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The Centre for Advanced Textiles: A Case Study in UK Digital Textile Culture

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Introduction

The faculty and graduate students at the Centre for Advanced Textiles (CAT), located in the Glasgow School of Arts in Scotland, have created a unique academic environment that not only employs culture in design inspiration, but also creates a dynamic academic culture. The team consists of the following five, individuals who are all practicing designers and researchers: Alan Shaw, Industry Coordinator; Vicky Begg, Bureau Coordinator; Helena Britt, a Practitioner/Educator/Graduate Student; and Andrew McDonald, a Research Assistant/Graduate Student and J.R. Campbell, the Research Fellow/Coordinator. Each faculty member and graduate student on this team interacts with each other on various activities within the centre, in which the underlying foundation of teaching and research is a basis for these activities (Fig. 1). The activities of the centre are quite similar to the tripartite expectations of land grant universities in the United States; teaching, research/creative scholarship, and service.

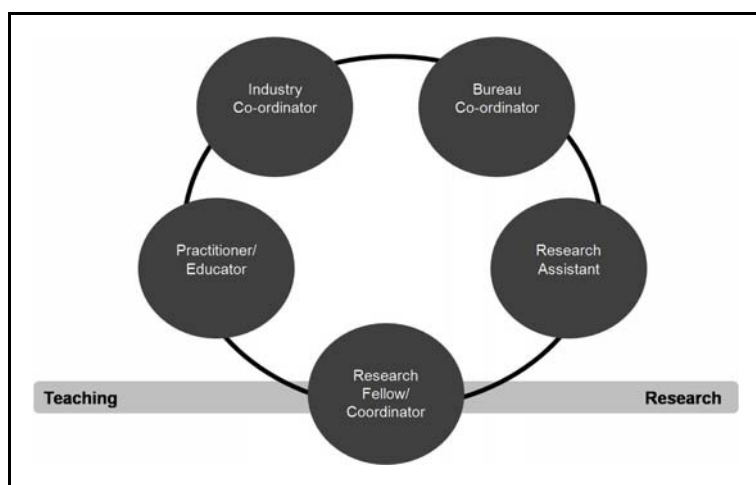


Figure 1. Roles of the Team Members at Centre of Advanced Textiles at Glasgow School of Arts.

Over Arching Inquiry

In the process of organizing this panel discussion, J.R. Campbell posed the following two questions:

1. If textiles serve as records of a culture's history and values, how should we approach and evaluate the integration of digitally-created and digitally-produced textiles?
2. How do the applications of digital technologies encourage or inhibit cultural expressions?

As discussant for the panel, I synthesized my perceptions of the main thesis for each presented paper in an attempt to answer J. R.'s questions, into the following four categories: 1) *Use of Historic Archives*, 2) *Knowledge Transfer between Industry and Education*, 3) *Collaboration*, and 4) *New Modes of Inquiry*. Do recognize that these four categories are my personal perception of activities occurring at CAT as an outsider.

Definition of Culture

To answer J. R. Campbell's proposed questions, it is necessary to explore definitions of culture. In this paper, I chose to explore the definition of culture from material culture and communication perspectives, since an argument is likely made that the CAT team members address culture from both perspectives.

In his essay, "Culture, History and Artifact" Steven Beckow defines the purpose of culture as "to illuminate the ways of thinking and designs for living which men brought to bear on their total round of life."¹ Beckow further expands his material culture definition as either viewed on a continuum or as a single phenomenon; culture is a collection of ideas "manifest in act and artifact." Jules Prown asserts that culture itself is abstract, but its products are concrete; thus, through these products or artifacts, culture is expressed in a less conscious and more honest manner.² Digitally printed textiles, such as those produced at CAT, are ideal artifacts to express the abstract and historic nature of a culture.

From a communication perspective, culture communicates the complex interconnectedness of events and information about the individuals who participate.³ The research and creative scholarship undertaken at CAT provides a means of preserving and communicating the complex zeitgeist of the United Kingdom. In addition, CAT is also a model for how team communication creates a productive academic culture.

