

Physical and Digital Environments: Engaging Fashion Design Students in Archival Research

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Claire Evans* · Claire Allen · Karen Shah

University of Huddersfield, Creative Arts Building, Queensgate, UK

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Abstract *With the rapid development of digital technologies potential exists to expand upon the accessibility of fashion archives and increase their use as a pedagogical tool for research. At present this is compromised due the three-dimensional, tactile nature of the objects being viewed and the fact that they are not necessarily replicable in a digital format. The aim of this paper is to examine art and design students physical object research skills and discuss how they are positioned in relation to creative tools and strategies they use to produce outcomes such as they own collections and design responses. Findings and conclusions are drawn from projects concerned with the development and use of physical and virtual archives and inform the methodology used. Traditional methods and tools within higher education are discussed together with students increased use of digital resources and innovative ways to engage students. The academic challenge of supporting student engagement in archival research across digital and physical dimensions is explored. The papers findings indicate a need for further research considering the impact of digital technology on students' physical integration with archives and the need for more structured support surrounding student physical and digital research investigations.*

Key words *fashion archives, fashion design practice, digital technology, student engagement, tactile research*

Introduction: Inspiring Research Enquiry

This paper considers the issues currently facing academics seeking to engage fashion design students, from the millennial generation, in research enquiries using physical archive as a way of encouraging creative, tactile responses. The millennial generation have been immersed in a digital world since birth and the tactile real life three dimensional nature of archives is at odds with the two dimensional digital environment they have been brought up with. These students are comfortable working in digital environments and moving them into a purely physical environment to conduct research can be challenging. Fashion archives form a key source for design inspiration and tapping into these creative knowledge banks is a skill that many fashion designers rely on to inspire their design concepts. In order to support future fashion design students' use of physical fashion archives, there is a need to reassess the research enquiry methods being taught by academics. Investigations into other teaching models are required, integrating

digital technology into the research enquiry process effectively in order to support the researchers of tomorrow.

The Fashion Design Process

The study of practice-based fashion design is dependent on imparting knowledge. This knowledge is regularly drawn from practitioners' garments held in archives. Although approaches may differ in emphasis, the fashion design process, whether in industry or academia, goes through certain loosely defining stages in order to analyse and synthesise the realisation and creation of the final product. The conception of the product takes place within the designing phase and the manufacture within the pattern and product phases (McKelvey, 2011; Sorger & Udale, 2006). The phases design, pattern and production can be recognised within fashion design course curricula as key skills that respond directly to the practical needs and practices of the fashion designer. All are embedded within research which takes place within each phase and decreases as the product develops toward final conception. As Simon Seivewright stated:

From in-depth and broad-ranging research, the designer can begin to interpret a series of garments or a collection. Silhouettes, textures, colours, details, prints and embellishment will all have their place in the process of design and will all be found in the research created (2007, p. 7).

Researching is an investigative process that establishes the direction it is the inspirational point, the collection and observation of ideas and thoughts prior to starting designing. A solid research base is essential to move any design project forward. The three key phases that typically take place during the garment realisation processes are:

- Design Development - is produced to bring together key elements and influences, drawn from the research. Design development is the phase where new and original concepts are realised, the research influences are bricolaged to evolve an individual identity and approach. The impact of digital sourcing is now commonly seen during this phase.
- Pattern Cutting - is the phase in which the designs are translated, using pattern paper, into three dimensional silhouettes. Shapes can be created using two methods of pattern cutting namely flat and draping. The former, making paper patterns then cutting them out in material and the latter, draping and modelling using fabric to create shapes on the stand which are then translated onto pattern paper. Once patterns have been created they are made up into toiles, these are traditionally made in calico of equivalent weight to the final fabric. Several toiles will be made, altered and developed at each stage, before the final solution is found. The final paper pattern will then be created to reflect this final prototype.
- Production of the Garment - is the three dimensional assembly, the translation of designs from patterns to paper and fabric. The detail and finish of the garment are established in this phase

and developed appropriate to the client market and costing.

