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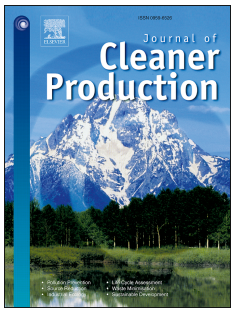

A sustainable consumption teaching review: From building competencies to transformative learning

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PII: S0959-6526(18)31894-8

DOI: 10.1016/j.jclepro.2018.06.238

Reference: JCLP 13384

To appear in: *Journal of Cleaner Production*

Received Date: 5 July 2017

Revised Date: 21 June 2018

Accepted Date: 22 June 2018

Please cite this article as: Sahakian M, Seyfang G, A sustainable consumption teaching review: From building competencies to transformative learning, *Journal of Cleaner Production* (2018), doi: 10.1016/j.jclepro.2018.06.238.

A sustainable consumption teaching review: from building competencies to transformative learning

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Abstract

Sustainable consumption (SC) is a growing area of research, practice and policy-making that has been gaining momentum in teaching programs among higher education institutions. Understanding how, in what way, and what we consume, in relation to environmental integrity and intra/inter-generational equity, is a complex question, all the more so when tied up with questions of social change, justice and citizenship. To understand and address (un)sustainable consumption, different disciplines and related methodologies are often brought together, ranging from sociology, economics and psychology, to political science, history and environmental engineering. Combining and indeed transcending disciplinary approaches is necessary, and what better place to explore these approaches than in the classroom? In this article, a review of sustainable consumption teaching is presented in relation to learning competencies, with discussions around emerging topics related to this theme, as well as promising approaches towards transdisciplinary learning. Examples of how action-oriented, learner-cantered and transformative approaches can be put into practice are also provided. In the conclusion, emerging trends are discussed, along with challenges and opportunities for teaching sustainable consumption in the future.

Highlights

- 49 survey respondents provided data about 58 courses related to “sustainable consumption”
- Social change is an emerging theme, as well as the moral dimension of economics and markets
- Transformative learning is a key learning approach, which presents tensions in the dual role of students as consumers and citizens
- Transdisciplinary learning is gaining in popularity, but representing a diversity of worldviews remains a challenge

Key words:

- Sustainable consumption
- Education for sustainable development
- Teaching
- Transformative learning

1. Introduction

Sustainable consumption (SC) is a growing area of teaching, research, practice and policy-making that has been gaining momentum around the world. Understanding how, in what way, and what we consume, in relation to environmental integrity and intra/inter-generational equity, is a complex question, all the more so when related to questions of social change, justice and citizenship. To understand and address (un)sustainable consumption, different disciplines and related methodologies are often brought together, ranging from sociology, economics and psychology, to political science, history and environmental engineering. Combining and indeed transcending disciplinary approaches is necessary, and what better place to explore these approaches than in the classroom? While sustainable development principles have been adopted by higher education institutes starting in the late 1980s (Lozano 2006), most of the teaching offers specifically focused on sustainable consumption are more recent. The diverse backgrounds of the people teaching sustainable consumption point to the continued relevance of multi- and trans-disciplinary perspectives towards more sustainable forms of consumption. Yet there is no information readily available on how sustainable consumption is being taught around the world. This paper addresses that knowledge gap by presenting the findings of a study of SC teaching in higher education in relation to key competencies for sustainability, but also transformative learning. Our goal is not to contribute to theoretical deliberations on teaching approaches and outcomes, but rather investigate the scope of sustainable consumption teaching to better understand in what way 'sustainable consumption' is being taught, around what thematic focus areas, and towards what aims in terms of learning outcomes. Through this article, we recognize existing efforts and identify challenges in teaching SC, while also inspiring a new generation of teachers who might be interested in further engaging with this topic.

First, we discuss the place of SC teaching in Education for Sustainable Development, including the learning competencies that can help clarify the expected outcomes of ESD in higher education, and how sustainable consumption provides unique challenges when it comes to teaching. We then present the research methodology for our scoping study, which takes the form of a survey to educators, collecting details of courses that teach SC, either through a course specifically focused on sustainable consumption, or in a course where sustainable consumption is a key topic. In the results section, we present findings in relation to learning competencies, then relate this to course content and topics taught in the classroom, and end with some insights on transformative learning in relation to sustainable consumption. We conclude with a discussion around the challenges and opportunities for teaching sustainable consumption in the future, in light of emerging trends.

2. Education for Sustainable Development and Sustainable Consumption

In 2005, the UN Economic and Social Council adopted a Strategy for Education for Sustainable Development, which aimed to "encourage UNECE member States to develop and incorporate ESD into their formal education systems, in all relevant subjects, and in non-formal and informal education" (UNECE, 2005:2). Its vision is that ESD "develops and strengthens the capacity of individuals, groups, communities, organizations and countries to make judgements and choices in favour of sustainable development [and] provide critical reflection and greater awareness and empowerment so that new visions and concepts can be explored and new methods and tools adopted" (ibid:1). This strategy informed the UN decade of Education for Sustainable Development (2005-15), and its principles are increasingly incorporated into teaching practice worldwide. This is seen both in terms of sustainability-focused curricula, and also broader skills and critical understandings deemed necessary for any future citizen to deal effectively with sustainability in any field of work. The UN Decade for ESD is a strong foundation from which to launch the 2016 Sustainable Development Goals, which offers new impetus to these efforts. UNESCO (2017)'s Education for Sustainable Development Goals: Learning Objectives presents each of the 17 Goals in turn, with ideas for creative and effective teaching methods to support the achievement of those goals. It draws on modern pedagogical research and presents empirical examples to inspire and spread good practice. While teaching sustainable consumption is relevant to several overlapping Sustainable Development Goals, it is of particular interest to Goal 12 (Responsible Consumption and Production). Sustainable consumption is therefore a question within the overall interest in policies and practices around Education for Sustainable Development.

In evaluating this decade of action, UNECE (2016) finds that ESD is now formally incorporated into the vast majority of member states' education policy documents (e.g. HEA and QAA, 2014 in the UK), and sustainable development policies. Most initiatives to date have focused on primary and secondary education, while University-level education contexts have been relatively under-developed. Steuer and

Marks assert that Higher Education must "equip its learners with the knowledge, skills and understanding to pioneer innovative and creative responses to achieving wider economic, social and environmental well-being" (2008: 12). Consequently, in addition to gaining in-depth subject knowledge, every graduate should know how to apply that knowledge; what makes a good life; how others think; how change happens; the dynamics of power and influence; and the implications of global interdependence (ibid). The focus of this paper is on teaching initiatives around sustainable consumption in higher education and professional training. Through sustainable consumption, teachers have an unprecedented opportunity to further Education for Sustainable Development (UNESCO, 2017).

When it comes to Education for Sustainable Development among higher education institutions (HEIs) more generally, there are different approaches for evaluating overall programs (Lauer et al 2012) or teaching methods and approaches, based on cognitive, socio-emotional and behavioural learning for example (UNESCO 2017: 34). In terms of evaluating learning outcomes of specific courses, much attention is placed on competencies, which relate to individual dispositions acquired by students that can include knowledge, beliefs, skills, critical thinking abilities, among others. Learning competencies can help clarify the expected outcomes of Education for Sustainable Development in HEIs and enable the integration of such topics in curricula, yet there is no consensus on the selection of sustainability key competencies – with different lists of competencies being proposed. Steiner et al (2006), in exploring a case study approach, emphasize that both social and methodological competencies are needed, such as effective communication and presentation skills for the former, and complex planning and decision-making techniques for the latter. Rieckmann (2012) provides a selection of nineteen competencies, validated by academics in Europe, North America and Latin-America. Wiek et al (2011) propose five competencies which students should acquire, which are inter-related. Systems thinking can lead to an anticipatory competence, for example, and strategic competencies can be enhanced through interpersonal competencies. A comparative analysis of these different competency sets is beyond the scope of this paper; here we adopt Wiek's framework because it addresses the broad scope of sustainable consumption agendas, and offers sufficient categories to provide an heuristic device for comparing the courses we survey, without being overly complex.

