

Fashion Education In Sustainability In Practice

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ABSTRACT

This paper sets out the experiences of and critical reflections on devising and delivering a Masters level fashion education course in sustainability at London College of Fashion, UK. The course, first established in 2008, has been created from a collaborative, participatory, ecological paradigm and draws on an approach to fashion education that is oriented towards process, action and creative participation in all aspects of the transition to sustainability: social, environmental, economic. This stands in contrast to conventional educational models that concentrate on product or outcome and the preparation of students for economic life. The paper describes the Masters course's broad disciplinary approach and its theoretical framework, drawn from design for sustainability. Through reference to student work, the paper goes on to set out some of the opportunities and challenges that working in this way has presented, including among others; bridging of epistemological differences at an institutional level; new roles for designers working within a framework of sustainability; and emerging ways to visualize the process and practice of sustainability.

Keywords: Sustainability, fashion, education, design, participative, paradigm.

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1. Introduction

‘What would sustainability have us do?’

This question, posed by American scholar David Orr (2009), is as radical and challenging as it is disarmingly simple. For in six words Orr breathes life into an emerging world of thought and practice that is conceived of from within the goals and dynamics of sustainability itself. Orr invokes sustainability as both purpose and process and in doing so marks out an epistemological position that is palpably different to that moulding prevailing knowledge and action today. His starting point – and that for this paper – is not the ‘bolt-ons’ that any particular industry, government or educational establishment could or should be introducing in order to make existing practices ‘greener’ or more ethical; but rather an expansive and creative imagining of the actions needed to create sustainability without being first side tracked by the bottom line, existing industrial frameworks or educational targets. These broad actions are the cornerstones of a growing body of work in fashion and sustainability emerging from an ecological and participatory paradigm of thought and practice (see for example the *Local Wisdom* project: <http://www.localwisdom.info>). Among them is a young Masters (MA) level course exploring fashion and sustainability at London College of Fashion, UK. In this paper we introduce and critically reflect on the first three years of this post-graduate course, MA Fashion and Environment, and describe some of the challenges and opportunities we have faced in working within an ecological framework in fashion education.

2. Fashion and sustainability

For many commentators on sustainability, ‘fashion’, so closely allied with changing trends and premature product replacement, is seen as hostile to ecological values (Stahel, 2010: 159). Indeed the fashion sector is seen widely as indivisible from consumer capitalism and the capitalist logic of perpetual growth based on increasing throughput of materials. The stimulus of the growth imperative feeds increasing speed of production and consumption of fabric and garment and the tools of psychological marketing and trend forecasting, honed to such perfection in fashion, trigger further growth (Fletcher, 2010). The resource implications of this are colossal.

The water resources alone that are required to be flowing in order to grow and process enough cotton for a single T-shirt is around 600 litres (Turley et al., 2009: 22). This is in a period in which humans face ‘water bankruptcy’ (UNESCO, 2009) and where demand for water is increasing while the prospect of the supply of clean water is reduced, because growing levels of pollution are limiting potential water use. And yet the water resources embodied in a T-shirt are barely utilised: statistics now show that people in industrialized countries are buying more than ever, regardless of need (Allwood et al., 2006: 4). It is for all of these reasons – consumerism, perpetual growth, astonishing levels and rates of resource throughput – and more, that a critical and broad-based educational engagement with sustainability issues in fashion takes place not within the status quo, but within a new paradigm or framework of analysis and understanding. For without it, the responses to a critique of the existing fashion industry model would be confined by ideas and established behaviours of that model and mimic a familiar set of outcomes. Indeed this is a common finding of complex systems analysis that recognises that by pursuing improvements in the ‘same old’ places, we build the ‘same old’ ways of thinking into our behaviours and in so doing, radically limit the potential effects of our actions (Meadows, 2009); when in fact what is needed is to create big change over the long term.

Thus in sustainability education in fashion – as in many other subjects or sectors that are heavily influenced by consumerist material culture – it is vital that an alternative framework of questioning or analysis is evoked; this in order to respond to the deep challenge posed by sustainability to such sectors with deep solutions. For us, this meant framing up an MA course in Fashion and the Environment within an ecological paradigm that recognises the interdependence between nature and individual and societal well-being; and the challenges of growing natural systems breakdown: planetary boundaries on climate, biodiversity and the nitrogen cycle have already been exceeded and the limits of many others are being rapidly approached (Rockström et al., 2009).