Use of Historic Archives

In his presentation, entitled "Commercial Research and Service – Facilitating Cultural Expression" Alan Shaw defines a model for integrating research and *historic archives* into an entrepreneurial service, resulting in a means of funding the CAT Digital. CAT Digital is supported by digitally printing textiles for *commercial runs* and *small artist runs*, providing services from design inception to production of the digitally printed textile (Fig. 2). Shaw personally contributes his technical knowledge in interior textile design, and uses the school's collection of interior prints for reproductions or the development of custom prints, aiming for a fast turnaround time. Managing the commercial activity of the centre requires the ability to address perceptions of technology with designers working in traditional methods.

Community, education, and manufacturing linkages are evident in the exhibit entitled "Mackintosh Re-interpreted: Original Sketches to Digitally Created Fabrics," in which Shaw collaborated with Begg and Campbell to reproduce and interpret textile drawings by Charles Rennie Mackintosh into digitally printed textiles. The project is a prime example of how historic archives can be used to not only preserve culture, but also to create cultural artifacts that educate a community about history, art, technology and manufacturing.

¹ Steven M. Beckow, "Culture, History and Artifact," in *Material Culture Studies in America* ed. T. J. Schlereth, (Nashville, Tennessee: The American Association for State and Local History, 1982), 114.

² Jules D. Prown, "Mind in Matter: An Introduction to Material Culture Theory and Method," in *Material life in America, 1600-1860*, (Boston: Northeastern University Press, 1988), 1.

³ Edmund Leach, "Culture and Communication," (Cambridge: Cambridge University Press, 1976), 3.

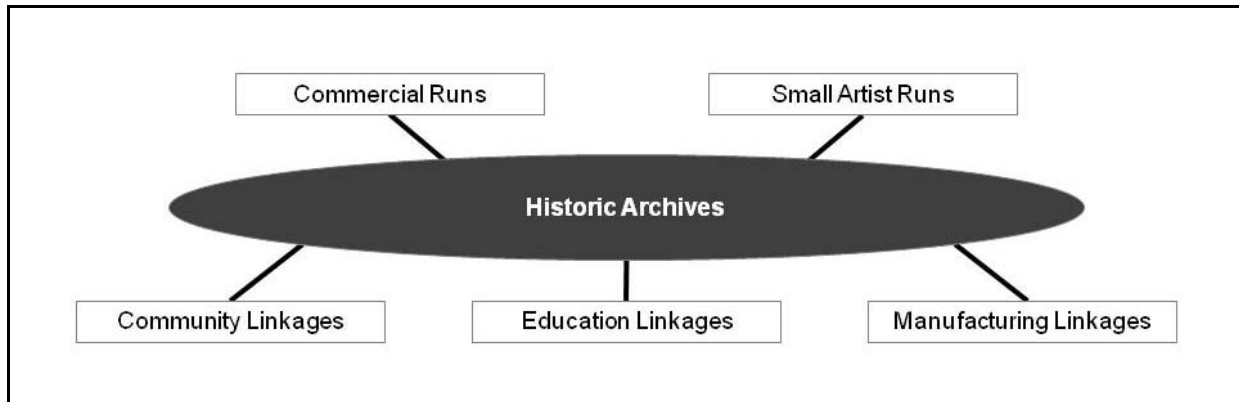


Figure 2. The Impact of Historic Archives on CAT's Commercial Research and Service Activities

Knowledge Transfer between Industry and Education

Helena Britt and Vicky Begg advocate for the *knowledge transfer between industry and education* under the umbrella of *undergraduate education*, in their paper entitled “Learning/Teaching Digital Textiles: The Role of Culture and Location in Linking the Physical and the Virtual.” Britt and Begg, recognizes that digital technologies have not replaced traditional or manual techniques, therefore relying on both of their extensive industry experiences to integrate their expertise into teaching and outreach activities. However, they also recognize the importance of physical location and virtual access of digital databases plus equipment for the exploration of utilizing digital technologies for both *internal* and *external students* (Fig. 3). *Internal students* are traditional undergraduate students at the school. In contrast, working with *external students* allows for professional development activities with clients, continuing education opportunities, and collaboration with other colleges in the community for member of the centre. The projects described in their presentation use culture as a foundation, but ultimately result in developing a “shared” cultural experience between CAT and the internal/external students, creating strong *community linkages*.