There are limits to studying competencies, as such lists give an indication as to the intentions of study programs, but not on the practical integration of competencies into curriculum (Lambrechts 2013), nor on the actual results of applying such competencies in the classroom or beyond. The methods and tools used for delivering these competencies are also not mentioned explicitly. Nevertheless, we engage with the five competencies of Wiek et al (2011), listed below, in assessing different teaching offers related to sustainable consumption as a starting point towards understanding in what way courses are aspiring to these competencies:

1. *Systems-thinking*, or the ability to "collectively analyse complex systems across different domains (society, environment, economy, etc.) and across different scales (local to global)" (p. 207), thereby considering causality, inertia, power and decision-making processes, and other systemic features related to sustainability issues. The focus is on knowledge that enhances systems thinking when applied to complex socio-ecological problems.
2. *Anticipatory competence,* or the ability to "collectively analyse, evaluate, and craft rich ''pictures'' of the future related to sustainability issues and sustainability problem-solving frameworks" (p. 207). Analysis refers to the ability to qualify or quantify ideas around future scenarios, including key components and dynamics; evaluation refers to comparative skills, in assessing several scenarios for a sustainable future for example; and crafting refers to communication and outreach skills, when it comes to promoting future scenarios or visions.
3. *Normative competence*, or the ability to "collectively map, specify, apply, reconcile, and negotiate sustainability values, principles, goals, and targets." (p. 209). This capacity is based on assessing the (un)sustainability of current patterns and systems, to then envision sustainable futures but differs from the second competency in that it requires the integration of knowledge around normative concepts, such as justice, equity, ethics and socio-ecological integrity.
4. *Strategic competence*, or the ability to "collectively design and implement interventions, transitions, and transformative governance strategies toward sustainability" is ultimately about "getting things done" (p. 210). The focus is on being familiar with "real-world" situations outside of the classroom, and being able to manoeuvre around different actors and

relationships, while being able to solve problems and serve as a bridge between the academic sector and other sectors (public, private and civil society).

5. *Interpersonal competence*, or the "ability to motivate, enable, and facilitate collaborative and participatory sustainability research and problem solving" (p. 211). This involves enhancing leadership, collaboration, negotiation and communication skills, towards stakeholder collaboration, for example, or the necessity to work in different cultural contexts.

While higher education programs towards sustainable development present unique challenges, when it comes to grappling with system complexity, for example, or accounting for cultural context and diversity, the field of sustainable consumption presents two distinct challenges of its own. First, in the modern capitalist system, consumer sovereignty is absolute: people are free to consume almost without limits (Wilk 2002). In parallel, individualisation is an important societal trend, yet presenting environmental issues as solely an individual responsibility leaves little room for collective action and tackling power structures (Maniates 2001; Shove 2010). Making a link between individual action, social structures and institutional conditions, towards collective action and transformations towards sustainability becomes all the more relevant in this field. This relates to another challenge: global issues and personal lives are intimately intertwined in sustainable consumption studies, as both students and teachers are also consumers and citizens. Students may learn about how their daily activities and lifestyles influence worldwide sustainability, which raises tensions on how the topic can be taught: should the topic of sustainable consumption be approached as an object of study, which teachers and students engage with critically without any form of personal engagement; or, as some authors suggest, should teaching and learning in higher education provide "opportunities for students to develop their own values, skills, and attitudes to become change agents in the area of sustainability" (Lambrechts 2013: 67). The possible role of students in inciting change is made all the more explicit in Svanström et al. (2008): "Our duty towards education of future professionals is to make it possible for them to participate in the necessary transformation. In higher education, we educate people that will shape the future society" (p. 340).

These assertions reveal a common underlying assumption that learning about sustainable consumption, as a field within sustainability studies, should result in charting courses towards change. This approach to learning has been labelled as "transformative", in that it aims towards the normative goal of empowering students to critique existing societal beliefs, cultures, structures and practices – thereby transforming their view of everyday life – and take action on the basis of their analysis. This action may – but does not necessarily – lead them to contest existing ways of doing things, a prerequisite for achieving sustainability (Mezirow, 2000; Lotz-Sisitka et al, 2015). In this approach, the teacher's role is to challenge students' existing beliefs and assumptions, and empower them to take action if their studies lead them to that conclusion (UNESCO, 2017). When applied to sustainable consumption studies more specifically, this implies that students will not only gain competencies, but also an understanding of what type of change is needed, what forms of consumption should be privileged over others, and indeed how their own consumption practices might be shifted towards sustainability goals. If this leads to a moral stance towards a right or a wrong way to consume, such an approach could prove problematic, as it would need to account for competencies that grapple not only with complexity but also a deep understanding of different contexts and cultures, and a sense of moral righteousness. Closely related to this "transformative" learning goal is the relevance of integrating both practical and scientific knowledge in learning programs, towards "transdisciplinarity" (Steiner et al 2006). More than an "interpersonal competence" and a "strategic competence", this requires not only a process towards engaging with different perspectives, but a recognition of the validity of different worldviews. In our study, we address both these key elements of education for sustainable consumption. Therefore, in addition to analysing courses in sustainable consumption related to Wiek's competencies, we also consider if and in what way courses engage in transformative learning (sections 4.1 and 4.2), and whether this form of learning takes into account a diversity of perspectives and a variety of contexts (section 4.3).

3. Methodology

Finding information on sustainable consumption learning through secondary sources is a difficult task: information is often hidden within academic program materials, or detailed descriptions of courses are simply not available. There are also different terms used to describe a learning offer, including training programs, courses, lectures, but also programs and modules (note that for the purpose of this paper, all learning offers are termed "courses"). This paper therefore aims to address that knowledge deficit by providing a review of SC teaching inititaives, which might inspire current and future lecturers, based on a survey among teachers. Thanks to a research grant, "Teaching '(un)sustainable consumption' at Swiss Universities" (June 1, 2014 to November 30, 2016)[1], the survey-based research design aimed to investigate where, by whom, how and towards what aim "sustainable consumption" is currently being taught in higher education institutes. The survey asked for mainly qualitative data, to gather rich information about course content and teaching approaches, from as wide a range of SC teachers as possible.

In recent years, new platforms for sharing knowledge in relation to sustainable consumption have emerged, such as the Sustainable Consumption Research and Action Initiative (SCORAI), building on the earlier success of the European SCORE! Network (2005-2008) in Europe. SCORAI includes chapters in North America, Europe, and China. Mostly harking from the academic sector, SCORAI members also include practitioners and students interested in sustainability. SCORAI has been continuously building its membership base thanks to regular newsletters, workshops organized in North America and Europe, as well as international conferences. To date, SCORAI is one of the main organisations to centralize information on sustainable consumption teaching, which is why we selected SCORAI as the primary means for reaching teachers around the world. In addition, there are two other membership groups and research networks where research and teaching on sustainable consumption come together, whose members were also approached for this review: the European Sociological Association's (ESA) Consumption working group and the Environmental Sociology group in North America. We recognize that, through outreach through these networks, there is a sampling bias in our study towards European and North American teaching offers[2].

Our target population was the whole of the SCORAI network, as this represents the intellectual home of SC academics, researchers and teachers, around the world. The 2-page survey was disseminated through the SCORAI network in 2014, 2015 and again in 2016, reaching approximately 1,100 members each time[3]. Recruitment of survey respondents took place in several stages, and we aimed for maximum participation among respondents, to capture the full scope of SC teaching activity represented in SCORAI. First, an email was sent to all members asking those who have teaching responsibilities in relation to sustainable consumption to participate. Second, a similar message was sent via email in the SCORAI newsletter as well as on the SCORAI web pages. The survey was further advertised at SCORAI workshops and at the 2016 SCORAI international conference that took place in Maine, where a special session was dedicated to sustainable consumption teaching with approximately fifteen participants. In 2016 and with the ambition of broadening the scope of the study, an additional email was sent through two listservs, representing members of the Environmental Sociology group in North America, and the European Sociological Association – the aim being to capture more academics in social sciences and the humanities, teaching on consumption topics in relation to sustainability. In 2017, sustainable consumption teaching was also discussed at the Global Research Forum on Sustainable Production and Consumption's conference "Sustainable lifestyles, livelihoods and the circular economy" conference in Brighton, where innovative approaches were shared, as well as gaps in terms of resources and networks, among twenty participants.

[1] The project was co-coordinated by the University of Lausanne (Marlyne Sahakian and Suren Erkman) and the University of Basel (Antonietta Di Giulio), as part of a Swiss initiative to support sustainability in higher education (sd-universities programme), supported by the Swiss Academies of Arts and Sciences.