The fashion design process is very much a reflective practice in which designs constantly progress through a creative processes that involves on-going research and development before a conclusion point is agreed. Students are taught how to research, design, cut and produce garments, however, the principles used are set to be challenged and broken. In an ever competitive design culture the process that the fashion designer establishes to achieve their final conclusion is not formulaic. Designers use individual methods, and thinking, and this has to be recognised when teaching fashion design. It was suggested by Nigel Cross that:

Designing is a process of pattern synthesis, rather than pattern recognition. The solution is not simply lying there amongst the data, like the dog among the spots in the well known perceptual puzzle; it has to be actively constructed by the designer's own efforts. (2008, p. 24)

Shreeve, Sims and Trowler (2010) considered the “uncertainty and open-ended nature of creative production” (2010, p. 125) practised in art and design teaching, the concept of exchanging of ideas as opposed to “didactic approaches based on certainty of expert knowledge” (2010, p. 125). Placing the student at the centre of the learning is a practice that has traditionally been part of the active learning approach (Wenger, 1998) used in practical art and design teaching settings.

Underpinning art and design education is an expectation that students will undertake their own creative development of the subject. They are expected to experiment and explore, producing diverse responses to projects, not right answers. Historical and contemporary garments are a fundamental resource when teaching the key aspects of a fashion design programme since they provide insight into garment construction methods, silhouettes and styles. On many occasions it may become necessary to bring garments from the wardrobe at home into sessions, to demonstrate to students the various techniques used in the design and manufacture of garments. From discussions with other academics, it appears that bringing your own garments for demonstrational purposes is not an uncommon practice and appears to be replicating many fashion industry methods (Evans, 2011).

The Value and Importance of Archives to the Fashion Design Process

Within the fashion industry it is a widespread practice for established fashion companies to hold archival records of their brands. Such company archives will routinely hold extensive records related to the company's history of varied fashion products from garments, photos and documents to company marketing material. Archival resources such as these are invaluable to the company's designer teams that will routinely use them as sources of inspiration and for re-establishing links to the brand's core values. The Levi Strauss & Co. (2010a) 150 year old archives in San Francisco, holding thousands of garments, are managed by a team of archivists. The biggest users of the archives are the design team, with at least

one designer visiting each day. When joining the Levi team, designers tour the archives and visit from offices abroad when they can (Spear, 2007). The archives are a valuable company resource, which link directly into its current product development. “The archives are far more than musty boxes of jeans or reels of old commercials. They are a laboratory for design innovation – helping us to build our future by providing insight into our past.” (LeviStrauss & Co, 2010b).

Placing a garment into an archive can be perceived as rather surreal. Garments become static and lifeless, often hidden behind glass and only handled and moved by trained experts. The physical handling of archival garments is limited, with a veneer being applied over the whole experience. On entering an archive, garments move from being an item that has the potential to be worn, handled, altered, washed and neglected. Garments defy their original purpose and function, transforming into an object to be preserved and viewed, often handled only with gloves if at all. As Robyn Healy suggests “The ephemeral nature of fashion is intrinsically related to its fugitive construction-as soon as it is made it starts to disintegrate, to age, to change colour. Surfaces distort and perhaps break down. Eventually everything falls apart!” (2008, p. 261). Garment archival collections held by museums are sensitively managed and preserved. Through fashion exhibitions and pre-arranged appointments students are able to inspect archival garments, however, the experience and interaction that originally occurred with the garments has changed. The true experience is lost.

Finding the opportunities to introduce students to the pleasures and tactile experiences of researching using archival garments is often challenging for academics. Arranging visits, for large groups, requires advance notice and planning and can often be costly. To fully utilise the garment resources on such visits, students require prior understanding and participation in the skills they will be employing. As students progress to final year, they start investigating individual roads of garment research, so requirements often differ, making group trips inappropriate. Students need to respond quickly to briefs and often do not have the time to wait for a scheduled visit that is convenient to an institution or museum. Fashion archives can become a closed book, until students are employed in the fashion industry. Access to primary research objects is important in initiating the student design process as they provide points of reference that the student can draw from to develop and position their design research. These objects can be very varied; they can be anything from period costumes or paper clips. The objects are very much dependent on the student brief, the starting point that is given and the direction the student takes in their design research journey. The importance of these objects in the students’ design research journey cannot be overlooked, however, the impact of the internet on millennial student research practice provides potential for further exploration.