Further, to an ecological framework we have also sought to bring a broader view of fashion than is often understood when seen through an environmental resource-based or ethical lens

alone. For while the dynamics of a global industry accurately describe one part of what 'fashion' is, it is also something more. Cultural theorist Joanne Finkelstein (1996: 5-6) describes it as, 'a hybrid phenomenon, located at the interstices between economics and art, psychology and commerce, creativity and banality... as a social, economic and aesthetic force and more often than not, all three at the same time.' This is put another way by sociologist Juliet Schor (2002: 53) who depicts fashion as 'a vital part of the human experience'. Viewed in this way the challenge for fashion education in sustainability is to explore the (vast) territory at the connection between human experience and ecological values as understood through garments. Certainly the first thing that becomes apparent when framing up such an area of study, is that a 'focused' specialism in fashion and sustainability involves a widening (not narrowing) view. It is, in effect, like looking through a telescope in order to understand more about a constituent part (in our case, fashion). Typically it involves understanding how the whole functions in order to work out the dynamics and details of a component part. This is the opposite experience of many engaging with further academic study, where the world is scrutinised by understanding how discrete areas operate when taken separately. The prevailing mechanistic view is typified by segregation of areas of study into ever-narrower 'silos' and which contributes to whole system sustainability by default rather than by design.

In contrast to a conventional educational approach which favours analysis based on 'taking things apart', education in sustainability, places central importance paradigm of holism and synthesis and 'putting things together'. As part of this shift Jones et al. (2010a: 329) argue for a 'progressive broadening' of work in order to contextualize and better understand its place in the complex, uncertain, real world with unsustainable patterns of social and economic life. This broadening mandate is seen to embrace, 'aesthetic, cultural, ecological, economic, environmental, ethical, philosophical, political, scientific, social, spiritual and technological' dimensions (Selby as cited by Jones et al, 2010b: 26). And it brings a key challenge for learners to make a valuable contribution to society by thinking and acting in novel, frontier-dissolving ways: 'going beyond mental and disciplinary boundaries, structural barriers and physical

borders, as well as by influencing the systems in which competence is developed' (Wals and Blewitt, 2010: 66). This, like so much within education in sustainability, contains an open challenge to the educational status quo. Here, to overhaul the prevailing system of classification of ideas and disciplinary structure, necessary because sustainability necessitates work that spans multiple disciplines, spaces and timeframes.

3. MA Fashion and Environment

The MA Fashion and the Environment at London College of Fashion (LCF), part of the University of the Arts London, was established in 2008 as a key element of LCF's growing commitment to sustainability. For a number of years prior to the MA's inception, lectures and symposia had sought to engage LCF staff and students in a dialogue around sustainability, both as part of formal taught projects and also less formally, by connecting interested students with staff who held expertise in this area. In April 2008, LCF consolidated this activity by establishing a Centre for Sustainable Fashion (CSF) where the fashion-sustainability space could be more deeply and visibly explored and applied in research, enterprise and wider curriculum activities. The MA that is the subject of this paper was a constituent part of this work.

We would like to acknowledge that from the outset LCF has been exceptionally progressive in its preparedness to engage with sustainability as an important field of work in fashion. Yet notwithstanding this fact, the development of the MA raises some very challenging questions both for LCF and for higher education more broadly. Perhaps the most basic of these is the fundamental incongruity between the ecological, participatory educational models called into being by a full and deep engagement with sustainability and the largely mechanistic and reductionist ones that prevail in most higher education institutions today. In essence the setting up an MA like Fashion and Environment starts in train a process of scrutiny and ultimately transformation of educational models that many working in higher education neither foresee nor are ready for when they moot initial ambitions to set up a course in this area. Yet, according to Stephen Sterling, such transformation is unavoidable because of the incompatibility of the majority view of education and sustainability: 'Within the [overall

educational] paradigm, most mainstream education *sustains unsustainability* – through uncritically reproducing norms, by fragmenting understanding... by an inability to explore alternatives, by rewarding dependency and conformity, and by servicing the needs of the consumerist machine' (2001: 14-15) (emphasis in original). Thus the argument follows that to educate in a way that *sustains sustainability*, new educational paradigms need to be introduced. And this in turn has deep implications for a College or University across the board as it raises questions about the institution's greater purpose, its policies and practices; and whether the changed educational paradigm established within, say, an MA is reproduced elsewhere, or whether it is drowned out by the larger, conventional (fashion) education system, the political missives handed down to the Higher Education sector from government departments or the increasing market-led commercialisation of education.