[2] While this sample may not be representative of all learning opportunities that engage with a consumer-citizen perspective when addressing sustainability issues, we are confident it is sufficiently diverse, to represent a variety of types of learning opportunities from different parts of the world and specifically Europe, North America and Asia. The SCORAI membership base has little representation on the African Continent and Central and South America, with some members from South Africa and Brazil; the Environmental Sociology group and the European Sociological Association have members in North America and Europe respectively. This paper is a first attempt at analysing sustainable consumption teaching as part of an ongoing process, inviting others who may not be represented in this first study to contact the authors and contribute to our continuing research.

[3] The exact breakdown of the SCORAI membership (by region, profession or affiliation) was not available to the authors.

There were forty-nine responses to the survey, with some respondents providing updates during the period under study, and some new respondents joining in the last wave of outreach in 2016. They provided information on class size and duration, program affiliation and associated credits, as well as more detailed information on main learning outcomes, approaches that they considered to be innovative, key reading materials and what teaching resources are lacking, and an identification of further resources needed for teaching, in an open-ended format. Survey results were collected and analysed using standard qualitative methods and simple descriptive statistics. The objective of such an exercise is primarily descriptive, to reveal the content and geographic distribution of teaching offers for example, but also to determine what learning competencies are being aimed for, what novel approaches to teaching are underway, and what gaps might need to be further developed in order to improve the teaching offer in different contexts.

In addition to revealing the character, location and context of SC teaching, we applied Wiek et al's (2011) framework for sustainability competencies to assess the extent to which courses covered these key elements: Systems-thinking; Anticipatory competence; Normative competence; Strategic competence; and Interpersonal competence. Data was coded according to evidence of these elements, to assess the extent to which they were covered in the teaching. In the first wave of surveys, respondents did not engage directly with Wiek et al's competency categories; the co-authors inferred what competencies were being addressed based on the open-ended survey data, then checked back with the lecturers on the validity of these assumptions in some cases. Questions were asked regarding the main approaches to learning used in the classroom, what conceptual tools the lecturers proposed, what key themes were explored, as well as the anticipated learning outcomes. In the last wave, we inserted the list of competencies in the survey with a short description of each, asking respondents to self-evaluate their learning goals. Not all of the lecturers included in this survey would necessarily agree with the Wiek at al's (2011) list of competencies, and some had not responded to the survey with these categories in mind, but nevertheless this framework was useful in coordinating and allowing comparisons between a diverse range of courses and disciplinary contexts. We recognize that there are limits to both approaches and inconsistencies in how the survey was carried out between 2014 and 2016, but remain convinced that the rich empirical data from the open-ended questions as well as the review of course materials (reading lists, syllabi, and in some cases, student evaluations) give as an accurate depiction of the courses.

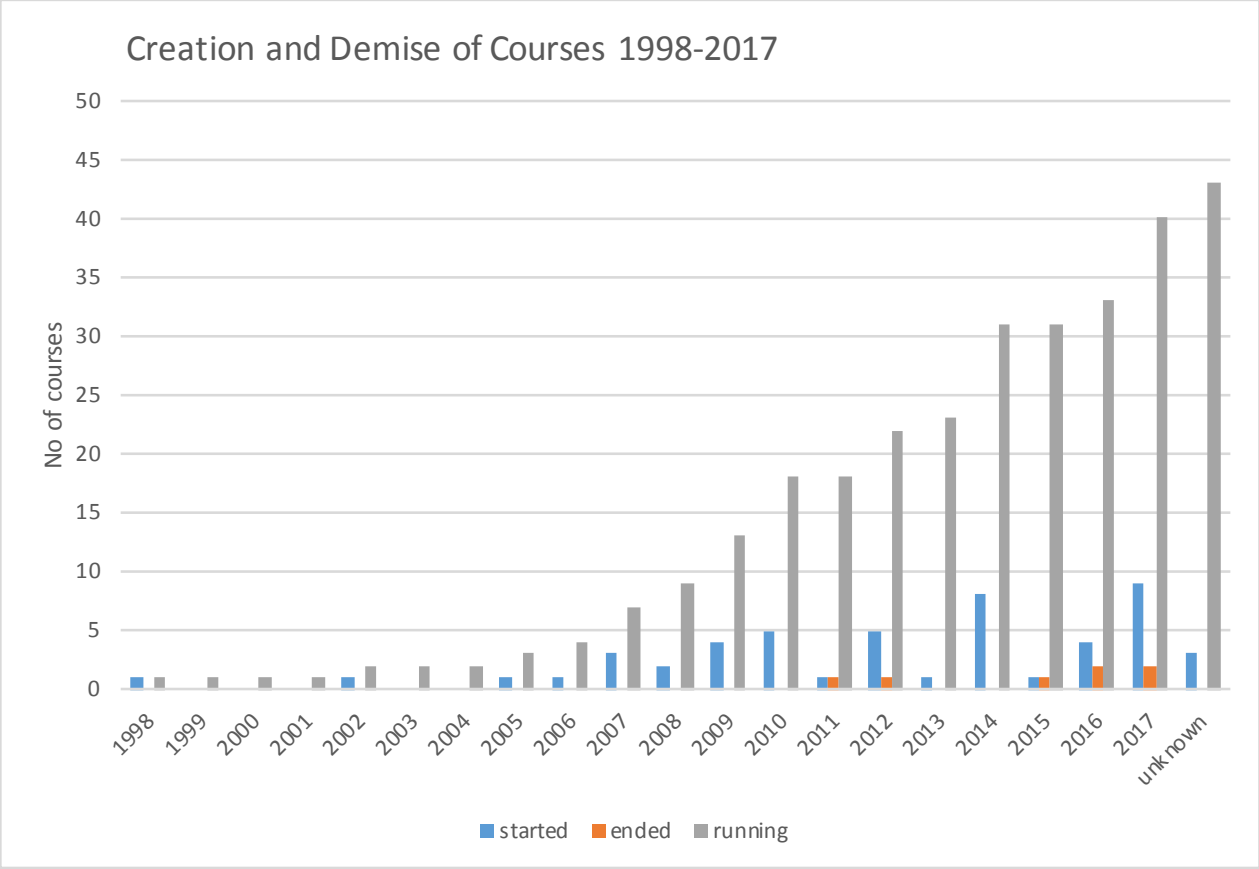
4. Overview of learning and teaching for sustainable consumption

Our forty-nine survey respondents gave us data on fifty-eight SC courses around the world, with certain respondents filling in more than one survey as teachers of multiple courses *(see the Annexe for details on courses and lecturers)*. In this section, we describe the sample as a whole, looking for patterns and distributions of geography, content, context and objectives, as well as learning outcomes. We also assess whether courses seem to engage with transformative learning, and whether such ambitions also attempt to account for a diversity of perspectives and a variety of contexts, towards transdisciplinarity.

Based on our study, a majority of courses related to sustainable consumption are offered in Europe (37), followed by North America (13), Asia (7) and Latin America (1). The courses are evenly distributed between undergraduate and graduate levels. Almost half are being offered as part of a program based in the environmental sciences (27), suggesting that environmental concerns were a starting point for most sustainable consumption courses. Eighteen (18) courses are offered as part of social science programs, such as Bachelor programs in anthropology, sociology or culture and technology, which can be explained by the rich heritage of social sciences in studying consumption. Twelve (12) courses are part of business administration curricula, at both the graduate and undergraduate levels; while two courses are part of a political science curricula. Three of the courses focus on training practitioners and policy-makers, based in Asia and Latin America, and supported by United Nations programs. While different regions of the world use different credit rating systems, courses usually involve a two- to three-hour session per week and over one semester. Approximately half of the classes are small in size, in the fifteen to thirty student range; 18% are between 30 and 70 in class size: and only 10% are between 70 and over 100 in class size. Start dates for the first course offering were not always documented by survey respondents, yet of those indicated (n=54

courses), a majority of courses were launched since 2008 (Figure 1: accounting for classes that have ended over the course of the years). The first course we have documented is "Consumption, households and the environment" first offered in 1998 at the *Université Libre de Bruxelles.*