Few teaching and learning studies have focused on the impact of digital technology for art and design students in higher education. The need for research assessing the effect digital technology is having on our current or future learners is still very apparent; few studies appear to have been published on field experiments/case studies within art and design higher education. Design practice is central to fashion design studies but gaps exist in studies that investigate how students learn to design and use the resources to conduct their research. Further studies concerning methods of nurturing and developing fashion

design talent are needed along with a need to understand fashion design student learning. We are currently faced with a generation of students entering higher education who have never known a world without internet search engines, research habits have changed, as highlighted by David Nicholas:

The textbooks and professional tomes produced now are little different than those published five or ten years ago, yet our professions have been turned upside down, inside out. Let us not kid ourselves, the information landscape has been totally transformed. Google now channels millions and millions of people to the information they need, on a scale that dwarfs any library, publishing or newspaper effort. The tail (the retrieval system) is wagging the dog to within an inch of its life (Nicholas, Rowlands, Withey, & Dobrowplski, 2008, p. 5)

The internet has dramatically changed teaching environments and it is inconceivable to expect students to operate without it. This would imply there is a timely need for investigations focused on engaging and supporting fashion design students and for further embedding garment led research in digital interfaces

Methodology

Drawing from an embedded practitioner approach (Kawamura, 2011), findings and conclusions have been formed from guided exercises developed around two projects investigating student studio practice.

Project one - The Fashion Teaching Archive Project researched and led to the creation of a teaching archive embedded in a fashion studio both physically and via a VLE (Virtual Learning Environment) (Evans, 2011).

Project two - The Engaging the Digital Native project that assessed the impact of digital search engines on students' research propensities, observing students in controlled experiments aimed at supporting the development of an online teaching resource (Allen & Evans, 2012, Evans & Allen, 2012).

This research explores the finding of the two projects to establish connections. A review of the research conducted on developing teaching archives for fashion design students and students' learning propensities in physical and digital environments took place. The findings have been drawn together, proposing a set of principles to embed into future archival resources developed for use in Higher Education studio environments. The challenge of engaging students in both physical and digital object research has been explored.

Project One - Establishing the Fashion Garment Teaching Archive

The Fashion Teaching Archive project conducted investigations into higher educational establishments supported by official fashion archives. A Fashion Garment Teaching Archive was then developed as a physical resource supported by a VLE. "Developing the perfect fashion archive" (Evans, 2011) provides an overview of the process that took place to establish the physical and virtual archive.

Teaching fashion design over a number of years and observing student use and engagement with research resources heightened an interest in the development of a physical garment research resource, specifically aimed at teaching garment researching skills. The notion was to develop a garment research resource focused on studio teaching in higher education. This resource would build student skills in garment researching, sourcing inspiration when designing and technical knowledge, when manufacturing. It was also recognised that there was a need to establish an archival research resource that would provide students with accessible, in house, opportunities to engage in the primary research and investigation of garments. A resource was required that would bridge both the physical and digital student research investigation process.

Garment collections held by higher education establishments were found. Examples being the Museum at FIT (Fashion Institute of Technology) in New York and the LCF (London College of Fashion) archives both operated with in the same building as their fashion departments but were independent of fashion studios, autonomous, part of broader resource banks, operating in a similar way to campus libraries. Katherine Baird curator at LCF archive described her role as “liaison between the object and the user”. (Personal communication, 19th April 2013). Therefore a resource was established to further students’ primary research investigations in the protocol, involved in the use of physical garment archives when designing. A resource that students could freely handle, access and experiment on, without fear of reprisal. It was acknowledged that any resource created needed to be within the students’ primary teaching environment, the fashion studio, in order to be effective in honing student skills in a manner resembling industrial fashion practice. As Yuniya Kawamura reminds us, ‘we all live within, act through, and are shaped by the material world. There is no human being who is not surrounded by material goods. Culture and material goods are inseparable, and thus they must be studied simultaneously’ (Kawamura, 2011, p. 95). In this instance, the fashion studio replicates the culture and the archive the material goods.

Fashion design is not an exact art but there are stages to go through to facilitate the final product. The inexplicit nature of the design process is summed up by Nigel Cross (2008, p. 24):

Designers have to learn to have the self-confidence to define, redefine and change the problem-as-given in the light of the solution that emerges from their minds and hands. People who seek the certainty of external structures, well-defined problems will never appreciate the delight of being a designer.

