

Learning Through Photography: Creativity as Concept and Process

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Abstract

This thesis explores creativity within the context of photographic studies in higher education. Particular focus is given to the role of the creative process in enabling individuals to make connections between different forms of knowledge and skills acquired and how this process is best facilitated within an educational setting.

The fieldwork for this research was carried out on a part-time degree in photography at a post -1992 university in the UK. Staff and students were invited to participate in discussion groups and their interactions in teaching and learning environments were observed. The data collected offer insights into the learning processes to which students are exposed on the course and illustrate pedagogic practices that promote students' creative development.

The outcomes reflect the complexity of creativity within this particular learning environment and suggest that creativity may be understood as a continuous, developmental and transformative process, which is based on four phases. The phases are: research, practice, realisation and reflection. The phases developed out of mapping the findings from the fieldwork of this study and were refined through the formation of an analytical framework based on related theories and existing models of creativity and creative processes.

The results of this case study imply that for students' creativity to develop, structures in the learning environment have to be provided and tutors have to assume the role of facilitator. This might not be typical of a broad spectrum of photographic studies, but the findings will contribute to a better understanding of the value of the promotion of creativity as part of such studies. Furthermore, the outcomes will inform the development of structures and pedagogies for a more creative curriculum within the discipline and beyond.

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Reflective statement

In April 2003 I submitted my research proposal to the EdD team at the Institute of Education with the aim to investigate 'Creative and innovative approaches to education and training for hard-to-reach learners'. Having experienced the rewarding side of community arts education, as well as the frustration of its unsustainable provision, I wanted to learn more about the politics and policies that influence the delivery of such programmes. I hoped that a better understanding of the theoretical and practical frameworks that shape community arts education would enable me to offer meaningful contributions to its development and to challenge the guiding principles that undermine the value of widening access to education for adults who have not been able to take advantage of educational opportunities. I was delighted to be offered a place on the EdD programme and to be given the opportunity to explore my fascination with photography as a creative practice and its potential as a vehicle for learning about, and engaging with, the world around us.

Little did I know back then of where my research would take me, the intellectual and ethical struggles I would be faced with, the moments of clarity and inspiration I would experience, and the stimulating and challenging debates in which I would partake. Throughout my journey of the last seven years I have learned to step back and to view my professional practice, my pedagogic enquiries and myself, as a research student, from a range of positions. These include those of facilitator, colleague, interviewer, observer, and writer. The taught courses of the EdD programme played a significant role in shaping and informing each position by enabling me to contextualise them within their apposite academic and professional discourses and debates. At times these various positions appeared to be in conflict with each other; yet, in the end, their combination is partly what made my journey through the EdD programme an exciting and rewarding challenge.

Having joined the programme without prior knowledge of the theories underpinning the social sciences, especially those concerning educational research, I was prepared for a steep learning curve during the years to come. However, from the outset, the taught courses enabled me to start building a foundation of theoretical perspectives and frameworks relevant to my area of enquiry. This was a result of being introduced to the literature and current practices within adult education and beyond, as well as to the epistemologies of educational research. These aspects contributed to a consistent progression in my thinking and understanding of theories and practices concerning educational research, resulting in growing confidence in my newly acquired position as educational researcher.

Throughout the EdD programme my area of enquiry expanded and developed in different directions – both logistically and conceptually – than initially anticipated. In the earlier stages of the programme my research concentrated on the provision of arts education for adult learners in the community sector and partnerships between the community sector and further education. The main areas investigated included the role of the educator in adult education; the type of provision offered to the adult learners, and the challenges with which the general operation of such partnerships were presented. These investigations helped foster my understanding of theoretical frameworks and their relationships with educational research methodologies. My investigations helped also to increase my awareness of political and ethical issues, especially in regards to conducting research as an ‘insider’; the nature of the context in which the research is based; and the challenges I may face within this position.

The formative and summative feedback which I received for the assignments of the taught courses was very useful for evaluating my performance as an educational researcher, highlighting the strengths and weaknesses of my research skills in good time to allow me to make improvements prior to working on the Institution-Focused Study (IFS) and the final thesis. One area of weakness identified was the quality of my data analysis. Whilst I had

undertaken thorough data collection, the analysis was descriptive rather than analytical. This outcome clearly reflected my lack of experience in analysing and interpreting qualitative data, and required thorough attention during the research projects that would follow. Other areas of concern were my choice of methods appropriate to the aims of the research; my lack of awareness of issues regarding the broader context of my research, such as examining the various perceptions and theories related to my professional field, and my explanations of the implementation of methods. All of these concerns were addressed during my research for the IFS, resulting in the following feedback given by the examiners: 'the report demonstrates a well developed understanding of how to engage with the literature in relation to the research questions' and '[the report demonstrates] a good use of the qualitative data and an understanding of the complexities involved in qualitative research'.

Whilst the assignments completed during the earlier stages of the programme provided a base upon which to develop the research for the IFS, the focus during the IFS moved away from the community sector and towards arts education for adult learners in further education. The reasons for this were twofold. Firstly, the training programme I was working with in the community sector was discontinued and no other course, appropriate as a case study for my research, was delivered at the time required. Fortunately, a further education college, where I had previously taught adult learners, delivered a pathway in Art & Design which provided a suitable case study for my research. Secondly, my understanding of the educational theories I had been exposed to during the taught courses of the EdD programme, and my conclusions in the essay *The Potential of Photography: Recognising creative skills in community adult education*, produced during the Initial Specialist Course, encouraged me to explore further the role of creative practices and creative skills in adult learning. Consequently, the research for my IFS focused on the potential for creativity in adult learning, with particular emphasis on the creative skills acquired by a group of adult learners. The findings were analysed in their relation to the cultural and social purposes of

learning and produced evidence of the wider impact and benefits of art and design education for adult learners.

The outcomes of my IFS proved valuable in several ways for the development of my research. In relation to my thesis, the study acted as a pilot project in that it provided insight into a range of perceptions of skills students may learn through studying a creative discipline. This insight guided the research process and informed the development of the methodologies applied. On reflecting on the research process, the IFS had built a solid foundation for my thesis in that it had enabled me to develop my understanding of research strategies and their application to a study based in an educational institution. Furthermore, the IFS highlighted issues regarding the research design of which I had to be aware when planning the methods for my thesis. These included the danger of working with too small a sample and that methods for generating data had to be carefully considered in terms of their appropriateness for the chosen case study.

