is on sustainability issues/environment/ethics (teacher in business administration).

In all syllabuses for all candidates for the assessment of candidate theses in business administration, the following assessment criterion were found.

Demonstrate an ability to make judgments within the chosen field, taking into account scientific, social and ethical aspects.

Only teachers in statistics responded that there was no connection to sustainability what so ever in any of their courses.

Some of the persons the authors interviewed referred to formal documents, such as program curricula and course syllabuses, which were how sustainability was incorporated in their course. Broadly speaking, sustainability was incorporated in their courses either because they perceived that their subject – the course content so to say – was about sustainability, or because they considered sustainability too important to be left out.

## Discussion

In both these audit-like self-assessment processes, similarities emerged as far as how sustainability was incorporated in education – in short, by requiring formal responses from individual teachers and so reproducing accountability structures. While the Authority and the Accreditation agency stipulated what was expected (Amsler and Shore, 2017) in terms of content and structure of the self-assessment reports, the Faculty in both processes responded to those expectations by giving an account of itself through surveying – that is, by asking – what its teachers were doing on sustainability in its programs and courses. In the first process, responsibility arose because the Authority had the legal right to request the university and its faculties to give an account and so respond to the request. In the second process, the accrediting agency asked the Faculty to ask its teachers to explain what it did in terms of sustainability.

*Interpellation and subject-making*

The Office, centrally at the university, acted in a similar way as the Authority, which means that accountability was processed, that is translated through the formal levels of the organization to its teachers. Similarly, at the Faculty, the expectation to respond to the Office, and give an account of itself about what it was doing, was translated into a survey, were the teachers, in turn, had to give an account of how sustainability was integrated in their programs and courses. Put differently, directors of studies, program directors and to a greater extent the teachers responsible for courses were made accountable for the goal of integrating sustainability. So, the teachers referred to sustainability as a formalized concept found on course syllabuses, examinations and course materials, and so indirectly related it to the University's definition of sustainable development and to the definition in the Higher Education Act.

By interpellating teachers, they are made responsible subjects by the way of self-governing (Tierney and Almeida, 2017). In this way, responsabilization produce and drag subjects into social relationships, beyond their own department and Faculty (Møller, 2009). The enactment of the policy-initiatives through these social relationships reveals a hierarchy, where the Office make faculties, departments and also the teachers accountable. In both processes, the target of interpellation is, in the end, the university teachers (see Levitt *et al.*, 2008). The analysis shows that the notions of responsabilization and accountabilization offer novel insights into the processes of sustainability-mainstreaming and how this incorporation operates at the level of departments and faculties, as well as how it is connected to "external forces", as Burawoy (1998) calls this in his extended case method.

*Formalization and definitional powers*

Both processes illustrate that responsabilization and accountabilization started by defining sustainability, and then this definition was juxtaposed with the definitions of sustainability offered by the teachers. Just by asking teachers to define the concept and give it meaning, this influenced course content and provided knowledge of how the department incorporated knowledge about sustainable development in its curricula and syllabus (Srivastava *et al.*, 2019).

In this way, sustainability was not only context dependent, but also subject dependent, as sustainability was embedded in the topics taught. By allowing teachers to interpret the concept freely they were also allowed to enact the policy of mainstreaming sustainable development into their programs and courses. This freedom is characteristics of responsabilization.

Formalization, as expressed in the policy documents and the audit-like self-assessments, contributed to engulfing accountability in the social relationships that were established in the processes (Lauermann and Karabenick, 2011; Romzek, 2002). Both processes also demonstrated that teachers at the departmental level provided what was expected of them as they followed the instructions provided by the Faculty, who, in turn was an mediator between the teachers and the Office and the Accreditation agency.

*Interpretation and managerialism*

Since the teachers were made into accountable subjects when they were asked to provide evidence about sustainability in their teaching and learning activities, they were in a position where they could interpret the policy to mainstream sustainable development to fit their own understanding of it. Because this openness, teachers were in fact given the opportunity to incorporate sustainability into their teaching based on their own competence, interest and skills (Rouhiainen and Vuorisalo, 2019).

Although the teachers were aware of the managerialism in the policy-initiative and the two processes, sustainability was considered to be of such importance that the common critique against NPM and top-down managerialism was not voiced, at least according to the authors knowledge. After all, teachers taught about sustainability and sustainable development primarily because they felt it was central to their subject and partly because they have picked up signals from ongoing research, colleagues, and public debates.

While the instrumentalist-positivist research highlights two “barriers” related to sustainability mainstreaming: one being the teachers’ various perceptions of sustainability (Blasco *et al.*, 2019; Blanco-Portela, *et al.*, 2017), the other being the conflict between professional and managerial accountability (Møller, 2009), the authors did not see any “barriers”. As the teachers are professionals, they were given the opportunity to demonstrate their professionalism, which they did, for example, by showing a distance to the policy-initiative and by taking it into account and translating sustainability into their own concept.

## Conclusions

This study started by asking how the policy of mainstreaming sustainable development in higher education happens through processes of responsabilization and accountabilization. Two processes of incorporating sustainability in programs and courses in the same higher education institution was observed and analyzed.

The analysis points to three conclusions. First, responsabilization was characterized by openness and “freedom” as the teachers were given room for interpretation when they were interpellated and asked to give an account of how they incorporated sustainability. In this way, the meaning of sustainability emerged as both bounded by the Authority and the Accreditation agency’s definitions, yet it remained open-ended and context-dependent. This openness made it possible for the Faculty, the authors suggest, to show that sustainability was, indeed a core aspect of the educational programs and courses offered.

Second, while the University’s definition of sustainable development echoed the Brundtland commission from 1998, it gave direction to the Faculty, yet it was up to the teachers to decide on the meaning of it. This openness in terms of what the teachers were expected to respond facilitated responsabilization. Based on what they responded, though, they could potentially be held accountable. This suggests, the authors argue, that responsabilization and accountabilization are processes contingent on each other.

Third, the analysis suggested that both processes showcased that responsabilization and accountabilization interpellated subjects that is teachers, by tying them to formal social relationships in the organizational contexts in which they were working. Understanding responsabilization and accountabilization as social relationships showed that formal documents and self-assessment exercises tied teachers to organizational contexts through formal interpellation (Lauermann and Karabenick, 2011; Macheridis and Dergård, 2020).

Taken together, the main contribution of this study is the enhanced understanding of how sustainability is mainstreamed into higher education through the processes the authors term responsabilization and accountabilization. At the same time, this study highlights a need for further research that explores and develops the concepts of responsabilization and accountabilization in higher education. The authors have only been able to explore these concepts in a limited setting: a single case study. Additional materials and cases should be drawn upon to broaden the base, on which the conclusions are formulated and whether those conclusions can be applied to other institutions or higher education contexts.

## Note

1. Since some persons were responsible for several courses, fifty-nine unique responses were received.

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