<INSERT FIGURE 1 >

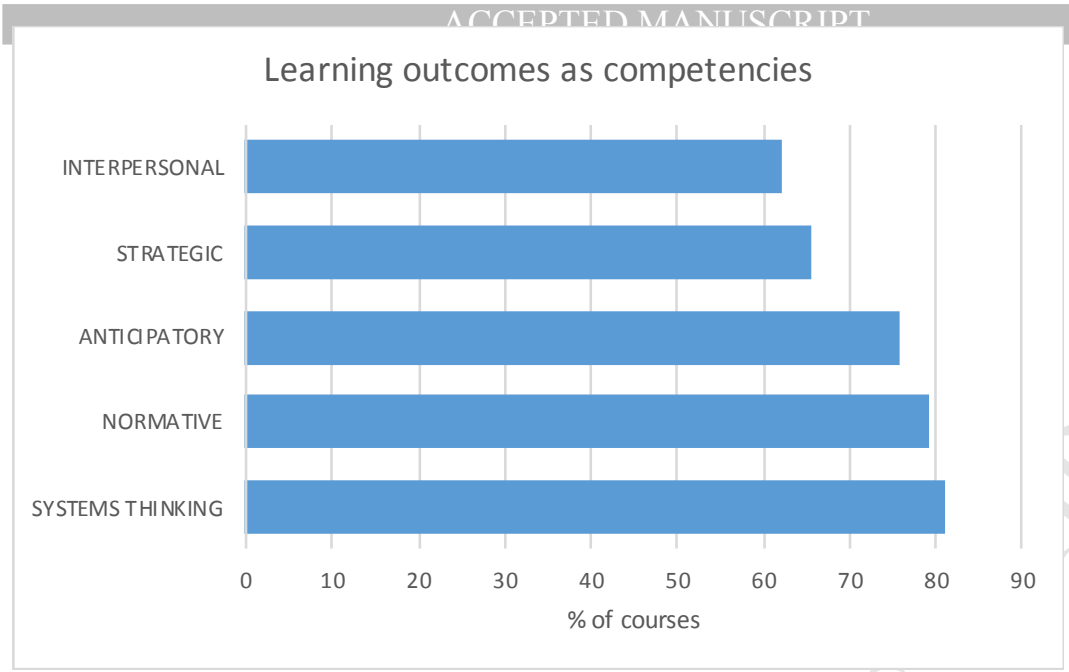


In the sections that follow, we begin by analysing the courses in relation to teaching competencies (section 4.1); we then provide some insights on course content trends in relation to competencies and transformative learning (section 4.2); finally, we provide an analysis of courses in relation to transformative and context-dependent learning.

4.1 Learning competencies in sustainable consumption teaching: analysing interrelations

In relation to the learning competencies suggested by Wiek et al (2011), all of the courses studied propose more than one learning competency as an outcome, and these learning competencies are often inter-related to other competencies and indeed to course content (discussed in 4.2). In Figure 2, the percentage of learning opportunities towards each competency is presented; we provide examples in relation to each of the competencies, below.

<INSERT FIGURE 2 >



Most of the courses (81%) provide students with knowledge that enhances their understanding of complex socio-ecological problems, or ***systems thinking***. The high rate of this learning competencies may reflect the historic focus on systems thinking and holistic approaches: as documented in Svanström (2008), systemic thinking was already proposed as a key competency, following the first intergovernmental conference on environmental education in Tbilisi, Georgia, in 1977. While Wiek et al. interpret systems thinking as cutting across disciplines, this high percentage might also relate to the high number of programs based in environmental sciences, a field that has long experimented with systemic representations of environmental issues, including sustainable consumption. Two Bachelor-level courses at the New Jersey Institute of Technology, "Introduction to Sustainability Studies" and "Sustainability Policy and Practice", offered as part of an architecture program towards a minor in environmental and sustainability studies, take as a starting point the Anthropocene and planetary boundaries, giving students an introduction to concepts from ecological modernization theory and industrial ecology so as to uncover the complexity of sustainable consumption problems. As an example of courses that cuts across disciplines, an undergraduate course at Oregon State University titled "Sustainable Living: Politics and Policy" introduces students to systems thinking in relation to sustainability, by encouraging students to think about interconnections, in terms of policy regulations, technologies, socio-economic conditions, and cultural values. A graduate seminar at Clark University, titled "Sustainable Production and Consumption" (ended in 2017), encouraged students to understand the complex drivers of consumer society, involving the interconnections between technology, culture, institutions and politics, and cross-disciplinary perspectives.

Approximately three-quarters (76%) of the courses deliver ***anticipatory competencies***, or the ability to think about future scenarios, evaluate and promote visions of the future. Here, the high percentage can be explained in relation to systems thinking, as the two competencies are inter-related: in order to quantify and qualify future scenarios, an understanding of system components and dynamics is often necessary. Related to anticipatory competencies are evidence-based pedagogies, action-oriented approaches – following Kolb's (1984) model of experiential learning, students learn best when they follow a process of active engagement with knowledge, followed by reflection and generation of new concepts (rather than passively 'absorbing' information in a lecture); the teacher's role is again to provide a facilitating environment for such activities, for example through workshop, group discussions, problem-solving etc. Such approaches and expected outcomes are emphasized by the two policy-arena training programs offered in Asia, with an emphasis on training practitioners to then incorporate sustainable consumption and production (SCP) into national policymaking and governance, and imagine future scenarios. In Europe, certain courses seem to be moving away from a focus on theories to engage with action-oriented approaches that further develop anticipatory capacities. In one example, a course was originally designed to be more theoretical, but evolved into a more case study approach: "Consumption, households and the

environment" course, at the *Université libre de Bruxelles* (Belgium), evolved from a lecture to a seminar, as students were keen on learning through case study discussions on grassroots and social innovations in order to further develop anticipatory competencies.

A similarly high percentage of courses (79%) offer ***normative learning***, or the integration of knowledge around normative concepts, such as justice, equity, ethics and socio-ecological integrity. As eighteen of the courses are part of social science programs and given the important contributions of the social sciences in consumption studies, it is no surprise that many of the courses have a strong theoretical component, based on understanding the conceptual underpinnings of sustainability in relation to consumption studies, enhancing normative learning capabilities. At Boston College, "Consumption and sustainability" engages with socio-cultural theories, bringing foundational theories of consumption and consumer culture into dialogue with the contemporary sustainability literature. Normative learning approaches are popular in UK university programs. Several courses at the University of Surrey engage with various theoretical perspectives, including social psychology and behavioural change, as well as the sociology of consumption. Reflecting the significant amount of research that applies social practice theories to sustainable consumption studies, that has emerged in recent years, it is no surprise that social practices theories hold a prominent position in several courses being offered, for example: "Society and Environment" at Washington State University, which provides perspectives from environmental sociology, treadmill of production theories, ecological modernization theories, as well as social practice theories. Key concepts are also explored, such as neoliberalism, citizen-consumer hybrid, consumption, environmental justice, ecological citizenship, eco-feminism, and social movements. A "Sustainable Consumption" course offered in 2016 at the University of Lausanne and since 2017 at the University of Geneva also engage with social practice theories and relate these to sustainable food, mobility and energy consumption, integrating role playing and visioning exercises towards imagining future practices or changes in how practices inter-link. As part of the new Masters in environmental change and global sustainability at the University of Helsinki, a course titled "Sustainability in everyday life" invites students to apply practice theory to analyze and improve the conditions for sustainable consumption.

Approximately two-thirds (65%) of courses offer some form of ***strategic learning***. A bachelor course titled "Geographies of Sustainable Consumption", at the National University of Ireland, Galway, emphasizes the development of critical thinking as well as effective communication, supported by TED type lectures. At Applied Sciences of Munster and for the "Sustainability concepts in science and practice", students are invited to imagine a timeline towards sustainable transitions, then are given cards which highlight different types of interventions towards sustainability. They discuss and debate how to move forward, and are often surprised by the inter-related factors that must come into play. Some courses consider how companies and organizations are addressing sustainable consumption, in relation to green marketing schemes or grassroots innovations – and towards transdisciplinary approaches, as will be further discussed in section 4.3. At Utrecht University, "Business, Sustainability, and Innovation" invites student groups to work directly with a selection of companies on sustainable consumption case studies. With the clear objective of seeking to make an impact on the University's "culture of consumption" at the Leuphana University of Lüneburg, a course titled "Education for Sustainable Consumption" engages with the University as a key stakeholder towards sustainable consumption. Students plan and design informal learning settings towards gaining sustainable consumer competences on campus, together with different product and service providers, thereby demonstrating strategic learning.