In relation to my professional future as an educational researcher, the IFS provided opportunities for developing my profile. One of these derived from the list of creativity related skills¹ that were generated during the research for the IFS and further explored in the context of photographic education. The findings are summarised in *The Interactive Photograph* (Lange & Golding, 2007). Following its publication, the paper was a runner-up for the *International Award for Excellence in the Area of the Arts* and was one of the ten highest ranked papers in the *Journal of the Arts in Society*. This acknowledgement of my research from the international arts community increased my confidence as a researcher and encouraged me to further explore and develop one of the conclusions of that particular study as part of my thesis.

¹ Including problem solving, generation of ideas, critical thinking and reflection.

My progression to the thesis stage was a little uncertain during the proposal review due to several weaknesses in the thesis proposal. However, the review panel agreed to my continuing to the thesis stage on condition that I incorporated the following into the first chapter of the thesis: greater clarity of the rationale, the conceptual context, the research questions and the methodology. On consideration, these conditions were justified and helped me to develop a rather vague research proposal into a coherent and convincing foundation for my thesis.

Following the review my supervisor, Professor Frank Coffield, took up his retirement; this presented me with more challenges than I had anticipated. I had to adapt to a different style of supervision and establish a working relationship in a much shorter time period than possible with a supervisor who works with a research student for the duration of the EdD programme. I also had to reconsider the structure of the thesis and my writing style in order to meet the expectations presented to me. In hindsight, these challenges have had a positive interference with the development of my thesis; they have helped me to form a stronger argument through a more critical consideration of concepts and theories which I have explored and articulated.

The development of my thesis simulated the creative process, described as constantly evolving, flexible and changing, allowing for new knowledge to emerge (Gruber & Davis, 1999). During the earlier stages of this process, various literature was explored, digested and, at times rejected, yet even when rejected it still helped influence the overall picture produced by underpinning any decisions made. This could be compared to the composition of a photograph: what remains outside of the frame is as important as what is inside. In other words, the research developed partly through discovery and experimentation, using a heuristic approach to the task (Amabile, 1996). The concept maps, designed to present my classroom observations and as a tool for coding and analysing my data, provide pertinent examples of such an approach. I took a risk by not using traditional

means of recording observations; yet visual communication is an important aspect of my professional practice and everyday working environment. The concept maps show that I can organise my ideas effectively and understand relationships between them. However, I feel the quality of the maps could be further improved – perhaps more colour and shapes could have been used to make better distinctions between the different aspects presented.

Whilst the conceptual and contextual changes experienced during my journey through the EdD programme have presented me with challenges, they have also enhanced my professional development. In some way, the changes mirror my teaching experiences across the different sectors of community, further and higher education. Each sector has its own culture, communities of practice, and different educational philosophies. By looking into each sector, through the lens of a researcher, I was able to make connections between them and discover the potential for adaptation and dissemination across the sectors. Currently, my work is mainly based in higher education, a sector in which the student profile is increasingly changing, so my experiences of other educational sectors are proving invaluable in my roles as Lecturer, Director of Learning and Teaching and External Advisor and Examiner. Other opportunities for spreading my knowledge and ideas have been the numerous international conferences I attended and presented at, the many validation panels I have participated in, and the forthcoming publication of the international anthology, *Teaching Creativity – Creativity in Teaching*², in which one of the concepts I have developed in my thesis will be published as a discrete chapter.

In conclusion, studying on the EdD programme has enabled me to develop my professional and academic knowledge and practice, expand my professional field and has created opportunities, many of which I would never have imagined prior to commencing my course of study.

² LIHE (International Academic Association for the Enhancement of Learning in Higher Education), LIBRI Publishing, Faringdon, Oxfordshire, UK.

1. Introduction: The potential of creativity

In recent years creativity has been a high priority in a wide range of sectors including education, economics, organisational management and training for industry. The notion of enabling people to adapt positively to rapid social change and making them fit for economic competitiveness is a main concern in current policy formation (Edwards, 1997; Leitch, 2006). This focus on employability is particularly emphasised in the Leitch Review of Skills (2006), in which only 'economically valuable skills' are recognised, without reference to any other skills or developments that learners may benefit from through participating in education. Yet, as far back as eleven years ago, the National Advisory Committee on Creative and Cultural Education encouraged the government to implement recommendations made in the report *All Our Futures: Creativity, Culture and Education* (NACCCE 1999). The recommendations were concerned with fostering the creative and cultural development of young people and a wider national strategy for creative and cultural education. Only a few years later, the Cox Review of Creativity in Business (Cox, 2005) looked at how best to stimulate greater creativity in UK business. The creative industries became one of the main consultants for the review, based on the high number of successful performances within the sector.³

Despite this growing recognition of the potential for the creative industries to influence other sectors; whether in providing examples for how creativity may be utilised to enable individuals to make connections between knowledge and skills learnt, or in how to respond to the challenges of the Twenty First Century presenting people with 'the phenomena of uncertainty, change and uniqueness' (Schön, 1983, p. 239), it is not clear how the concept of creativity is understood within the creative industries and what form the

³ The most recent estimates suggest that the creative industries account for eight percent of the UK economy – a total of £56.6 billion. (National Endowment for Science, Technology and the Arts (NESTA) Research, 2006).

education and training of future generations in this field, and possibly beyond, may take (Mottram *et al.*, 2008).

Amongst educators and other professionals within the creative industries, creativity is considered to be a core concept for art and design education. (Dineen, 2006; Mottram *et al.*, 2008). However, there is little research into creativity in education that focuses on art and design disciplines, particularly those which are taught at degree level, nor the ways in which creativity works within these fields and how it manifests itself in art and design curricula (Mottram *et al.*, 2008).

