

KAY POLITOWICZ

UNIVERSITY OF THE ARTS LONDON:
CHELSEA COLLEGE OF ART AND DESIGN



TEXTILES: THE SUSTAINABILITY OF RESEARCH

ENVIRONMENT | SUSTAINABILITY | INNOVATION | RESEARCH STRATEGIES



ABSTRACT

THE CURRENT POTENTIAL AND FUTURE DEVELOPMENT OF RESEARCH GROUP ACTIVITY IN UK HIGHER EDUCATION RESIDES IN ESTABLISHING COMMUNITIES OF STUDENTS, TEACHERS, PRACTITIONERS AND ENTHUSIASTS.

My theme is the connection between research and the taught curriculum in Universities. One of the significant contributions of practice-based University research, is the proposal and dissemination of new ideas, by exploring potential subject innovation. I will be using, as my model, the Textiles Environment Design (TED) research group, established at Chelsea College of Art and Design, University of the Arts London.

Economic developments worldwide are changing the way businesses work and the locations for textile production. During the 20th Century, the European Textile Industry largely lost its production facility to cheaper and more automated developments in China, India and South America. The remaining textile production in Europe resides largely in high-end companies, often small businesses, working with skilled craftspeople and specialist/high-tech processes. Increasingly, innovation is led by designers in small, flexible businesses; by individual creators and collaborative groups, rather than big industrial producers (European Commission 2006:17). In the 21st Century, European design graduates within small companies are setting the creative agenda. The 'long tail' of SME's, far from being insignificant, is now a very relevant and powerful sector of industry (Anderson, 2006).

**FROM THE RESULTS
OF STAFF RESEARCH,
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CURRICULUM AT
CHELSEA.**

As the world's population continues to expand, with increased consumption from developing countries, the pressures on natural resources are growing rapidly. The problem of disposal of waste from the increased production and from post-consumer products creates an emergency impact on the environment. Both large and small industries associated with the production, use and disposal of textiles are some of the most polluting worldwide. If 85% of the environmental impacts of a product are determined at the design stage (Graedel, 1995:17), it is imperative for designers to prioritise environmental sustainability in their creative thinking (Bruntland, 1987). In the hands of the designer, it leads to 'new products, new services and new ways of doing business' (Design Council, 2008).

Taking into account the significance of the designer's role in the reduction of textile-related pollution, it has become increasingly important for design education to respond to these challenges and to equip graduates with awareness of the problems and the means to propose innovation in practice. Students need to understand key issues such as the specification and use of materials in production; the re-use and disposal of post-consumer products; systems by which textiles are valued and the meanings that textiles have in our lives (Chapman, 2005).

University research, with its 'blue-skies' thinking, can develop strategies for intervention in the life-cycle of the textile product. The resulting knowledge can then be integrated within the teaching programme, to ignite students' imagination. Many research proposals currently being developed in the absence of current, textile-related models are examples borrowed from other disciplines, such as leasing in product design or the value of authentic craft production from the

Slow Food Movement. Collaboration between textile designers and interior designers, product designers and graphic designers, would endorse interdisciplinary research partnerships and cross-subject teaching. The emphasis is not on design as a way of overcoming difficulties but as potential for creative opportunities.

Design strategies, which propose a basic saving of resources in the use of materials and processes, including the reduction of chemical impacts, reduction of water and energy use and minimisation of waste, work largely with a continuation of current models of production and consumption. By contrast, emerging design strategies are addressing the socio-cultural contexts of textiles, such as: de-materialisation; development of systems/services and design activism, commons thinking, (Kenrick, 2009) ethical and fair trade production. University research in this area provides models of co-design, activism (Fuad-Luke, 2008), multi-disciplinary participation and engagement to encourage creativity and innovation necessary to equip the 21st Century designer. The use of design thinking is key to brainstorming and modeling solutions to 'wicked' problems (Rittel and Webber, 1973), such as sustainability. There are multiple stakeholders and no clear boundaries or solutions to this problem, which encourages researchers to find a path by taking risks and applying unexpected, sometimes playful solutions via experimentation and improvisation.

The TED research group was established in 1996 to develop a practical structure for enquiry into sustainability in textiles. It was originally set up to provide an opportunity for the exchange of ideas and reflection between teacher/practitioners, about their common

interest in the environmental issues inherent in design, production, consumption and disposal of textiles and textile products. The resulting critical dialogue and debate enabled staff to develop ideas and reflection, influential in their individual practice. It increased their ability to pass on information directly to students, concerning the significance of existing technological and sociological models and opportunities for design development in this area. The possibilities for joint staff research projects and for links with industrial/professional agencies became clear in early TED projects, including work carried out with the Science Museum: Interactive Materials Gallery (1996) and the Eden Project 'Spindigo' (2000-2002).