Almost two-thirds (62%) of courses offer ***interpersonal skills***. Several courses focus on the role of communication towards sustainable consumption. In some cases, students are invited to develop communication campaigns, while in others, students are taught the value of communication skills in relation to sustainable consumption issues. At the University of St Gallen in Switzerland, a Bachelor course invites groups of students to design an awareness campaign related to sustainable consumption issues. Students are asked to engage with material that can be conveyed via social media, including Facebook, blogs, Twitter, or YouTube. The ideas generated through this process are then shared with the European Consumer Organisation and its members. The "Energy and People" at the University of East Anglia invites students to create short films to present people-based solutions to contemporary energy problems, and

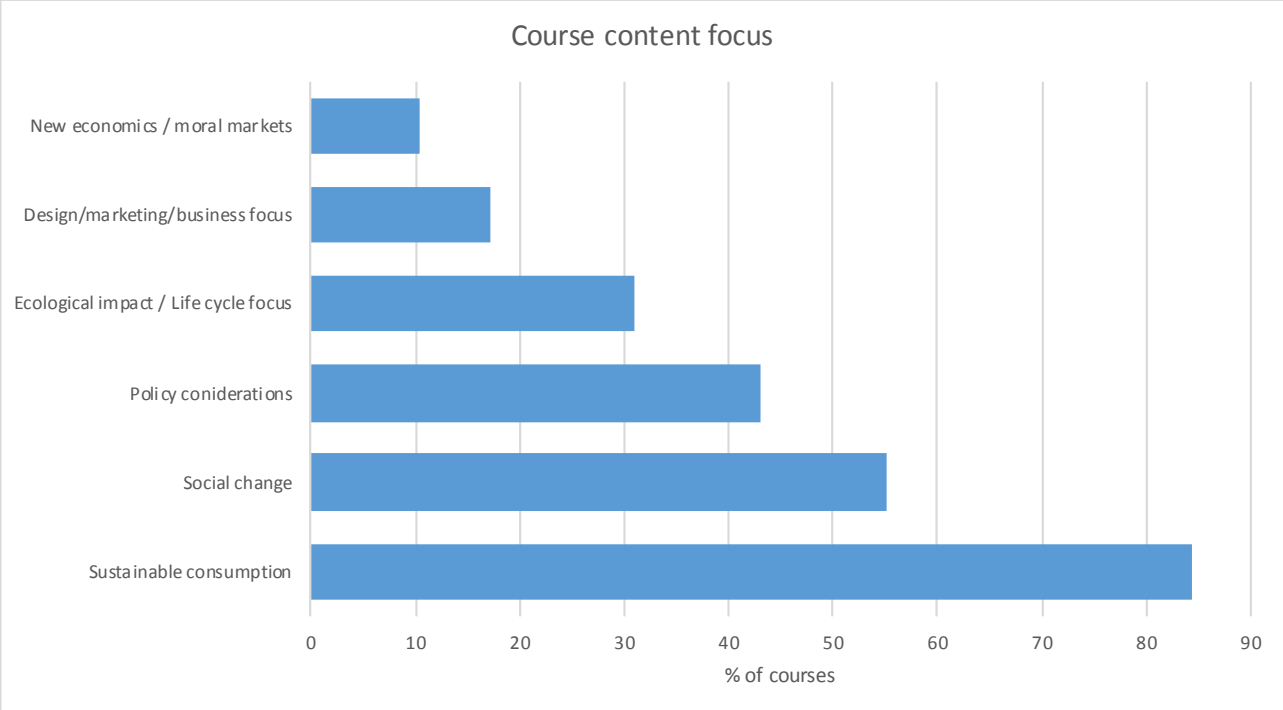
are invited to present these solutions in a Dragon's Den format – inspired by a television show where entrepreneurs are invited to pitch their ideas to possible funders. In this model, students pitch ideas to panel, following the format of the reality television show by the same name. There are also several courses that use games, either board games or online games, to engage students to work collaboratively on sustainable consumption topics. At St Mary's College, the *Who Rules the Earth* book and game is used to engage students to work together towards managing the commons.

There is no doubt a link between strategic learning competencies and interpersonal skills, and overlap between all of the different competencies presented above. Part of the acquisition of interpersonal skills are provided through what are called learner-centred teaching approaches, that emphasize students as active agents in their learning processes, and pro-active co-creators of knowledge, this approach involves personal reflection, and sees teachers as facilitators of learning rather than knowledge-providers and may adopt group-work, problem-solving, discussions, among other examples (Barth, 2015). The learning competencies also relate to the content and topics being put forward in the courses, which we now turn to.

4.2 Relating competencies to course content: from social change, to moral markets

As shown in Figure 3, out of the courses included in this survey, 84 per cent focus explicitly on sustainable consumption. Other courses touch on consumption issues but sustainable consumption is not the central theme. The following categories emerged through an inductive analysis of the data in relation to course content, which involved analysing the survey responses and course content, towards the identification of common themes. Topics that we felt were closely related were brought together under an overall theme, what we are calling "course content focus" and involving: social change (55%); policy perspectives (43%); and introduction to ecological impacts or life cycle perspectives (31%); an emphasis on design, marketing and business innovation (17%); and finally, a focus on new economics, and morals in relation to markets (10%), which has emerged more recently. The themes overlap and each course can address more than one theme. We provide a few illustrations of the different focus areas for course content below, in relation to key competencies for sustainability, but also transformative learning.

<INSERT FIGURE 3 >



One of the most significant theme emerging is that of **social change**, which relates to the links between sustainability studies and the normative goal of inciting transformative change, among students and in

societies. In total, 55% of the courses deal with how transitions or transformations towards more sustainable consumption patterns and practices could be made possible through the engagement of various stakeholders. Several competencies are brought together in such programs, including normative, anticipatory and interpersonal skills. A new Masters program at the University of Helsinki, titled "Environmental change and global sustainability", offers modules related to social change, including "Consumer-citizens and sustainability transitions" and "Sociotechnical (re) construction of consumer society". For the latter, students will analyze consumption patterns in a broader socio-technical context, and use historical, statistical and media data to investigate the historical evolution of consumption and production patterns and conceptualize processes of socio-technical change. Offered since 2005, a course on "Consumption, Sustainability and Social Change" at the University of Oslo emphasizes social change in relation to practice theory, relating consumption to everyday life across cultures. At the University of Leeds, an undergraduate course titled "Sustainable Consumption" introduces students to the history and theories of social change, including key debates and concerns in relation to sustainable consumption. Several courses propose role playing exercises, such as the "Challenges to Sustainable Development" offered at the University of Muenster (since 2014). Role playing is used to further explore the structure/actor dichotomy when it comes to inciting change, as well as understanding the roles for individuals, non-governmental organizations, or the public and private sectors. For a course titled "Nature, Society and Environmental Policy" (2002-2016), formerly offered at Oxford University, students also engaged in role playing to demonstrate the role of "science" in government decision-making processes towards social change.

Less than half of courses place an emphasis on ***policy considerations***, although the majority are based in Europe, save for the UNEP training programs – perhaps a reflection of the more favourable policy context in relation sustainability in European countries *versus* the United States of America. At the Copenhagen Business School, "Behavioural Economics in Sustainable Policy" provides insights into behavioural economics and "nudging" applied to the field of sustainable policy. Certain courses seek to help students understand the applied practices of environmental policy, as well as to think systemically about power, politics and policy-making – combining strategic and systemic competencies. **"**Environmental Politics and Policy" at Idaho State University focuses on environmental policy and places an emphasis on the changing ideas around what comprises "environmental issues". Two training courses offer a focus on sustainable consumption and production to policy-makers in Asia: The "Introduction to Sustainable Consumption and Production in Asia" course has been offered since 2015 by the United Nations Institute for Training and Research (UNITAR) jointly with the United Nations Environment Programme (UNEP), within the framework of the SWITCH-Asia Programme of the European Union; the UN Winter School on SCP in Asia and the Pacific has been offered since 2014 by UNEP, UNU-IAS, and the Asian Institute of Technology (AIT). Both focus on improving the knowledge of policy-makers and engage with policy instruments towards sustainable consumption and production. The training program is now being extended to South America, titled "Sustainable Consumption and Production in Latin America and the Caribbean Region: Approaches & Practical Tools".