If the concept of creativity in art and design education is expected to inform future educational provision within and beyond its own field, it is important to understand how creativity works within art and design education. An in-depth qualitative case study exploring the context of a single art and design discipline can illuminate such conceptual and pragmatic understandings. *Learning through Photography* is the culmination of a research project that uses a degree in photography as a case study at a post -1992 university in the UK. The primary purpose of this case study is to understand how staff and students perceive creativity within the context of this course. Particular focus is given to the role of the creative process as part of studying photography: how it may enable students to make connections between different forms of knowledge and skills acquired and what kind of learning environments might be conducive to facilitate this process. The central research questions in this case study are:

1. How might creativity be understood in the context of photographic studies?

2. What are the key phases students embark on in developing their creativity on this course?

3. What kinds of learning environments are conducive to students' creative development?

The following sections describe the context of the case study, focusing on photographic education and course-specific details. The subsequent section summarises the research approach and the research design. The chapter concludes with an outline of the overall structure of the thesis.

The context of the case study

Photographic education

The use of photography offers students potential to learn about and engage with the world creatively. The application of the medium provides possibilities for teaching people, not just in using a camera and taking photographs, but also in advancing individuals' creativity through exploring new and unfamiliar ways of engaging with photographic practices (Lange & Golding, 2007). This positive view of the use of photography is not necessarily shared amongst critics of the medium. In *The Photograph: A Strange, Confined Space*, Mary Price comments:

Because of the disjunction between the thinking, seeing photographer and the camera that is the instrument of recording, the viewer finds it more difficult than with other visual artifacts to attribute creativity to any photographer.

(1994, p. 4)

Here, the emphasis is on the viewer who becomes the judge of whether the photographer is creative or not, measuring his/her creativity on a tangible outcome. Focusing, however, on the process of taking a photograph, the medium presents opportunities for engaging people creatively in problem-solving; finding a form that expresses their concerns, cultures and aspirations; and in reflecting on their experiences and environments (Lange & Golding, 2007).

The process of taking a photograph is very much an interaction of photographers with *their* environment, as it not only allows them to choose the subject they are photographing but also the way in which they capture the subject. Both activities are influenced by the photographer's cultural and personal experiences, which make the photograph specific to him or her. To communicate this specificity of cultural and personal experiences, an understanding of the language of photography is desirable. Learning about the aesthetics of images and developing visual literacy skills are important aspects of photographic education, as careful consideration of the visual qualities of images help to convey meanings. Thus, aesthetics are central to the creative process of taking a photograph, as they help photographers to construct meaning within images, enabling them to express their own interpretations and viewpoints (Way, 2006).

This creative approach to photographic education is also supported by Nick Stanley in his paper *Young People, Photography and Engagement* (2003), in which he criticises the 'obsession with technical control' and the identification with the 'restricted sense of the role of the professional photographer' in the teaching of photography and advocates a critical engagement with photographic practice (ibid, p. 136). In his view, 'this resistance represents a significant limitation on the potential of photography to contribute to democratic education' (op cit). He goes on to discuss the importance of providing opportunities to the learner to represent his/her own concerns and which methods best enable them how to do so.

This way of empowering learners has been an accepted approach to teaching the use of photography for many years now (Brake & Newbury, 1996), yet it raises ethical considerations regarding representation and audiences if the work is displayed in the public realm. Concerns about the notion of reality within the photograph, particularly related to the ethics and morals of photographs we are surrounded by in everyday life, have been the focus of critics of photography for some time. For example, In *On Photography* (1979), Susan Sontag, discussed photographs as 'traces of

reality and interrogated photography in terms of the extent to which the images reproduce reality' (Wells, 2000, p. 24).

The common misconception that photography represents some sort of truth or evidence is still prevalent and at times can lead to unfortunate consequences. Taryn Simon's project *The Innocent* (2005), for example, highlights photography's limitations through reconstructing scenes which have led to men and women being wrongly convicted due to the criminal justice system relying solely on photographic evidence⁴. As Simon stated 'I saw that photography's ambiguity, beautiful in one context, can be devastating in another' (ibid). Simon's observation strengthens the importance for photographers to develop a critical and informed approach in the use of the medium and understanding photography's limitations. The study of photography in higher education provides a suitable environment to acquire such knowledge and gain the practical skills to produce images that demonstrate a critical and informed approach.

The course

The course chosen for this case study is a degree in photography. It covers photography, digital imaging, studio and location practice, photographic histories and theories. It offers students a degree-level education that combines practical training with a grounding in social and cultural theories embedded in the production and consumption of photographic images. The course is a four year, part-time programme with expected attendance of one day per week, and access to the course-specific facilities for one further day per week. It is aimed at mature students, particularly those who already work in photography, or those who use photography in their work and/or who are concerned with issues of representation and communication through visual imagery. The majority of students have a wide range of life experiences, all

⁴ The project was inspired by an earlier assignment for the New York Times Magazine for which Simon photographed men and woman who were wrongfully convicted, imprisoned, and subsequently freed from death row. Having access to the cases led Simon to investigate further photography's role in the criminal justice system with the aim of raising awareness about wrongful conviction caused by mistaken identification.

of which contribute to shaping the identity of the course. Each year between 20 and 25 students enrol on to the course. Student ages range from 24 to 65 years. Most years, the student year groups are formed of approximately 75% home and 25% international students, and generally show a split of 30% male and 70% female students. The course teaching team includes practitioners and theorists from a variety of professional fields, ranging from advertising photographers to artists, editorial photographers, art-historians, writers and picture-editors.

The course focuses on the creative practice and theoretical and critical study of photography and related media. The teaching and learning of the media relates to traditions in the arts, sciences and the mass-media. The course is concerned with the analysis and production of new media and new forms of publishing, including multimedia and internet contexts. Moreover, it aims to challenge conventional representations and viewpoints and to promote effective communication of ideas and topics through photographic media. The course aims for students to graduate with the following⁵:

- Academic knowledge and understanding of photographic-related media.
- Practical abilities to produce and communicate through image-based media.
- An understanding of the historical, cultural, political and institutional contexts of photographic work.
- Transferable skills which will enable students to work in a variety of media and cultural contexts.