The academic’s role is supporting the student in a “kind of exchange” (Shreeve et al., 2010) and “delight” Nigel Cross (2008) as they move toward their final conclusions. The methods that academics use are closely aligned to fashion design industrial practice, directing students to draw on previous produced garments, or precedents, to create new ideas. Understanding how to respond to physical garments as research, forms a vital learning stage in the students’ design process. Garment archives form an important resource to support the embedding of these skills. However, alongside the arrival of the millen-

nial generation student into higher education, an alternative arena to draw research material from, the internet, has now gained a strong precedence.

Project two - Digital Learning Environments - The Next Stage in the Journey

The Engaging the Digital Native project focused on the research predispositions of students engaged in object research and the development of a digital interface to support research investigation processes. The project considered how such a digital interface using a website could engage students, encouraging them to explore and analyse three dimensional products in connection with their studies, using digital devices such as iPads and android phones.

Research into the activities that were taking place when fashion design students perform research investigations, and the impact those activities had on their outcomes, were conducted (Evans & Allen (2012), Allen & Evans (2012)). The findings, presented in two stages, considered the processes that students go through when drawing research from artefacts. The Stage one findings of Allen & Evans (2012) reported that students from the Google generation, when conducting primary research and investigation, appeared to be confident in handling digital data, but are less so, even inhibited when presented with physical objects. It identified a need to scaffold student learning, reconsidering academic intervention points, and encouraging engagement whilst being aware of the students' digital propensity. Stage two (Evans & Allen, 2012), suggested that the principle of community provides a platform for engagement; to combine skills of the millennial student and boomer/ x-generation academics in collaborative learning. In-harnessing experience through both generations co-working 'we can guide and develop their [the students] enquiring mind as they digitally educate us the tutor' (Allen & Evans, 2012, p. 7).

As the media revolution continues to progress, more engagement with artefacts and other learning materials in more digitally focused environments is seen to be emerging (Harding & Ingraham, 2013). Expansive accessible digital collections have been developed by organisations such as the Joint Information Systems Committee (JISC) and the Visual Arts Data Service (VADS). This is a development that will continue to provide challenges and opportunities within teaching and learning environments and demand more consideration and redressing of learning styles. Christopher Jones and Binhui Shao (2011), in their commissioned report for the Higher Education Academy, considered: "New and innovative approaches to collecting in vivo data from students going about their normal activities will be important to gain a fuller understanding of students' uses of new technologies" (2011, p. 35). There is a need to start gathering evidence, to examine education's problematic use/non use of digital technology (Jones & Shao, 2011, p. 55). We must consider more critically the purposes for which information technology is used (Oblinger, 2012). Keri Facer (2011) suggested that we need to "attempt to think the social and technological together" (Facer, 2011, p. 8) and that the exploration of scientific developments and technological trends are not isolated from existing social-cultural contexts. Any new technology will always ultimately be shaped by its early users and adaptors, the impact and development being influenced by their social surroundings and values. It is at this early stage that patterns of use become customary and need inves-

tigation to be fully understood and managed.

The Design of Learning- Future Needs

In order to gain an understanding of “the impact of arts pedagogy on the process of designing for learning” (Beetham & Sharpe 2013, p. 177) research into the methods used in Art and Design and the work of Derek Harding and Bruce Ingraham (2013) was explored. This included discussions considering how new technologies impacted on the larger learning community and the role of artefacts. They consider the arts approach of interaction with artefacts and the process that artists and designers take when reading, observing and translating them. How artefacts are used to generate thoughts and reactions, with a focus on questioning rather than finding answers. Harding and Ingraham suggest that art and design disciplines may already hold some of the answers to the future digital design of learning, due to their long established history of teaching with and around artefacts and that “contemporary technology provides previously unimaginable opportunities to deploy artefacts, which can then be used as the basis for activities for students to engage in.” (2013, p. 178). However, they suggested caution was needed when embarking on the development of any future technology, returning to the art of writing books and book reviews as a robust methodology for critical evaluation. They concluded that we needed to ensure that we critically review whatever we publish in new digital media forms, the same as we would with a book publication, to ensure bodies of good practice are established (2013, p. 184).