4. Educational approach

Our ambition for the MA Fashion and Environment was to create a course that contributed to long-term change towards sustainability in the fashion sector. As described earlier, we attempted to do this by working from within a holistic, participatory paradigm; one that is concerned with the active, transformatory potential of sustainability for fashion, rather than just the passive transmission of information about environmental and ethical issues (Sterling, 2001: 38). Thus within the MA, onus was placed on building experiential and practical understanding of sustainability; and the setting up of an educational approach that enabled learners to actively participate in change in the fashion sector in a range of ways.

In MA Fashion and Environment, this participative and practical engagement with change was delivered through a broad intellectual framework of design thinking and practice. Much has been written about the potential of design thinking to contribute to sustainability both in small increments and step change improvements (e.g. Brezet, 1997; Manzini, 1994). Indeed design's iterative, affirmative, reflective, practical and visioning skills as well as its position at the interface of producer and consumer and technology and society, seem to make it particularly well suited to the complex, multifaceted and unbounded shape of so many

sustainability issues. What is more, to reflect the variety of skills necessary for the diversity of sustainability challenges, we actively decided to recruit students to the MA from both practice-based and theoretical backgrounds in order to engage them in a creative learning process involving participants with a host of different experiences.

Most of the decisions we took in first devising and then delivering the MA effectively expanded the context and application of fashion education; embracing whole systems analysis, insights drawn from social science, psychology, environmental resource analysis, ecology as well as the more traditional design subjects and garment making. The reality of navigating and working with this growing volume of information can be overwhelming for many learners, teachers and institutions alike, who battle to fit this broad and deep knowledge building into everything from a university timetable and fixed staff budget for teaching on the one hand and a clearly articulated and focused student project proposal on the other. Our struggle with this is evidenced by the fact that after three years of accompanying three separate groups of students through this process, one of our most persistent ongoing challenges is how to encourage the students to segue from a broad, expansive perspective down to the level of detail in order to visualize, materialize and communicate this thinking in practice. To bridge this gap in student empowerment and ability and support them to switch between different perspectives and contexts, we have tried to implement a number of pedagogical approaches, many of which still need much work and finessing. One of these involves encouraging students to establish learning communities between themselves in order to support each other in a process of continual and collaborative development in their studies. In the case of the MA this has seen the development of a new relationship emerging between teachers and learners and finding novel ways to learn across geographical, cultural, generational boundaries. Another approach has been to educate students in the tools of sustainability education, and most notably in critical thinking, so as to better examine the assumptions that underpin the information the students learn about and to question the world as they know it. This in turn encourages students to become more active in reinforcing their learning and to foster a, 'willingness to accept responsibility, to acquire

knowledge and to develop the capacity to make informed choices' (Springett, 2010: 81).

Throughout the three years of MA Fashion and the Environment, we have been painfully aware of the holes in our own understanding of the implications of an ecological paradigm for fashion education in practice. We have been learning 'on the job' and scrutinising our decisions and the broader educational structures within which we work. Optimistically, we set a goal of building capacity and fulfilment through design where students can use design thinking to create products, processes, services or systems and use them to change behaviour of individuals, communities, corporations or institutions. But we realise how inelegant and immature our articulation of it is, even three years on. As part of our reflection we have begun to build a tool kit of approaches that we have found appropriate for study in this way. These range from the epistemological to the pedagogical and include among others:

- Holistic thinking;
- Critical thinking;
- Creative thinking and practice;
- Fostering of a reflective, patient state (happy with long term realisation of ideas, rather than quick fixes which are usual practice in fashion education and business);
- Participative educational tools and techniques;
- Experiential educational practices;
- Practical experiences of change and action;
- The fostering of mutual or collaborative learning;
- Confidence to do unprecedented things and break the mould.

5. Four examples of student work

To bring the holistic, participatory approach of the MA Fashion and Environment to life, we offer four vignettes of student work that begin to exemplify the ecological paradigm in practice. These are all examples of practice-based students' work and are presented here not to the exclusion of the theoretical work, but because these projects have all thrown up particularly searching issues relating to the nature of fashion and fashion education in an era of sustainability.