The course team aims to inspire a critical and creative approach to the use of photography and to equip students with knowledge, skills and abilities appropriate for employment within the creative industries. Many graduates of this course work as practising photographers in either the commercial or fine

⁵ These aims are published in the course handbook dated 2006/07.

art sector. Alternatively, they pursue careers within the broader photographic industries as picture-editors and researchers, museum and gallery curators, writers, historians, teachers and academics, advertising agency creatives, education officers and community project workers. Many also go on to postgraduate study and doctoral research.

As well as learning about photography as an academic subject and as a creative and professional practice, students learn a range of skills that are not specific to the subject but may be valuable to them in their future lives and careers. In the course skills strategy these skills are referred to as key transferable skills (KTS) and include, for example, verbal and written communication, experience of working in a team, self-evaluation and time management. These skills are embedded throughout the course and are often learnt in a more indirect way than the subject skills.

The course skills strategy has been developed in response to the subject benchmarks for Art & Design and Communication, and Media, Film and Cultural Studies set by the Quality Assurance Agency (QAA, 2008b). It is worth noting that both QAA documents include terms such as: 'characteristics of the creative process', 'capacity to be creative' and 'development of creative skills' in stating the knowledge and understanding that graduates will gain from studying on programmes within the field. However, none of these attributes are listed in the course handbook as part of the skills strategy. This poses the question of how creativity is understood within the context of this course and how, if at all, it is facilitated as part of the photographic curriculum.

Research approach and design

Given the lack of a common understanding of the concept of creativity within art and design education at degree level, an explorative case study approach was adopted. Using a photography degree on which I have been teaching for

several years as the case study for this research presented me with opportunities and challenges. The advantages and disadvantages of this 'insider' approach in terms of access, familiarity and rapport are discussed later in this thesis (Chapter Three). The case study examined the learning of photography not as a one-dimensional process in which information is absorbed, but as a complex, creative, productive and transformative act during which new thinking and ways of practicing, both personal and vocational, are developed. With this focus in mind, and guided by the overarching research questions, the study followed qualitative methods which were flexible in their design and allowed for connections to be made within and between each method (Creswell, 2007). This approach aimed to mirror characteristics of the creative process as a process which is constantly evolving, flexible and changing, allowing for new knowledge to emerge (Gruber & Wallace, 1999).

Two methods were used to collect the data: semi-structured observations and semi-structured discussion groups. The discussion groups were conducted with students across all four years of the course, as well as from a group of alumni and tutors currently teaching on the course. The discussions aimed to identify participants' interpretations of creativity in the context of the course and how it is articulated in the curriculum. The focus of the observations was on the physical learning environment, the range of teaching methods, social interactions between students and tutors and students and their peers within the learning space. The main area of concern in these observations was the facilitation of students' creative development, specifically on how students were encouraged to make connections between their own practices and any of the ideas or materials presented in the teaching sessions.

Outline of the thesis

Chapter Two, *A portrait of connected fields* explores creativity and educational theories in relation to teaching and learning and is structured as follows: (1) Creativity: a multifaceted concept, discussing some of the numerous definitions of creativity and their relation to the overarching question of this research project. (2) Understanding creativity in education, making sense of a complex idea and distinguishing between creativity as a concept and as a process in educational settings. (3) Photographic studies in higher education, providing an overview of studying photography at degree level whilst considering general perceptions of the purposes of education at this level. (4) Photography and the creative process, explaining the versatility of the medium and how the creative process may act as a vehicle for photographic production. (5) Developing a framework for creativity, drawing on key concepts of creativity and proposing possible connections for new ideas of pedagogies for creativity to emerge.

Chapter Three, *Developing the research project*, offers insights into the research process of this study. The chapter is organised in four sections: (1) Defining the context, discusses the epistemology and methodology of the study. (2) Motive for research design, provides a rationale for the research design. (3) Views and voices, describes the methods used to collect the data for this study. (4) Mapping connections, introduces the analytic process of this thesis and concludes with introducing a framework for the creative process.

Chapter Four, *Exposing creativity* focuses on the findings of the observations and the discussion groups. The chapter is organised into two parts. Part I, *Observing creativity* focuses on the descriptions and interpretations of the observations. Part II, *Discussing creativity* presents the data from the discussion groups, the analysis of this data and any proposals evolving from this analysis.

Chapter Five, *Framing pedagogies for photographic creativity* addresses the overarching research questions of the thesis by (1) defining a learning community that promotes students' creative development, (2) articulating key phases students embark on in developing creativity, and (3) attending to the question of how creativity is understood in the context of photographic studies. The chapter concludes with (4) new ways of seeing, discussing the limitations of the study, offering recommendations for the course being investigated, and suggesting ideas for further research in the field of creativity in art and design education and beyond.

2. A portrait of connected fields

Introduction

While creativity is considered to be a core concept for art and design education, research into understanding the concept of creativity in relation to distinct art and design disciplines in higher education is limited (Mottram *et al.*, 2008). One of the core aims of this thesis is to explore possible conceptual and pragmatic understandings of the notion of creativity in the context of one discipline within this field, namely photography. Photography is a versatile medium that is about more than techniques; it is about communicating one's perceptions of the world through making connections between the practical and the conceptual sides of photography (Lange & Golding, 2007). This chapter attempts to add to the understanding of the notions of creativity within the medium of photography, specifically as a subject of study, through exploring concepts traditionally associated with creativity such as originality, novelty and invention.

The works of Teresa M. Amabile, Frank Barron, Margaret A. Boden, Mihaly Csikzentmihaly and Graham Wallas are included in this exploration, each offering a different perspective on creativity. Amabile's *Components of Creative Performance* featured in her influential book *Creativity in Context* (1996), for example, present a theoretical framework for creative performance that is relevant for studying notions of being creative and the conditions conducive to developing creative potential. Barron's works on the creative process *Putting Creativity to Work* (1988) and *Creative Person and Creative Process* (1969) are also relevant to this thesis in that both publications consider the application of the creative process in the context of real life situations, thus offering ideas for investigating the creative process, particularly its role in learning about photography. In *The Art of Thought* (1926), Wallas introduces a four phase model of the creative process. Ever since its introduction this model has been highly influential on developing techniques and methods for creative thinking (Torrance, 1988). How this

model has influenced the investigation in to the creative process in this study will be discussed later.