A minority of courses (17%) offer a ***design, marketing and business innovation*** angle, where links are made between sustainable consumption and new product or service developments. Among these courses, all of them put forward anticipatory and strategic competencies, in imagining and designing future interventions, for example, while integrating real-world problems. The award-winning "Sustainability Inspired Product and Service Design" course offered by the Mason School of Business at The College of William and Mary offers a consumption perspective. Sustainability is placed in relation to product and service design and innovation. For a Master degree in the Management of Sustainable Development and at the University of Primorska (Slovenia), a course title "Sustainable Consumption" addresses the different challenges related to consumerism, tourism, energy and quality of life, among others, then develop competencies in marketing to better understand the relationship between customers and brands, and propose solutions that involve marketing and communications towards SC. At the Copenhagen Business School, two courses are offered that relate to marketing and business innovation: "Behavioural Insights and Sustainability" (Masters level), and "Sustainable Behaviour: Tools to foster change" (Bachelor level). For both courses, students work in groups to develop their own pilot interventions to promote sustainable behaviour change, based on an interdisciplinary introduction to sustainable consumption and behavioural theories. Certain courses also

include normative competencies: from 2008 to 2016, a course at Umeå University titled "Marketing Ethics and Sustainability" encouraged students to compare and critically reflect upon classical normative ethical theories and contemporary concepts related to marketing ethics and sustainability. At the University of Granada and since 2007, a course titled "Research on consumption: Ethical and Societal Responsibility Perspective" introduces students to social and critical marketing, with a focus on public health and sustainable consumption.

Approximately a third of courses (30%) focus on ***ecological impacts and life cycle assessments***, and the main competency put forward here is that of systems thinking. In the "Business, Sustainability, Innovation" course at Utrecht University, students are provided with an overview of different approaches and tools, such as systems thinking, life cycle assessments, industrial ecology, design for environment and cleaner chemistry, as well as eco-efficiency and cleaner production. "Mining Practices and the Environment" at Sault College reviews life cycle impacts of mining, both in terms of environmental considerations, but also in relation consumption, health and social issues. At the City University of Hong Kong, a course titled "Energy, Environment, and the Future: Crisis and Opportunity" (2008-2014) focuses on understanding the types of energy sources and their costs and risks, as well as the social, political and environmental consequences of the extraction, consumption, and depletion of fossil fuels, bringing together systemic and normative competencies. At the University of Manchester, "Sustainability, consumption and global responsibilities" gives students the opportunity to unpack the 'biography' of an everyday commodity in order to explore the social and environmental impacts of its production and consumption. While sustainable consumption research and teaching may have originally emerged from environmental concerns, we see the focus on ecological impacts waning in the recent years – in favour of courses that focus on social change, described above, and new economics, which we will now turn to.

An emerging theme in sustainable consumption teaching is what we have termed ***new economics****, as well as* ***morals in relation to markets***. Anticipatory competencies are put forward in all of these courses, recognizing the important role of consumer ethics and new economic interdependencies in any future scenarios for sustainable consumption. At the University of Neuchatel in Switzerland, a course titled "Sociology of markets: Markets, morals and social movements" invites students to reflect on how discourses on morality embed markets through readings and discussions on recent research in economic and cultural sociology as well social movement studies. The issue of sustainability is treated in various ways: as an action repertoire of lifestyle movements, as a commitment by "political" or ethical consumers, as an instrument of environmental policy by governments, or as a form of value-creation on markets. A course on "Ethical and local economies" at Masaryk University in the Czech Republic engages students to develop insights into approaches and practices related to ecological economics and the social-solidarity economy, as well as deconstruct the mainstream economic concept of "consumers". Guest lecturers from Czech eco-social enterprises are invited into the classroom, with students asked to conduct a feasibility study of their own anticipated eco-social enterprise, with a focus on co-operation rather than competition.

4.3 Transformative and Transdisciplinary Learning – accounting for diversity

In this section we return to our themes of transformative and transdisciplinary learning. Transformative learning aims to empower students to challenge existing beliefs and practices, and take action on the basis of their analysis. However, in relation to sustainable consumption, this assumes that students are able to gain knowledge on a diversity of perspectives, including non-scientific expertise, and engage with a variety of contexts, including differing institutional conditions and consumer cultures. These requirements demand transdisciplinarity and accounting for diversity – in views and conceptual lenses, through the type of learning process, or by reflecting contextual differences. Here we discuss the prevalence of transformative learning and transdisciplinarity in our study, and consider the implications of our findings.

Transformative learning examples dominate this review of teaching in sustainable consumption, and sections 4.1 and 4.2 above are filled with examples of teaching designed to enable students to recognise and question their beliefs, and feel empowered to make decisions about their everyday lives in connection with those beliefs. Here we draw attention to just a few of these to illustrate the practical consequences of

teaching that is intended to catalyse action. In some cases, the teaching tends towards inciting students to change their own ways of life: in Australia, "Sustainable Futures" at RMIT University in Melbourne identifies current sustainability challenges while inviting students to reflect and propose solutions, in relation to their own lifestyles of chosen professions. The "Sustainable Consumption" bachelor course at the Technische Universität Berlin (Germany), offered since 2009, draws on Partnership for Education and Research about Responsible Living (PERL) resources, including the LOLA approach (Looking for Likely Alternatives). Guest lecturers bring "real world" examples into the classrooms, while student field trips take students out of the classroom to organic farms or product design studios. One desired outcome of the course is to empower students to live responsible and sustainable lifestyles. In other cases, lifestyles are less significant than broader cultural underpinnings of (un)sustainable consumption. "Global Consumer Culture" at Indiana University, for example, invites students to not only understand the origins of the modern consumer culture in relation to environmental issues, but also recognize their current participation in consumer culture, and how it could be changed in the future. Through these examples, we can see how sustainable consumption teaching aims to be transformative both in terms of challenging existing beliefs and ways of living, and prompting changes in the students and their life choices.

Bringing together different worldviews is also a challenge of transdisciplinarity. On the one hand, this can refer to integrating different normative competencies and understanding how varying theories of consumption compete or complement each other. At the University of East Anglia and in a learning tool titled *Theoretical Theatre*, lecturers take on different characters that reflect sustainable consumption theories, and engage in semi-improvised comedy performances to demonstrate how these theories might get along or argue with each other, as an analogy of academic and policy debates between different perspectives. Interactive scenarios including a *Question Time*-style debate, a chat-show, and a romantic date. Using comedy helps students make an emotional connection with complex and competing theoretical perspectives, and results in active and deeper learning. This award-winning teaching method is spreading to other departments, disciplines and Universities (See Gravey et al, 2017)[4]. At the University of Leeds, the "Sustainable Consumption" course is designed as a series of lectures each centred around a perceived truth related to sustainable consumption, which the teacher then critiques while supporting active learning among her students. Statements such as "People are selfish", "It's all about values", "It's the system, stupid" or "Consumption is meaningful" are supported and contested in the classroom. To further develop this reflection, examples of real world interventions are introduced, with students asked to reflect on how different stakeholders would be affected by each intervention, and what this means in terms of equity, risk, responsibility, among other factors. By the end of the module, the boundaries of the students' assumptions are unpacked, and while they are free to stick with their political opinions on sustainable consumption, they do so with a critical understanding of these. Bringing together a diversity of worldviews recognizes different conceptual approaches and student perspectives, but might also account for the perspectives of different sectors.

Transdisciplinarity can also be a process, or a form of embodied learning that involves working on assignments and with partners that reflect a diversity of perspectives. For an "Environmental Sociology" course at the University of Auckland, students are offered an inter-disciplinary assignment, in partnership with a psychology course. Students in both courses watch the True Cost documentary (on "fast fashion"), then meet in the PSYCH labs, where the sociology students provide a sociology analysis of fast fashion to the psych students, and *vice versa*. Towards transdisciplinarity, students are then asked to imagine how the university might lower its ecological footprint, identifying best practices from elsewhere and considering how such actions could be implemented at their own university. At Leuphana University of Lüneburg, a key feature of courses focused on sustainable consumption is that students carry out research projects in inter- and transdisciplinary settings. Students are challenged to develop a problem framing and research design that employs inter- and transdisciplinary methods to develop new academic knowledge and practical solutions. For the "Education for Sustainable Consumption" (ESC) (see Fischer & Rieckmann, 2010), students engage with informal learning spaces on campus and explored how these could be used to promote ESC.