5.1 Left To Be Found

Left To Be Found explored ways of promoting garment value through sharing of fashion garments. It involved the making of a menswear collection that was then distributed in a novel way: by the 'gifting' of garments to strangers who would come across them in public spaces. For the student – an experienced fashion designer – this work took her into new realms that explored notions of value as encapsulated in Einstein's words: 'Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted.'

5.2 ReMade in Leeds

ReMade in Leeds was a co-design project established as a commercial business in an urban area of the North of England and shaped by the needs, skills and cultural identities within the community. It developed a business model predicated on mindful resource use and reuse, fulfilment for participants and economic support for a range of people offering their skills, that has since become a blueprint for other communities. *Remade in Leeds* makes use of locally available human resources and waste textile material and so becomes location and skills specific, linking the production and consumption of fashion to both people and place.

5.3 Diary of Our Daily Threads

The roots of *Diary of Our Daily Threads* were fed by observations of the markers of time and wellbeing in nature, explored through the study of lichens and mosses. The project went on to seek an understanding of the markers for human memory and their tactile triggers through clothing and its relationship to present and past 'holders.' Video ethnography explored the ability of pieces of clothing to retain and evoke memory were documented and offered as examples of the preciousness of the pieces and increasing value over their lives and time as opposed to decreasing value and disregard in commercial terms.

5.4 Energy Water Fashion

Energy Water Fashion utilised extended consumer research around laundering habits and their relation to shape, colour and material to inform the design and functionality of clothes that have lower 'in use' impacts. Starting from

technically driven Life Cycle Assessment data, this project developed design responses that went beyond efficiencies in current ways of wearing, washing and drying our clothes, to explore new ways to shape the aesthetic, fit (in body, function and resource terms) and wearer considerations around cleanliness to a garment's overall impacts.

6. Reflections on student work emerging from an ecological paradigm

The four projects introduced above raise many important and testing issues for both educational practices around fashion and the commercial fashion sector more generally. In the paragraphs that follow, we offer our reflections on some of these themes.

In projects like *Left To Be Found* and *Remade in Leeds*, the work emphasises process and experience over outcome; sometimes with little or no physical work to show at the end of the student's period of study. Indeed in both of these cases, the designer's traditional role as creator and 'maker of things' gave way to a new role as facilitator as the projects progressed. In both of these projects a less teleologically-distinct way of designing emerged where the designer-protagonist let go of some of the control and power she held over the work. Here, the students moved from being a shaper *of* their project to being a shaper *within* their project; a design approach which has been called a 'non-plan' (Barker as cited in Dunlop, 2010: 40). Yet for a fashion education system that is accustomed to framing students as the sole originator of work, where that work is validated through presentation on catwalk or exhibition; and also for an (industry and media) audience that seeks 'recognisable traits' of fashion in garment form as marks of quality or success; this is a challenging situation, for much of this 'non-plan' work is not made manifest in garment form. And one that we are still wrestling with, for while careful documentation of process is appropriate to successfully pass assessment procedures for the University; to the world outside the academy, so habituated to 'understanding' fashion on the basis of quick aesthetic judgements alone, the invisibility of this work is perplexing.

This confusion about the appearance (or lack of it) of sustainability work in fashion seems to

confirm Stephen Sterling's view that the prevailing educational paradigm, 'conforms to the philosophy and perceived needs of the market' (2001: 12), each year churning out students who reinforce industry's existing values and ways of working. Indeed, herein lies another tension that has emerged time and again with students over the last three years: how to form a bridge between the values and approaches of collaborative, ecological fashion practice and the expectations of the mainstream, market-based fashion industry. This need to bridge is often a pragmatic one; for students need to make a living (often in this industry) on graduation. Yet to emphasise the 'end result' (employability) over experience poorly reflects our ambition for this course; though once again exposes the epistemological differences between sustainability- and conventional- education. For us, the MA has not been about ticking a box, giving the correct answer or producing the right credentials; but rather a learning and teaching experience that furnishes students with new skills, understanding and confidence to start out on the 'beginning' of their own journeys in this sector. This experience does not privilege the commercial agenda but it does offer industry application and in so doing directs and challenges commercial, market-led fashion.