From the results of staff research, student projects at BA level were developed as part of the taught curriculum at Chelsea. These projects introduced the importance of environmental design issues, discussing ideas for change and the need for creative solutions. They provided platforms for experimentation, sharing core philosophies of sustainability and playfulness, which engaged the student audience. Bridges were created between research-active staff, research students and undergraduates. Themed projects engaged students in the process of research and development at BA and subsequently at MA level, where applicants are required to propose individual projects concerning environmental issues. Examples of BA project themes include design challenges to address the lifespan/lifecycle of materials, in designing fabrics for intentionally 'short-life' contexts, or 'long-life' products to increase in value over time. Students have designed experiences to replace products, for example in creating

online networks to share outdoor pursuits. MA student projects have proposed 'patch-worked' furniture or 'repurposed' ceramics as lighting. They have been active in assisting the Scottish woollen industries or Portuguese cork industries in the continuation of their historic craft production.

PhD students, research staff and supervisors contribute to both theoretical and studio programmes. Some graduates of the courses, including those who continued to study elsewhere, maintain contact with the ongoing research topics of the group. For some, strategies for sustainability have become the essence of their professional practice. Since creative industries are a growth area in businesses while the rest of the UK economy looks bleak, it is reasonable to be optimistic about the viability of graduate initiatives. A new manual aimed at MBA students suggests that, in this respect, "green is the new black". The authors also claim that the new "weapons of mass collaboration", are turning passive consumers into active producers. (Reeves and Knell, 2009).

In 2003, the TED group began to collate a physical resource of specialist information concerning all aspects of sustainability within textiles, which has subsequently become available to current UAL students and to the wider design community. A selection of the best and most relevant student work is retained, including theses from BA, MA and PhD students. The TED group at Chelsea has been underpinned by College funding since its inception. Currently, it also benefits from and contributes to one of a series of UAL-wide research Units -Textiles Futures Research Group (TFRG). University funding supports the activities of the Units to provide a creative profile for research at UAL.

Two current TED projects, which enable collaborative work to be undertaken with student and graduate contributions, demonstrate an inclusive approach to research. Their transparency and currency are shaping the practice of teaching staff and emerging designers.

The first, 'Ever and Again' (2005-10), is a research project proposed and principally investigated by Rebecca Earley (Reader in Textile Design CCAD/ UAL). The AHRC funded project proposed that designers could play a pivotal role in creating visions for how we could 'up-cycle' UK textile waste into new products and services. The project enabled a core group of Chelsea practitioner/teachers, research students, invited graduates and professional designers to meet regularly during the first year in a series of seminars, designed to introduce key issues concerning all aspects of the 'lifecycle' of textile products. During this first stage of the project, structured workshops enabled individuals to participate in scenario-building, sharing reflection concerning impacts on their practice.

In the second year, each member of the group developed products, exploring aspects of the information relevant to their practice. A public exhibition of the work in progress, extended to include current and former students' work relevant to the theme, provoked discussion at all levels of study and in the wider design community. The exhibition was a catalyst for discussion and examination through conducted tours for visitors, workshop activity for school groups, student commentary and professional 'juries' to evaluate the content. This contributed to the designers' understanding of the impact of their work and the designers refined the products during 2008-9.

A symposium was held to discuss particular subject developments, which provided an international platform for discussion, contributing to strategies for sustainability in textile design. The issues are relevant to future innovation and creativity in European textile design communities. In 2010, to conclude the project, a publication, 'Up-cycling Textiles', will be produced, which will offer the information. In this way, models, strategies and ideas about methodologies for conducting practice-based research work in textiles will be disseminated to the wider research and design community.

Another example of an action research project entitled Cultural Collage, was started in 2009. As an international collaborative project, this connects design groups at the University of Technology, (Sydney, Australia) with Universidad Diego Portales, (Santiago, Chile) and the TED Group at Chelsea College of Art and Design, (University of the Arts, London). The project, was proposed and principally investigated by Professor Marie O'Mahoney at UTS. Our aim is to enable designers to discuss cultural identity and sustainability from their various geographical locations. It is important that the group includes textile designers and students at different stages of their development, working with other design disciplines in each location.

Five participants in each centre were asked to select and modify a significant cultural artifact, giving added cultural significance before exchanging it for further modification in turn by the other groups. The objects are accompanied by 'passports' of background information, assembled by each group, which are intended to inform and influence the nature of the transformation process. The three modifications, which included the appropriation and addition of found cultural material, will contribute