[4] For videos and other resources, consult: www.comedyintheclassroom.org.

Although diversity of worldviews and contexts is quite common in the examples we analysed, in contrast there was a notable lack of diversity in terms of geographical location and focus. One of the limitations of the study is that most of the courses we surveyed are taught in Europe and North America, and most focus on these areas in their content. Sustainable consumption remains a global issue but only a few courses draw from a variety of contexts in teaching; here we outline some notable examples. An undergraduate course at the University of Shanghai, titled "Consumption and Society", acquaints students with social approaches to consumption, in relation to social change in China. At Azim Premji University in India, "Environment Politics and Policy" invites students to gain an introduction to conceptual approaches in relation to environment issues, as well as critically evaluate ideas of inclusion and justice in the discourses surrounding environmental governance – particularly in relation to the gender dimension, the question of "indigenous" knowledge, the middle classes in India. The "Introduction to Sustainable Consumption and Production" professional training courses offered in Asia and Latin America also provide participants with regional, national and sector-specific challenges and opportunities to implement policies for SCP.

In North America and Europe, three courses stand out in offering examples of sustainable consumption from different contexts, thereby aiding diversity. The "Sustainable Consumption and Production in the Global South" course, as part of a bachelor in geography at the University of Manchester, provides students with diverse understandings of how SCP plays out in different spaces and scales. At the University of Geneva and as part of a new Master's program in partnership with Tsinghua University (Beijing), the "Sustainable Consumption and Social Innovation" course explicitly brings examples from South and Southeast Asia into the classroom, with a consideration for different cultures of consumption, social norms and representations, as well as diverse social practices. Our last example draws together the key themes we have discussed so far in this section: at Saint Mary's College of California, "Environmental Justice" places global ecosystem problems in relation to environmentalism and justice, as reflected in different cultures and contexts. As an example of transformative inquiry, students reflect on their own consumption by tracking the supply chain of a consumer good or service and related environmental impacts, while reflecting on social impacts. Through this process, students connect with different contexts around the world, uncovering for example mining conditions at the first stages of mobile phone development. Once the assignment is complete, students are guided through a mindfulness exercise in the classroom, reflecting on their positionality in relation to these supply chains. They then make a pledge to discuss these new findings in their everyday life, and to keep a diary for the rest of the semester. The course includes twenty-hours of community engagement, working either on Campus Sustainability initiatives or with local environmental justice organizations.

5. Conclusions

Given the multiplication in courses being offered in the past decade from seven to over 40, Sustainable Consumption is a trend in sustainability studies that is clearly gaining in momentum. While, historically, production systems were the main focus of efforts towards sustainable development, everyday people are increasingly seen as playing a key role towards possible transitions to more sustainable societies. We therefore expect more sustainability-related programs to integrate consumer and/or citizen perspectives on the one hand, and courses focused on the culture or sociology of consumption to integrate sustainability dimensions on the other. To further strengthen sustainable consumption teaching, several participants in this study emphasized the need to develop additional teaching resources, specifically an undergraduate-level textbook on Sustainable Consumption – which is forthcoming[5].

Wiek et al's (2011) framework for sustainability competencies details five competencies, most of which are reflected, to different degrees, in all of the courses we reviewed. Each of these competencies is itself a learning outcome with profound importance for navigating sustainability, which learners will find

[5] Lucie Middlemiss at the University of Leeds has authored such a textbook (Taylor and Francis, available in 2018), following her course concept by organizing the text in relation to a series of assumptions when it comes to "sustainable consumption" which she then challenges and critiques.

invaluable both as students and citizens. Education for Sustainable Consumption, therefore, is a valuable contributor to sustainability itself. The focus on anticipatory competencies seems to be all the more strengthened in courses that reflect on social change theories and approaches, while strategic competencies tend to be put forward in courses that consider the policy dimensions of sustainable consumption, or the links to the world of design and marketing. We find that this relates to transdisciplinarity in teaching, which we document in two distinct ways. The first is in bringing together different perspectives and worldviews – including the confrontation of various theoretical approaches to consumption, but also the integration of non-scientific knowledge. The second is a process whereby students might engage with real-world situations and account for different contexts and cultures of consumption. Both of these trends towards transdisciplinarity in teaching are demonstrated in our review of the courses, but also represent unique challenges in relation to teaching sustainable consumption as a specific focus in sustainability studies.

The first challenge relates to the complexity of sustainability issues, which can lead to feelings of frustration among students, particularly if they feel personally responsible for problems and possible solutions. Sustainable consumption teaching that reflects how individuals connect to broader systems, and recognizes the structural and cultural elements that hold (un)sustainable practices in place, are important ways forward in this respect. Personal reflections on sustainable consumption should be combined with recognition of system complexity, particularly in the context of overly individualized societies. Courses that place too much emphasis on the role of students as change agents could be limited in understanding what forms of social change are necessary. In this respect, the focus on social change topics, as well as on ethical consumption and moral markets, is an important trend. More emphasis is being placed on transitions or indeed transformations towards sustainable consumption pathways, which consider the complexity of inter-related practices, and not solely on understanding the complexity of problems or focusing on individual behaviour change solutions alone.

This relates to a second challenge: identity boundaries can become blurry in the classroom, as students are also consumers and citizens. Teachers may support competencies and provide knowledge, but can also take a position or engage in forms of activism – potentially with the students. This raises the question: is the role of a sustainable consumption course to provide capabilities towards understanding and addressing sustainability more generally, or to transform student practices and mobilise political action? Teachers offer a range of views on this inherent tension, and perhaps one main way forward would be to make this tension more explicit – in course objectives, for example, and through class lectures. This may suggest that lecturers should take a reflexive stance towards recognizing their role and position, in relation to research as transformative knowledge, and/or research as transformative action – in and beyond the classroom.

A third challenge relates to recognizing different worldviews in the classroom, whether from among students, between different disciplines, or by including non-scientific knowledge and experiences, and learnings from other contexts and cultures. This requires a focus both on types of knowledge, but also processes for engaging with different worldviews and perspectives. As stated by a lecturer at Indiana University, in relation to his former bachelor-level course on “Global Consumer Culture”: “Asked to comment on the course evaluation by students, one third love it; one third don’t make connection to their lives; and one third are angry or upset because of conflict with their worldview/politics.” Acknowledging different political positions is an important step towards sustainable consumption patterns and practices, which requires grappling with non-green, non-local, non-community-driven responses to course content. Bringing knowledge from different contexts into the classroom implies a non-European and non-North American emphasis on the types of academic papers that are accepted for publication, but also more opportunities for exchanges between students and lecturers from different parts of the world, including urban and rural settings. As more people begin to include sustainable consumption themes in their course materials, this gap will no doubt be bridged. The SC teaching practice going forward will come to represent more diverse perspectives, bridging questions of consumption with development studies, environmental and social justice, the social and solidarity economy or the degrowth movement, to name but a few.

Finally, when it comes to practicing transdisciplinarity, the University campus a particularly fertile testing ground for sustainable consumption concepts, as has been demonstrated in a few examples above and building on sustainable campus objectives. This can involve research and action initiatives on campus in areas that are relevant to sustainable consumption – such as mobility, food and waste, or energy consumption for heating, printing and lighting. Such approaches could engage with students and faculty, but also campus operations and administrative staff, as well as members of the community in the wider city/town area. Further, sustainable consumption teaching could serve as a bridge between different disciplinary perspectives and approaches across faculties, bringing together a plurality of world views on sustainable consumption as a field of research – towards not only delivering competencies, but transformative learning that can serve to shape new outlooks on sustainable consumption.

Acknowledgments

We gratefully acknowledge the reviewers who provided insightful comments to an earlier draft of this article. We also wish to thank the members of the advising committee for the Sustainable Consumption Teaching project, including Halina Brown, Maria Csutora, Antonietta Di Giulio, Doris Fuchs, Sylvia Lorek, Lucie Middlemiss, Jaco Quist, and Richard Wilk, with special thanks to Robert Orzanna for his ongoing support of the SC Teaching online platform and video resources. The Swiss involvement in coordinating this project was made possible thanks to a grant by the Swiss Academies of Arts and Sciences, sd-universities program.