This journey in the case of the work *Diary of Our Daily Threads*, saw the development of a subtle set of design skills based on empathy. Here the designer, using ethnographic methods, became imaginative about and for others as a key part of her process and outcome. The sensitivity shown by the student to the texture, shape and form of the pieces that were created was unlike any previously witnessed through years of working with students and design teams in commercial fashion businesses. Further, the presentation of the work expanded traditional views of suitable formats of collections or exhibitions and employed highly effective communication techniques through text, 3D work, photography and film brought together by interactive communication devices, designed and made as part of the project to specifically enable the audience to view, hear and feel the work. In this work, new knowledge was generated directly from a participative and reflective paradigm.

In the case of *Energy Water Fashion*, the student traversed across disciplinary boundaries and product sectors often seen as outside the scope of

fashion design. Here the student engaged with ecological systems, consumer behaviour analysis, lifecycle assessment and the sociology of technology and moved between the world of garment creation and production, the home – where most domestic laundry takes place, and detergent and washing machine development and manufacture. The outcome, an eight piece garment collection is a visual manifestation of a fresh ideation process that makes a tangible, desirable ‘route in’ to the ideas described. Just as fashion takes an artistic form that is intuitive in concept, technical in application and ensures its viability due to its commercial standing; so this broad work uses a similar approach but ensures its feasibility through its practical and participatory engagement with sustainability issues.

7. Reflective insights

Over the last three years, our understanding of fashion education in sustainability in practice has grown enormously. There have been many high points on our journey and much excitement at the creation of new possibilities for the subject area. Further, fresh insights have been generated into both the opportunities and challenges of working in fashion education with ideas and actions that emerge from a different paradigm; and how these often have a sense of being out of place or out of time when compared with today’s sector and dominant educational models.

As mentioned earlier, even though the MA is situated in a progressive and supportive College, periodically we have struggled to find a place for its approaches and viewpoints within Institutional structures and expectations, which tend, implicitly, to favour the status quo. Sensitivity to the bigger structural and educational implications of initiating a programme of study in sustainability is recommended so as to ably navigate the bigger systems which set the rules and goals for individual courses. Yet at the same, the power of the ecological paradigm to critique education, and ask most fundamentally, ‘what is education for?’ should be harnessed to transform learning and teaching in a way that is meaningful, engaging and participative.

In the midst of what we had thought of as a meaningful and engaging educational experience, we have witnessed a phenomenon emerging in some students akin to paralysis of practice. These

students, who take on the enormity of global sustainability issues and then become beleaguered by their complexity and unbounded nature, ultimately become unable to act. Here, growing exposure to the breadth of fashion and sustainability information coupled with a desire to work in the most ‘perfect’, ‘ethical’ way possible leads to an almost inevitable cessation of practice. Yet through a process of supporting students to develop understanding of the interdependencies that underpin every action, and with that their growing ease or comfort with the complexity of real issues and experiences, students emerge changed. Over time we have come to recognise that when a student falters it is because his/her ‘practice’ tends to be concerned with *outcomes* and solutions, rather than *process*. And by encouraging a shift in emphasis often makes action possible again.

We feel strongly that it is the case that visualising and making ‘real’ the holistic and collaborative model of fashion provides a vital way to bridge between different paradigms and contexts and to the fashion world as it is today. Indeed this has to be done in ways that inspire and entice an audience, whilst also being true to and unapologetic for, its participatory, ecological nature. Yet, as we have witnessed, students often feel a ‘heaviness’ or burden when dealing with sustainability issues, a weight that seeps into and colours this visualisation in a way rarely features in the visual work of students on conventional fashion courses. One explanation for this discrepancy is that mainstream fashion education trains students to appear in a world that is ‘essentially groundless’ and a ‘world of ideas’ (Farrell 2008, unpaginated). And in this imaginary and emotional world almost anything is possible – students are ‘light’ and free – there are few limits. Yet this is surely an outdated view: our planet clearly does have limits and the physical manifestation of fashion, as both a garment and a global industry, is as subject to them as everything else. Yet the point needs to be made that these students are the product of a teaching system that takes a mechanistic, instrumental view of education and thus reflects and reinforces the view of mainstream industry, where environmental and social costs are externalized as common practice. This brings us back full circle to the world evoked by David Orr’s paradigm-shifting question with which we opened this paper: *what would sustainability have (fashion) do?* The tentative response we offer,

after our work on the MA, is that it would have us creatively re-imagine fashion education from a different starting place and to peacefully and powerfully make it happen.