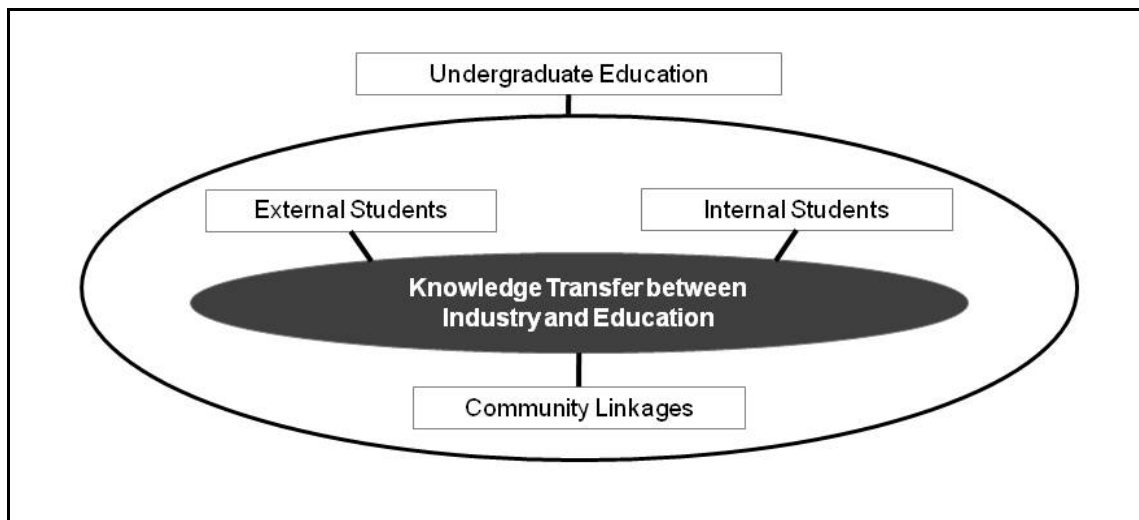


Figure 3. Relationship of Knowledge Transfer between Industry and Education in Regards to Undergraduate Education.

Collaboration

Collaboration between academia and industry to create Web-based interface technologies for traditional craft communities focusing on user generated content was the main thesis of Andrew McDonald's presentation entitled "Future Textiles as a Form of Digital Media – A New Culture for Design Communities." As a Ph.D. student, with a background in manufacturing and engineering, McDonald's research focuses on using digitally textile printing technologies to develop a new supply chain to eliminate the waste of mass production processes. McDonald proposes an *Open Source* software program that allows *creators* and *consumers* to be equalized or be the same individual (Fig. 4). Creators who use the *multi-dimensional* and *multi-directional medium* of digital textile printing to develop custom on demand soft good products, has the potential to catalyze *sustainability* of both process and products in the future. McDonald theorizes that the umbrella of sustainability requires a collapse of traditional soft good production processes and collaboration between academics and industry.