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Annex 1: Directory of courses

COURSE NAME	INSTITUTION	COUNTRY	LECTURERS	PROGRAM	DATE CREATED	DATE ENDED
EUROPE (ALPHABETICAL BY COURSE NAME)						
Behavioural economics in sustainable policy	Copenhagen Business School	DENMARK	Lucia Reisch	Summer School Program, Dept of Management, Society and Communication	2017	
Behavioural insights and sustainability	Copenhagen Business School	DENMARK	Jan Michael Bauer; Wencke Gwozdz	MA in international business communication	2017	
Business, sustainability, innovation	Utrecht University	THE NETHERLANDS	Rodrigo Lozano	Environmental and social sciences	Unknown	
Consumption sustainability and social change	University of Oslo	NORWAY	Hal Wilhite and Arve Hansen	MA in development, environment and social change	2005	
Consumption, households and the environment	Université Libre de Bruxelles	BELGIUM	Tom Bauler	MSc in environmental management	1998	
Culture and lifestyles	University of Trento	ITALY	Francesca Forno	MA in sociology and social research	2017	
Current issues in nutrition and hospitality sciences	Applied Sciences of Muenster	GERMANY	Sylvia Lorek	Bachelor in home economics	2014	
Education for sustainable consumption	Leuphana University	GERMANY	Daniel Fischer	Bachelor, Major Environmental Sciences	2009	2011
Energy and people	University of East Anglia	UK	Tom Hargreaves	BSc in environmental sciences, BSc or BA geography	2014	
Ethical and local economies	Masaryk University	CZECH REPUBLIC	Eva Fraňková and Nadia Johanisova	MA in environmental studies	2014	
European consumer policy	Aarhus School of Business / Aarhus University	DENMARK	Lucia Reisch / John Thøgersen	MSc in business administration	2014	2015
Everyday consumption	University of Surrey	UK	Various	MSc in Environmental Sociology	Unknown	
Geographies of sustainable	NUI Galway	IRELAND	Frances Fahy	BA in geography	2010	

consumption						
How much consumption can humanity take?	University of Bern	SWITZERLAND	Antonietta Di Giulio	Teacher training	2008	
Marketing ethics and sustainability	Umeå University	SWEDEN	Johan Jansson	Bachelor in business administration	2008	2016
Nature, society and environmental policy	Oxford University	UK	Kersty Hobson	MSc	2002	2016
Perspectives on sustainable consumption	University of Helsinki	FINLAND	Eva Heiskanen	Masters in environmental change and global sustainability	2017	
Research on consumption: ethical and societal responsibility perspective	University of Granada	SPAIN	Francisco Javier Montoro Rios	MA in marketing and consumer behaviour	2007	
Sociology of markets: markets, morals and social movements	University of Neuchatel	SWITZERLAND	Philip Balsiger	MA in social sciences	2016	
Sociotechnical (re) construction of consumer society	University of Helsinki	FINLAND	Eva Heiskanen	MA in environmental change and global sustainability	2017	
Study programme sustainability science, special focus: sustainable consumption	Leuphana University	GERMANY	Daniel Fischer	Bachelor, minor in sustainability science	2013	
Supporting sustainable consumption, the role of companies	Cornivus University	HUNGARY	Marie Csutora and Agnes Zsoka	MSc in marketing	2009	
Sustainability concepts in science and practice	Applied Sciences of Muenster	GERMANY	Sylvia Lorek	MA degree in home economics	2014	
Sustainability in everyday life	University of Helsinki	FINLAND	Eva Heiskanen and Minna Autio	MA in environmental change and global	2017	

				sustainability		
Sustainability, consumption and global responsibilities	University of Manchester	UK	Daniel Welch	Bachelor in social sciences	2012	
Sustainable behaviour: tools to foster change	Copenhagen Business School	DENMARK	Jan Michael Bauer; Wencke Gwozdz	BA in intercultural marketing communication	2017	
Sustainable consumption	Technische Universität Berlin	GERMANY	Ulf Schrader	Bachelor in culture and technology	2009	
Sustainable consumption	Applied Sciences of Muenster	GERMANY	Sylvia Lorek	Bachelor in home economics	2014	
Sustainable consumption	University of Lausanne	SWITZERLAND	Marlyne Sahakian	MA in sustainability in geography and environmental social science	2016	2017
Sustainable consumption	University of Leeds	UK	Lucie Middlemiss	BA in environment and business; and BSc in sustainability and environmental management	2010	
Sustainable consumption	University of East Anglia	UK	Gill Seyfang	MSc in environmental sciences	2007	
Sustainable consumption	University of Primorska	SLOVENIA	Armand Faganel	MA in the management of sustainable development	2017	
Sustainable consumption and behaviour change	University of St Gallen	SWITZERLAND	Stefanie Hille	Bachelor in business administration	2014	
Sustainable Consumption and Production in the Global South	University of Manchester	UK	Alison Browne	Bachelor in geography	2016	
Sustainable Consumption and Social Innovation	University of Geneva	SWITZERLAND	Marlyne Sahakian	MA in several programs, environmental studies, sociology and sustainability	2017	
Sustainable development: an introduction	Maastricht University	THE NETHERLANDS	Maud Huynen	Bachelor of science or Bachelor of arts	2010	

Sustainable food consumption	University of Muenster	GERMANY	Doris Fuchs	Bachelor degree in political science	2014	
NORTH AMERICA (ALPHABETICAL BY COURSE NAME)						
Consumption and sustainability	Boston College	USA	Juliet Schor	BA and MA in sociology; and environmental studies	2010	
Environmental justice	St Mary's College of California	USA	Manisha Anantharaman	Bachelor	2016	
Environmental politics and policy	University of Idaho	USA	Donna Lybecker	Bachelor and graduate level	2007	
Global consumer culture	Indiana University	USA	Richard Wilk	Bachelor in anthropology	2006	
Introduction to sustainability studies	New Jersey Institute of Technology	USA	Maurie Cohen	Bachelor of architecture; minor in environmental and sustainability studies	2011	
Mining practices and the environment	Sault College	CANADA	Robert Rattle	Bachelor in environmental science	2010	
The politics of sustainable consumption	University of Virginia: Semester at Sea	USA	Michael Maniates	Bachelor	unknown	
Society and environment	Washington State University	CANADA	Emily H Kennedy	Bachelor in sociology	2012	
Sociology of consumption	Ponoma College	USA	Nicki Lisa Cole	Bachelor of Arts	2012	2012
Sustainability inspired product and service design	Mason School of Business	USA	Michael Luchs	Bachelor in business administration	2012	
Sustainability policy and practice	New Jersey Institute of Technology	USA	Maurie Cohen	Bachelor of architecture; minor in environmental and sustainability studies	2012	
Sustainable consumption and production	Clark University	USA	Halina Brown	MSc environmental science and policy and MBA	2009	2017
Sustainable	Oregon State	USA	Erika Allen	Bachelor	2015	

living	University		Wolters			
ASIA AND THE PACIFIC (ALPHABETICAL BY COURSE NAME)						
Consumption and society	Shanghai University	CHINA	Dunfu Zhang	Bachelor, focus in environmental sciences, political sciences, business, sociology and anthropology	2011	
Energy, environment, and the future: crisis and opportunity	City University of Hong Kong	HONG KONG	Graeme Lang	Bachelor in social sciences, environmental policy studies; and Asian and international studies	2008	2014
Environment politics and policy	Azim Premji University	INDIA	Sunayana Ganguly	Master of arts in public policy and governance; LL.M. in law and development	2017	
Environmental sociology	University of Auckland	NEW ZEALAND	Manuel Vallée	Bachelor of arts in sociology and BA in global studies	2012	
Introduction to SCP in Asia	Bangkok	THAILAND	UNITAR, UNEP, SWITCH Asia	Policy-maker training program	2015	
Sustainable futures	The University of Melbourne	AUSTRALIA	Martin Mulligan	Bachelor in environment and society	2003	
UN Winter School on SCP in Asia and the Pacific	Bangkok	THAILAND	UNEP, UNU-IAS, AIT	Policy-maker training program	2014	
INTERNATIONAL						
Sustainable Consumption and Production in Latin America and the Caribbean Region: Approaches & Practical Tools	United Nations Environment Programme (UN Environment)	Several countries	Several lecturers	Professional training program	2017	