As part of gaining an insight into current notions of creativity in educational settings, it is important to look at ideas about creativity in higher education in general, in art and design education specifically and in other levels of education. *Developing Creativity in Higher Education*, edited by Norman Jackson, Martin Oliver, Malcolm Shaw and James Wisdom (2006), is a useful source. The book provides an overview of where and how creativity in higher education exists and offers suggestions for future development of concepts concerning creativity. It also includes one chapter with a particular focus on art and design education by Ruth Dineen (ibid, p. 109). *Views from the Chalk Face* is based on a study, completed in 2004, in which Dineen gained insights into lectures' and students' perspectives on the development of creativity in art and design. Her study is of particular value in light of the final outcomes of this thesis and future recommendations. Equally useful is *The Student Experience in Art and Design Higher Education* by the Group for Learning in Art and Design (Drew, 2008), especially the chapter *The research: creativity nexus* by Judith Mottram *et al.* (ibid, p. 99). Here, the authors highlight the importance of understanding the concept of creativity in art and design education at degree level and emphasise the current absence of related research.

Creativity research in other levels of education include the report *All Our Futures: Creativity, Culture and Education*, an investigation by Sir Ken Robinson and the National Advisory Committee on Creative and Cultural Education (NACCCE 1999) into the formal and informal education of young people. Other sources are Anna Craft's explorations of creativity in schools (Craft, 2005; 2008) and material generated through Creative Partnerships⁶.

⁶ The government's creative learning programme designed to develop the skills of children and young people across England, raising their aspirations, achievements, skills and life chances. It is one of a number of programmes generated by the national organisation Creativity, Culture and Education (CCE). <http://www.creative-partnerships.com>

The work of Nick Stanley and Cynthia Way are valuable resources to draw on in relation to photographic education. Stanley's paper *Young People, Photography and Engagement* (2003) includes useful discussions of the potential and the limitations of photography in education. Way's publication *Focus on Photography* (2006) offers ideas for developing a photographic curriculum in a stimulating and creative way.

The review of this literature aims to identify similarities and differences in approaches to, and perceptions of, creativity that help to understand the significance of creativity within photographic education at degree level.

This chapter is organised in five sections: (1) creativity: a multifaceted concept, discussing some of the numerous definitions of creativity and their relation to the overarching questions of this research project; (2) understanding creativity in education, making sense of a complex idea and distinguishing between creativity as a concept and as a process in educational settings; (3) photographic studies in higher education, providing an overview of studying photography at degree level whilst considering general perceptions of the purposes of education at this level; (4) photography and the creative process, explaining the versatility of the medium and how the creative process may act as a vehicle for photographic production; (5) developing a framework for creativity, drawing on key concepts of creativity and proposing possible connections for new ideas of pedagogies for creativity to emerge.

Creativity: A multifaceted concept

Quest for meanings

Creativity could be described as a phenomenon that invites constant analysis, questioning and studying its manifold meanings and processes from diverse perspectives, including philosophy, psychology, science, and education:

This proliferation of approaches to creativity, with a concomitant plurality of understandings of creativity, suggests the need to explore the *discourse* of creativity. Not just what we are finding out about creativity, but the whole process in which we find out about it, define creativity, study it, and talk about it.

(Montuori & Purser, 1999, p. 21)

Montuori and Purser's observation offers a poignant summary of the search for understanding concepts of creativity as a holistic entity, yet it seems surprising to suggest that there is only one discourse of creativity. Each exploration is likely to base its approach and understanding of creativity within its own particular context; and most probably develop its very own definition, methods of studying and ways of talking about creativity.

A recent example of the range and variety of theories and understandings of the concept of creativity is featured in the report *The Rhetorics of Creativity* (2006). Here, Shankuntala Banaji and Andrew Burn conducted an extensive review of the literature and distinguished nine rhetorics of creativity which emerged from the contexts of academia, research, policy and practice. The list of rhetorics spans across 'Creative genius, democratic and political creativity, ubiquitous creativity, creativity as social good, creativity as economic imperative, play and creativity, creativity and cognition, the creative affordances of technology and the creative classroom' (ibid), all constructing a different discourse around creativity.

This plethora of discourses suggests a changeability and fluidity of the term itself and it constantly evolving meanings or, as Boden commented, 'the

apparent unpredictability of creativity seems to outlaw any systematic explanation' (cited in Mithen, 1998, p. 22). Many people see unpredictability as 'the essence of creativity' (Boden, 2004), so it is important to find out how significant a systematic explanation is for making sense of the concept of creativity in art and design education and whether an endorsement of unpredictability would be conducive to the learning of a discipline within this domain. In the essay *Artist's perspectives on art practice and pedagogy* by Emily Pringle, published as part of *Creative Learning* (Sefton-Green, 2008), Pringle reports: 'These artists perceived they were skilled in accommodating the unexpected; they valued curiosity, imaginative responses, open-mindedness, and the freedom to explore concurrent strands of interest' (ibid, p. 44). In that sense, these artists promote the notion of unpredictability in artistic practice and its facilitation.

For the purpose of this study it is useful to establish whether a clear understanding of the concept of creativity in photographic education would be more beneficial to students' creative development than the 'not knowing' of the notions of creativity and creative processes. These are questions which, if answered, may help to gauge whether unpredictability is indeed essential to creativity and, if so, which other features may be key to creativity, being creative and developing one's creative potential.

Views on creativity by researchers

Bearing in mind the above questions, it is worth considering some of the research presented in Robert Sternberg's *Handbook of Creativity* (1999) which does not offer a set of definitions of creativity but raises many 'questions concerning how people produce creative solutions to real problems' (Mayer, 1999, p. 459). In the closing chapter of the book Mayer reflects on the history of creativity presented and concludes that a widely spread consensus amongst the creativity researchers suggests that 'the defining characteristics of creativity are originality and usefulness' (ibid, p. 450). However, considering the following statements by some of the key researchers in the field of creativity, there appears to be a lack of clarity as to

whether these characteristics are used to describe the creative person, the creative process or the creative product. Sternberg and Lubart refer to the latter: 'creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful, adaptive concerning task constraints)' (1999, p. 3), whereas Boden talks about generating ideas: 'creativity is the generation of ideas that are both novel and valuable' (1999, p. 351) and Gruber and Wallace include the creative process and the creative person in their definition:

The creative product must be new and must be given value according to some external criteria. But we add a third criterion, purpose – creative products are the result of a purposeful behaviour – and fourth, duration – creative people take on hard projects lasting a long time.