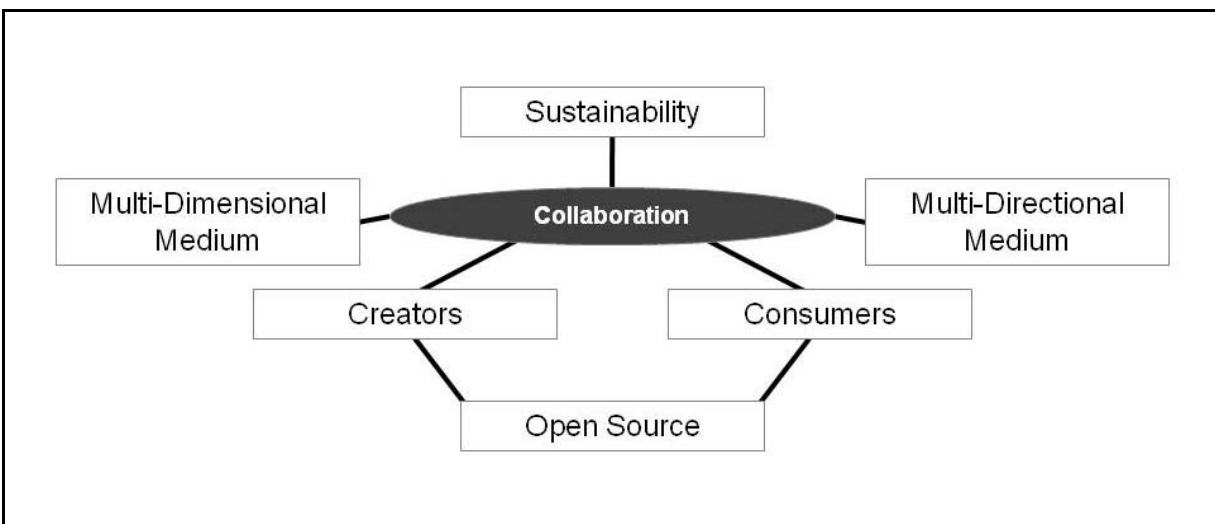


Figure 4. The Potential Influence of Digital Textile Printing Technology Collaboration on Sustainability.

New Modes of Inquiry

As Research Fellow and Coordinator of CAT, J.R. Campbell's paper, "Cross-Cultural Analysis: Connecting US to UK Research Culture in Textile Technology and Design" explores *new modes of inquiry* to document the differences between the US and UK models for the research and creative scholarship culture (Fig. 5). Campbell's own personal research and creative scholarship focuses on the integration of process and materials, while exploring the human experience.

Through his work at the centre, Campbell seeks to develop a means for blending the values and practices of two research cultures. *New modes of inquiry* are explored through experimenting with *emerging approaches*, such as 3D textiles (printing) and various surface structures and *experimentation* with traditional skills, plus physical access and virtual access to technology. The expected results of working with emerging approaches and experimentation are to lead to a *universal research definition* that connects *research affiliates*, *interdisciplinary networks*, and *internal research groups*.

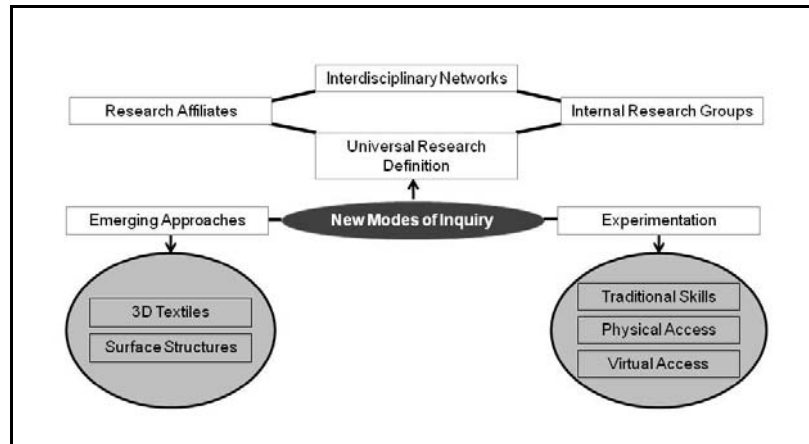


Figure 5. The Interrelationship of Pursuing New Modes of Inquiry and Developing a Universal Research Definition.

Conclusions

Significance

The significance of the work by the faculty and graduate students at CAT classifies them as a model of how a group of individuals have used material culture in their research/creative scholarship to create a dynamic academic culture. The synergy of the group and the overall role of each individual are graphically represented in the model entitled “Major Themes of Activities at the Centre of Advanced Textiles at Glasgow School of Arts” (Fig. 6). By using the overarching theme of *historic archives* in their teaching and research, the team has been able to *transfer knowledge between industry and education*, impacting socially responsible *collaboration*; ultimately resulting in exploration of *new modes of inquiry*.