The studies by Harding and Ingraham (2007, 2013) and Shreeves et al (2010) focused the suggestion that art and design pedagogies, with their creative production methods based on uncertainty, questioning and co-learning are worth examining when designing for learning using new technologies. Such investigations may help avoid the suggestions of ‘dumbing down’ that have been associated with young digital users’ information seeking behaviours (Selwyn, 2009, p. 368) as it could be suggested new teaching pedagogies need embracing to engage a generation of students that responds to multi tasking, like quick answers and active learning (Oblinger, 2003; Tapscott & Williams, 2010). The art and design disciplines student-centred teaching pedagogies, involve engagement with objects/stimulus to generate critical reflection within physical dimensions. Their approaches could be applied to the design of digital learning materials and provide insight into future e-pedagogical needs.

Students currently joining higher education through non-mature routes are digitally savvy and are often describe as digitally wired. In contrast, the academics are more orientated towards the physical. This leads to a need to find common ground, to support the students’ learning experience, without alienating the academics’. The student should be free to use both physical and virtual resources to conduct research, but need intervention points from tutors to scaffold and direct their research process, drawing them back to the physical. Student research engagement was seen to improve when interventions were made by academics using a collaborative/co-worker approach (Evans and Allen, 2012). This combination of the physical, digital and collaborative working is fundamental to fashion design curricula, course development and ultimately student employment and highlights the need for focused attention when plan-

ning current and future course delivery.

Embedded Principles for Future Archival Resources

Key observations have been drawn together to provide a set of principles that it is proposed could support in the development of future fashion teaching archives.

- **Content relevance** - In order to encourage engagement in archival research there needs to be recognition of its relevance by the student and an interest in its content. Archival pieces therefore need careful selection to ensure they are both appropriate to project curricula and worthy of inclusion.
- **Collection size** - Collections do not have to be extensive, consider the quality rather than the quantity. A smaller collection can be an advantage, as it allows more focused engagement with each pieces archival content in both the physical and digital.
- **Archival training** - Sessions introducing student to archival protocol allows them to understand how to draw research from the physical pieces and the importance of critically evaluating what is viewed in the digital.
- **Imagery** - The digital visualization of piece is important, students are digitally savvy, responding to and expecting high quality imagery and footage. Students expect data to load quickly, they like quick answers.
- **Environment** - The archival collections location is significant in encouraging engagement. The physical archive needs to be freely accessible in the studio environments. Digital collections require housing on an accessible platform such as a university intranet or VLE.
- **Hands on** - Handling is to be encourage, it has been noted that students are often unconfident handling physical objects, haptic engagement is essential to fully appreciate the tactile qualities of archival pieces.
- **Community** - Students respond to online social environments, embedding these into any digital resource developed encourages engagement.
- **Linking resources**- The physical and the digital resources should be clearly sign posted to each other to encourage students to work across the two platforms.

Conclusion

The routes taken by fashion designers to shape final product solutions are seen to be unscripted in nature; however, evidence of phases of research do exist. Tutors teaching fashion design draw on industry practice, which often involves the use of archival pieces. Rather than leaving students to use their own intuition, when finding and researching physical archive pieces, tutors tended to intervene bringing their own garment pieces into studios to support the research process.

Fashion industry employers will continue to demand the researching and analysis of physical garments by prospective student employees, as part of the design innovation process. Student engagement with garments has changed and now spans the physical and digital. This has opened up challenges when engaging students in three dimensional product developments. Opportunities using alternative methods to develop products using two dimensional digital technologies could, however, be recognised more. Company archives are used to embed house styles whilst museums, archives and galleries pieces are used to inspire creativity and originality. It is suggested that fashion educators would benefit from appropriate resources to develop students' museum, gallery and archive resource etiquette, to further student research enquiry potential and related future employment. The 21st century information highway has, however, changed information accessing, sharing and processing.

As the digital world continues to develop and mutate at a very fast pace, there will be a continued need to ensure students are able to engage with physical garments effectively, whilst also utilising the internet to develop their research investigation activities. This paper highlights the need for educators to take note of the effect digital developments are having on current and future learners physical garment engagement. It is essential that student learning styles are embraced by the fashion academics when developing teaching material and imparting corporeal knowledge to students entering the world of fashion. Further research is, however, essential for tracking digital and physical environmental traits. Any archival resources developed must respond appropriately to engage students, to ensure that there is free flow of creative research practice.

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