8. Conclusion

This paper has set out our experiences of establishing and teaching a Masters level course in fashion devised within a framework of sustainability. The ecological, participatory and collaborative values that shape this framework and this Masters course have ushered in not only a 'progressive broadening' of educational content, but also different models of learning and teaching as compared with conventional post-graduate education pedagogy and a differently organised learning environment. These different requirements have thrown up many important and testing questions for fashion education in particular and the fashion sector more generally. The critical reflections we offer in this paper flag some of these emerging issues and describe the ways in which we have sought to understand and transform them into opportunities for learning in the future.

REFERENCES

- Allwood, J.M., Laursen, S.E., Malvido de Rodriguez, C. & Bocken, N.M.P. 2006. *Well Dressed?* Cambridge: University of Cambridge Institute of Manufacturing.
- Brezet, H. 1997, 'Dynamics in ecodesign practice', *UNEP Industry and Environment*, January-June, pp21-24.
- Dunlop, P. 2010, *Unravelling Design: Fashion: Dressmaking, Ethos*, PhD thesis, Brisbane: Queensland University of Technology.
- Farrell, R. 2008, 'Fashion and Presence', *Nomenus Quarterly* Vol. 3, unpaginated.
- Finkelstein, J. 1996, *After a Fashion*, Melbourne: Melbourne University Press.
- Fletcher, K. 2010, 'Slow Fashion: An Invitation for Systems Change', *Journal of Fashion Practice*, vol. 2, no. 2, pp259-266.
- Jones, P., Selby, D. & Sterling, S. 2010a, 'Endword' in P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education*, London, Earthscan, pp329-330.
- Jones, P., Selby, D. & Sterling, S. 2010b, 'More than the Sum of their Parts? Interdisciplinary and Sustainability' in P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education*, London, Earthscan, pp17-37.
- Manzini, E. 1994, 'Design, environment and social quality: from "existenzminimum" to "quality maximum"', *Design Issues*, vol. 10, no. 1, pp37-43.
- Meadows, D. H. 2010, *Thinking in Systems: A Primer*, London: Earthscan.
- Orr, D. W. 2009, Lecture at the Brower Centre, Berkeley, California, 24 August 2009.
- Rockström, J., Steffen W., Noone K., Persson Å., Chapin III, F. S., Lambin, E., Lenton, T. M., Scheffer, M., Folke, C., Schellnhuber, H., Nykvist, B., De Wit, C. A., Hughes, T., van der Leeuw, S. Rodhe, H., Sörlin, S., Snyder, P. K., Costanza, R., Svedin, U. Falkenmark, M., Karlberg, L., Corell, R. W., Fabry, V. J., Hansen, J., Walker, B., Liverman, D., Richardson, K., Crutzen, P. & Foley, J. 2009, 'Planetary boundaries: exploring the safe operating space for humanity'. *Ecology and Society* vol. 14, no. 2. [online] URL: <http://www.ecologyandsociety.org/vol14/iss2/art32/>
- Schor, J. B. 2002, 'Cleaning the Closet: Towards a New Fashion Ethic' in J. B. Schor and B. Taylor (Eds.), *Sustainable Planet: Solutions for the Twenty-First Century*, Boston: Beacon Press, pp45-59.
- Springett, D. (2010), 'Education for Sustainability in the Business Studies Curriculum' in P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education*, London, Earthscan, pp75-92.
- Stahel, W. 2010, 'Durability, Function and Performance' in T. Cooper (Ed.), *Longer Lasting Products: Alternatives to the Throwaway Society*, Farnham: Gower, pp157-177.
- Sterling, S. 2001, *Sustainable Education: Re-visioning Learning and Change*, Totnes: Green Books.
- Turley, D. B., Copeland, J. E., Horne, M., Blackburn, R. S., Stott E., Laybourn, S. R., Harwood, J. & Hughes, J. K. 2009, *The role and business case for existing and emerging fibres in sustainable clothing*, Final report to the Department for Environment, Food and Rural Affairs (Defra), London, UK.
- UNESCO 2009, World Water Development Report 3, Water in a Changing World, UNESCO [online] URL: <http://webworld.unesco.org/water/wwap/wwdr/wwdr3/index.shtml> (Accessed 23/04/09)

Wals, A. E. J. & Blewitt, J. 2010, Third Wave Sustainability in Higher Education in P. Jones, D. Selby & S. Sterling (Eds.), *Sustainability Education: Perspectives and Practice across Higher Education*, London, Earthscan, pp55-74.