(1999, p. 94)

It is worth pointing out that 'usefulness', described as one of the characteristics of creativity, has been replaced with 'value or valuable' in both aforementioned definitions. 'Value' is a term often associated with creativity, and one that plays a central role in Mihaly Csikszentmihalyi's 'systems view of creativity', discussed in detail in his book *Creativity: Flow and the Psychology of Discovery and Invention* (1996).

Creativity results from the interaction of a system composed of three elements: a culture that contains symbolic rules, a person who brings novelty into the symbolic domain, and a field of experts who recognize and validate the innovation. All three are necessary for a creative idea, product, or discovery to take place.

(ibid, p. 6)

Csikszentmihalyi suggests that creativity only occurs when all three actions take place: an individual (a) works within a particular culture or domain, (b) understands the 'language' of the domain and produces work which is novel to the domain and (c) presents the work to an expert of the field who judges whether the work is of 'creative value'. This definition of creativity works well in the context of education as it introduces the idea of a framework that

enables creativity to occur. Furthermore, it highlights the influence of knowledge and understanding of a particular domain on the development of a creative product. His definition, however, seems to limit the possibilities of exploring the notion of creativity within a domain to the judgement of specialists already established within that domain, not considering the importance of the creative process as such, or the role of the individual in this process, but focusing on the value of the creative product.

The issue of value and creativity has been contested by Robert Weisberg in his book *Creativity: Understanding Innovation in Problem Solving, Science, Invention, and the Arts* (2006). Weisberg disagrees with the idea of 'including the value of a product as part of a definition of creativity'. He argues that 'value changes over time and sometimes a product is not valued when it is produced but much later' (ibid, p. 64). So, by associating value with creativity, the criteria of creativity are reduced to the value of the product rather than considering its novelty and process. This view could be seen as counter-productive for exploring the creative potential of a person producing a creative product as it may, in fact, only be of value to this person and their creative development. As Weisberg pointed out: 'All that matters is that the product be novel for you [the creator] and produced intentionally' (ibid, p. 66).

Amabile's definition of creativity adds a dimension which describes the way in which such intended production, or in her words 'task', may be approached:

A product or response will be judged as creative to the extent that (a) it is both a novel and appropriate, useful, correct or valuable response to the task at hand, and (b) the task is heuristic rather than algorithmic.

(1996, p. 35)

The emphasis here is on the distinction between a 'heuristic' and an 'algorithmic' task. Amabile explains that 'algorithmic tasks are those for which the path to the solution is clear and straightforward, ...heuristic tasks are those not having a clear and readily identifiable path to solution' (ibid). In that

sense, the 'path to solution' is the process the creator undertakes in order to achieve a goal, this process can be creative or instructive. If the task is algorithmic, a set of instructions is followed to achieve a defined goal, a process that does not require creativity. If the task is heuristic, however, there is no defined goal, and it is through research, experiment and discovery that the path and its goal will be identified. This process is unlikely to follow a linear pattern but may reveal twists and other unexpected turns during the development of an idea or product, hence showing characteristics of creativity.

This way of approaching a task resembles the notion of unpredictability described earlier in this chapter in relation to artistic practice, particularly the idea of 'the freedom to explore concurrent strands of interest' (p.27), which then leads to Arthur Koestler's observations concerning the creative act presented in his seminal book *The Act of Creation* (1964):

...displacement of attention to something not previously noted, which was irrelevant in the old and is relevant in the new context; the discovery of hidden analogies as a result of the former.

(ibid, p.119)

In order to discover these 'hidden analogies' it is important to be fully immersed in the creative act and utilise prior knowledge and understanding of the subject and the contexts in which the act takes place. Creativity researchers have debated the relevance of 'existing knowledge' for creativity widely. However, Scott (cited in Cropley & Cropley, 2008, p. 358), produced a convincing list of creativity researchers who consider existing knowledge as critical to creativity. Researchers included were: Albert, Amabile, Cambell, Chi, Feldhusen, Gardner, Gruber, Mednick, Simonton, Wallas and Weisberg (op cit). Koestler also suggested that existing skills and knowledge, both conceptual and practical, are essential to the creative act as this provides a starting point: 'the creative act is not to create something out of nothing; it uncovers, selects, re-shuffles, combines, synthesizes already existing facts, ideas, faculties, skills' (1964, p. 120).

There appear to be strong resemblances between Koestler's list of attributes of the creative act and Barron's 'ingredients of creativity':

1. Recognising patterns
2. Making connections
3. Taking risks
4. Challenging assumptions
5. Taking advantage of chance
6. Seeing in new ways

(1988, p. 78)

Both Barron and Koestler are more concerned with the creative process and the person engaging in it than with the creative product. In other words, they are concerned with 'putting creativity to work' (ibid, p. 76), with learning how to 'apply' (ibid) creativity in ways of developing and transforming ideas and products within an actual context as opposed to an abstract one and to learn from this process. This approach to studying creativity is of particular value to the research process of this thesis, with one area of investigation being 'how' creativity is facilitated, developed and applied through the learning of photography.

Applied creativity

The term 'applied creativity', introduced by Barron (ibid), sounds rather instrumental and may possibly have stronger associations with the practical application of photography than with the conceptual exploration of the use of the medium. Boden's idea that creativity can happen in three ways, 'making unfamiliar combinations of familiar ideas, exploring conceptual spaces, and transforming these spaces' (2004, p. 4) may be more appropriate for the nature of this study, which considers both practical and conceptual creative processes.

Combining, exploring and transforming are activities that could be carried out conceptually as well as practically, thus being part of a process which either produces an abstract idea, a tangible product or a combination of both.