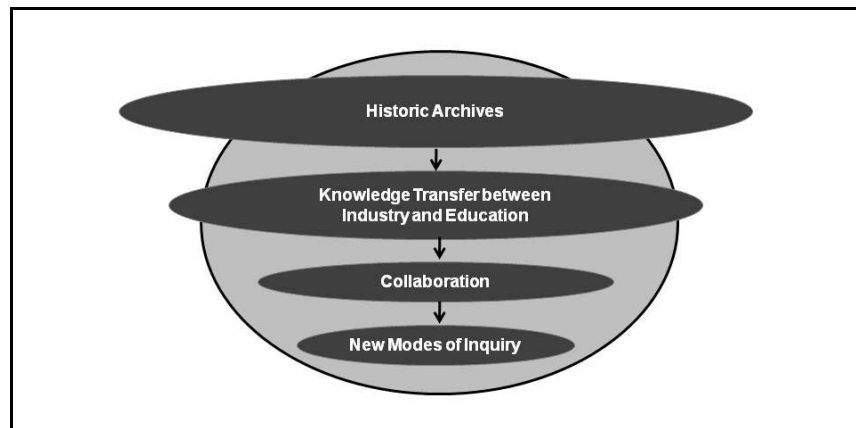


Figure 6. Major Themes of Activities at the Centre of Advanced Textiles at Glasgow School of Arts.

In regards to J. R. Campbell’s proposed questions during the development of the panel discussion, the four papers presented by the faculty and graduate students of CAT provide numerous tangible examples of how to approach and evaluate digitally-created and digitally-produced textiles in regards to a culture’s history and values. The CAT team has also demonstrated that digital textile technologies not only encourage cultural expressions, but are also a means of documenting and sustaining a culture. Further case studies on the centre, have the possibilities of revealing the development and enhancement of subcultures through the use of digital textile technology.

Future Questions for the Faculty and Graduate Students to Answer through Research and Practice

Although the CAT team clearly detailed the various activities occurring at the centre in their respective presentations; there are as few unanswered questions that are most likely answerable through future research and practice. As discussant on the panel I pose the following questions to the CAT team and to other academics or practitioners exploring digital textile technologies:

1. What are the variables that increase acceptance rate of digital technologies by apparel and textile practitioners in adapting the technology?
2. Is it possible to test the proposed sustainability model and software on various types of garments?
3. What are possible methods to make the digital textile printing process cost accessible to various groups of individuals?
4. What are potential ways to market student work both within the United Kingdom and globally?
5. What type of academic environment is necessary for each team member to continue their own work and practice?
6. How will the group/team sustain the synergy and creativity for future years?

Implications

Fortunately, the work completed at CAT is currently well documented through research presentations, manuscripts, juried exhibitions, and exhibition catalogues through scholarly participation in these activities by the faculty and graduate students on the team. However, it is essential that this team continues to document their work, since they are a rare example of an academic entity that used technology and culture in the areas of teaching, research, service, and practice. The productivity of the team serves as a model to other academic programs that are developing digital textile programs or interested in incorporating culture into their curriculum and research.

Revisiting Prown's recognition of the abstraction culture and the concreteness of its products, the textiles developed at CAT are an expression of the culture in which the centre exists.⁴ The center also represents a "less conscious" dynamic organizational culture, not unlike an art movement or documented business models. Research and creative scholarship undertaken at CAT provides a means for preserving and communicating the zeitgeist of the multi-dimensional United Kingdom culture. CAT faculty and graduate students use textiles as medium to preserve and advance material culture through digital technologies and communicate social cultural issues in the United Kingdom, specifically Scotland, with numerous potential international implications.

⁴ Jules D. Prown, "Mind in Matter: An Introduction to Material Culture Theory and Method," in *Material life in America, 1600-1860*, (Boston: Northeastern University Press, 1988), 1.