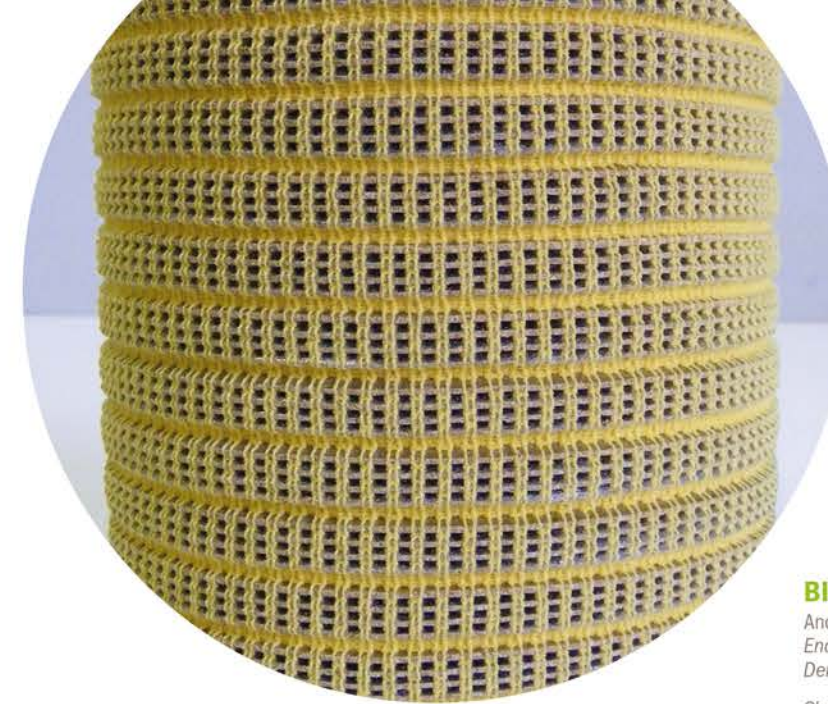
to an exhibition of the resulting transformed objects. Along with images of the journey contributed from each location, they will provide a focus for discussion of the results in 2010. This will be launched with an event in London and will travel to a forum in each continent in turn, adding to the shared cultural reflection. All partners in Cultural Collage gain from sharing best practice, supporting the work of 'knowledge-building' communities.

The value of group research activity, which considers the cultural context for design practice is key to critical reflection amongst participating designers. Participation in research projects by the wider international academic community, other design-discipline groups, manufacturers and consumers, is now possible because of recent innovations in web-based technologies. The advent of Web 2.0, systems for dissemination to professional practitioners, students and amateurs, allow users to contact one another and keep in touch. The potential for Web 3.0 to overcome the difficulty of a bewildering quantity of available information by targeting users on the basis of their browsing habits, will increase the possibility for University research to propose projects, which involve eclectic groups. Findings can be shared by direct, regular contact between academic teams and other participants with a range of expertise and experience, via internet, web-log, podcast and on-line seminar. Portals which act as conduits to specialist information can provide a focus for communities of interest at local and international level.

In order for research groups to have a continuing and effective role within future developments in Higher Education, they need to be truly 'intra- and extra-mural' in their activities. The immediate academic community is the priority for tangible

benefit from research activity. In the current climate of educational funding and national research funding bodies, it is imperative that design research proves itself to be relevant to curriculum development within courses. Furthermore, with cost-effective revisions to course content and delivery, the expensive workshop and 'making' aspect of many subjects, particularly textiles, is under pressure. If individual researchers are identified as collective research groups, their ability to exert influence in academic planning is increased. If groups become key influences on the development of practice and theory in taught courses, then their institutional funding is more secure. The relationship between theory and practice, intensified by research agendas will promote the 'making skills' critical to textile designers. This approach to the curriculum encourages a culture in which 'artifacts that emerge are experienced simultaneously as objects and as arguments' (Garcia, 2009).

The role of workshop technologies is also central in realizing the material production inherent in practice-based research. While policies and systems to increase access to workshop facilities are taxing educational managements, funding to maintain them is also being squeezed. Staff research projects in HE have been useful in acquiring equipment, which then becomes available to be shared with student groups. But the drive to equip independent learners at all levels of study can only be assisted by an integration of inputs from technicians, research staff and academic staff in the technical domain. The inevitable questioning and redefining of subject boundaries in research enquiry encourages a multi-disciplinary approach to problems, which requires workshop facilities not included in traditional subject definitions. New



curriculum structures in design courses are in turn an influence on the development of research projects. Cross-level structured research teams are empowered by responsive dialogue resulting from disregard for hierarchies.

In assessing the position of research's relationship with the wider extra mural community, it is helpful to refer to the time when design education in 'art-schools' was set up. Originally, they were funded to be of benefit to both the local community and businesses. Now that design courses in Higher Education institutions have an international profile and constituency, they are funded nationally, supported by student fees and by research funding bodies. Although this has gradually distanced them from local communities, HEIs are uniquely able to develop a 'multi-local' approach (Manzini, 2007), by engaging with different socio-economic and generational groups in the community at large. Outreach programmes of various kinds are already funded to encourage HE application from minority groups. Research projects can be instrumental in connecting local and geographically distant groups to participate in projects or just enable

them to follow the progress of design research. Furthermore, the growing international numbers of 'alumni' in design, many of whom are not necessarily active in professional roles, form an 'educated-amateur' community of enthusiasts, ready for engagement. If research projects can provide a platform for the exchange of knowledge between educators, designers, and enthusiasts in society at large, they increase the potential for local, national and international funding. The resulting interconnection of designers at all stages of their careers with other professionals and consumers is an encouraging model for the future. It allows consumers to engage in the development of new products, affording them the opportunity to co-own and co-create objects, celebrating cultural diversity. The prospect of allows a framework for the successful implementation of design research to facilitate a shift in behaviour (Scrivener, 2009), which will in turn transform mass manufacture.

Effecting design innovation through research as an instrument of change is pressing – the only way to predict the future is to shape it.

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