Combining, exploring and transforming are also commonly used terms within

education, particularly as part of the processes of learning (N. Jackson & Sinclair, 2006). The challenge then would lie in how to translate 'conceptual spaces' into a particular learning environment, whether practical or conceptual, in which people are being creative. In an earlier version of her paper, Boden explained that 'the dimensions of a conceptual space are the organising principles that unify and give structure to a given domain of thinking' (1998, p. 26). In that sense the dimensions of a conceptual space, the space or structure for creative processes, are shaped by the interactions between a particular culture, an environment and activities which are taking place within this space. Educational settings have the potential to provide the foundations for structures such as this in the way courses are designed, modules are taught, lessons are put together and assignments are written. Thus all of these parts potentially complement each other and may form one entity, encouraging participants to make connections between each aspect. Creativity is fundamental to this process.

Understanding creativity in education

Educational perspectives

Until now, the focus on creativity in this chapter has mainly been discussed from a psychological viewpoint. For the central theme of this study, however, it is imperative to look at creativity from the perspective of education. In recent years, several definitions and concepts of creativity in education have been developed.

The National Advisory Committee on Creative and Cultural Education (1999), for example, defines creativity as: 'imaginative activity fashioned so as to produce outcomes that are both original and of value' (1999, p. 30). Whilst the creative process is commented on as 'imaginative activity' [defined by the authors as 'serious play directed towards some creative purpose' (ibid, p. 31)], the emphasis seems to be on the outcomes of this activity, which are to

be original and of value. As discussed earlier, value in relation to creativity is a contested issue. Besides Weisberg (2006), Howard Gibson also questions this issue in his paper *What creativity isn't: the presumptions of instrumental and individual justifications for creativity in education* (2005). He points out that 'in the absence of any sustained epistemological or ethical discussion of what are valued goals, creativity appears supine to the needs of the economy with education policy at heel...' (ibid, p. 156), suggesting that the concept of creativity in education is reduced to being an instrument that serves current demands in educational policy. In the report mentioned earlier *Rhetorics of Creativity* (2006), Banaji and Burn make a similar observation:

The future of a competitive national economy is seen to depend, in this rhetoric [Creativity as economic imperative], on the knowledge, flexibility, personal responsibility and problem solving skills of workers and their managers... This rhetoric annexes the concept of creativity in the service of a neo-liberal economic programme and discourse.
(ibid, p. 56)

Knight's view on creativity differs noticeably from the former: 'creativity constructs new tools and new outcomes - new embodiments of knowledge. It constructs new relationships, rules, communities of practice and new connections – new social practices' (cited in Kleiman, 2008, p. 209). Here, the emphasis is placed on the educational environment as a community within which new knowledge and practices emerge through interaction between people and the creative processes in which they engage, thus associating the idea of collaborative creativity with learning. Sawyer compares this kind of learning community with 'classrooms inspired by social constructivism, where children work together to collectively construct their own knowledge – as in both neo-Piagetian approaches and Vygotskian approaches'. He continues: 'In true discussion, the topic and the flow emerge from teacher and students together; the outcome is unpredictable, just as in theatre improvisation' (2004, p. 13).⁷ Concepts of communities of practice and learning environments have been addressed in literature on social

⁷ Ideas of social constructivism in relation to creativity will be revisited, for detailed discussion, in the context of the case study of this thesis (Chapter Four and Five).

theories of learning for many years. Etienne Wenger is one of the pioneers of research in this field and coined the term 'Communities of practice' (1991). In his view, individuals take an active role in these communities and learning occurs through social participation (1998, p. 4). Due to the studio-based practice within art and design disciplines, such communities are assumed to exist, yet teachers may benefit from the consideration of social learning theories in order to understand better the working methods adopted in their own communities and perhaps learn from domains other than the arts.

The key features of creativity that have emerged from the empirical work by Jackson and Shaw as part of the *Imaginative curriculum* (2006) are somewhat different again. The authors draw particular attention to *being* creative:

- Being imaginative.
- Being original.
- Exploring for the purpose of discovery.
- Using and combining skills.
- Communication – this is integral to the creative process.

(ibid, p. 90)

These characteristics could be seen as a summary of a creative process and by doing so are not dissimilar to Koestler's (1964) description of the creative act, especially when noting one of Jackson and Sinclair's further thoughts on creativity:

But creative abilities do not stand in isolation. They have to be blended and connected to other sorts of ability and capacity. Indeed, the act of blending and utilising different abilities, knowledge and capacities to achieve a goal is in itself a creative act.

(2006, p. 123)

In this assertion existing knowledge and skills are highlighted as factors that contribute to the creative act. Making connections between these factors may become part of the creative process, enabling new, unexpected, previously hidden abilities or knowledge to emerge.

This brief review of various definitions of creativity in education leads to the conclusion that scholars in this field are more concerned with the creative process or being creative than with the creative person or product as such. The reasons for this tendency remain unclear. However, it could be suggested that the developmental processes of learning and teaching, as opposed to the final outcome or product, defines education. If this is the case, Cropley and Cropley's description of creativity in education in *Resolving the paradoxes of creativity: an extended phase model* (2008), may be the most succinct of all reviewed so far in this thesis:

Teaching and learning processes based on recognizing problems and discrepancies in accepted content, looking at things in a different way, making unexpected links among apparently discrepant elements of information, developing your own solutions to problems and similar processes, rather than simply memorising prescribed content and accurately regurgitating it upon demand or mastering and constantly reapplying standard methods.

(ibid, p. 355)

The processes referred to here describe a deep engagement, if not immersion, in learning that may lead to a transformative experience and/or an unpredictable outcome. In relation to artistic practice, Pringle describes this process as 'an engagement in creative investigation and problem solving, which culminated in the manifestation of their [artists'] conceptual preoccupation: the artwork' (2008, p. 43). Cropley and Cropley's definition also implies that the learner takes ownership over the process of learning, therefore becoming an independent learner. Several researchers within the field of creativity have developed models of the creative process to understand the motions through which an individual may go through (cited in Torrance, 1988, p. 45), hence the relevance to this thesis. Further insight into the creative process may help to clarify how the learning and teaching processes described above could be facilitated in educational settings.

Learning and the creative process

One of the earliest models of the creative process is attributed to Graham Wallas, who divided the act of creative thinking into four phases⁸. These are: 'preparation' (accumulate knowledge and define problem), 'incubation' (divert thoughts or work on other subjects), 'illumination' (possible results become apparent) and 'verification' (test apparent solutions) (1926, p. 10). His model shows how the thought processes that underpin activities may help to control the development of an idea or product. The process begins with knowledge or possibly some other tangible entities which the creator investigates, studies or inspects. During this phase, a problem or issue may surface, of either a conceptual or a practical nature. This problem is then left aside for an unspecified period. In the meantime, the creator may either ponder over other problems, works or thoughts, or take a break. Subconsciously solutions to the initial problem can emerge or develop. Once that stage has been reached, the knowledge gathered during the preparation phase can be applied to verify the outcome. The creative process may not always proceed in this exact order and phases may be repeated, revisited or carried out in a different order. As noted earlier, heuristic approaches to tasks or problems are common in the creative act, whereas linear patterns of working or thinking are less usual. In *That's the way I see it* (Stangos, 1993), David Hockney offers an insightful example of the various, diverging stages of the creative process by describing his continued thinking about photography, making collages, and using an analogue film camera instead of a Polaroid camera:

I took a lot of pictures of the Grand Canyon when I went there...I used a little Pentax camera. When we got back I put them all together and realized that this was a whole new area to explore. Because I hadn't seen the image immediately – as I would have done if I'd used a Polaroid – I had to remember what I had done. Memory became an important part of this process.

(ibid, p. 98)

⁸Initially Wallas proposed seven phases: 'encounter', 'preparation', 'concentration', 'incubation', 'illumination', 'verification' and 'persuasion', but modern discussions refer only to the four phase model. (Cropley & Cropley, 2008, p. 361).

He developed the idea further and got inspired by the board game Scrabble because 'Scrabble itself is a bit like a collage', and continues:

And when I pieced the pictures together I took off again because I realized I was opening up something else, that here was a marvellous narrative; what I was doing became clearer: I was using narrative for the first time, using a new dimension of time.

(ibid, p. 97)

It was Hockney's knowledge of various arts practices such as Cubism that enabled him (a) to articulate and understand what he had achieved and (b) to realise that what he had developed would find recognition in the arts world. The external verification followed a couple of years later through the publication of his book *Cameraworks* (Weschler, 1984).

Hockney's way of working with photography demonstrates two phases of Wallas's model of the creative process particularly well: preparation and illumination. The preparation phase comprises the act of taking photographs, and also refers back to the knowledge and experiences Hockney had gained from prior working with the medium. The illumination phase entails the exploration of the material produced and the way in which he found inspiration in something very loosely related to the process of making a collage. Torrance claims that almost all of today's creativity training models are based on Wallas' model (Torrance, 1988). Still, it is worth acknowledging the existence of other models of the creative process, showing slight variations from Wallas's, such as Osborn's seven-step creativity process involving 'orientation', 'preparation', 'analysis', 'ideation', 'incubation', 'synthesis' and 'evaluation' (1953) and probably the most recent model by Cropley and Cropley, also consisting of seven phases 'preparation', 'activation', 'cogitation', 'illumination', 'verification', 'communication', and 'validation' (2008).

For the purpose of developing a model of the creative process in response to the research questions of this thesis, Wallas's four-phase model provides

one of the bases upon which to develop phases specific to the creative process in photographic studies. How his model is applied to the methodology of this study as well as to the development of a conceptual framework will be explained in detail in the next chapter.

Another inspiration for a model of the creative process specific to photographic studies is Amabile's work on 'components of creative performance' (1996). Amabile divides creative performances into three components: (a) 'domain-relevant skills', (b) 'creativity-relevant skills', and (c) 'task motivation' (ibid, p. 84). According to Amabile, 'domain-relevant skills' refer to 'knowledge about the domain', 'technical skills required' and 'special domain relevant "talent"' (ibid). The second category, 'creativity-relevant skills', includes appropriate cognitive style, implicit or explicit knowledge of heuristics for generating novel ideas, and conducive work style (ibid). The third category, 'task motivation', comprises 'attitudes toward the task' and 'perceptions of own motivation for undertaking the task' (ibid).

Wallas's four-phase model and Amabile's first two categories 'domain-relevant skills' and 'creativity-relevant skills' form a useful relationship. As illustrated in Table 1, the domain-relevant skills include skills required in Wallas's preparation phase as well as in the verification phase. The creativity-relevant skills comprise skills that are useful across all four phases.

Amabile/Wallas	Preparation	Incubation	Illumination	Verification
Domain-relevant skills:				
- knowledge about the domain	X		X	X
- technical skills required	X			X
- special domain relevant talent	X			X
Creativity-relevant skills:				
- appropriate cognitive style	X	X	X	
- implicit or explicit knowledge of heuristics for generating novel ideas	X	X		
- conducive work style	X	X	X	X

Table 1. Locating Amabile's components within Wallas's four-phase model

Amabile's third category 'task motivation' has not been included in the Table 1. The third category is concerned with the psychology of an individual, rather than the creative process as such. Whilst I recognise attitude and self-perception as important and influential factors on the creative process, the size of this study does not allow a full justification of the vast field of research into psychological influences on creativity, including behaviorists (Skinner, 1950; Thorndike, 1913), humanistic (Maslow, 1954; Rogers, 1961) and psychoanalytical (Freud, 1949) theories. I consider this strand of the research for investigation in future studies.

In the context of the study of photography both of Amabile's first two categories are central to understanding the creative process that is taking place. Domain-relevant skills in photography relate to the areas in which photography can be contextualised, covering cultural, historical, institutional and political spheres, as well as the arts, sciences, commercial and editorial sectors. In relation to the photography course which is the subject of this research, Amabile's term 'knowledge of the domain' refers to the expectation that students will develop an understanding of the traditions, conventions and

visual languages related to the areas mentioned above. Additionally, students will be expected to embrace the theories of other disciplines. The theoretical course content draws on areas such as sociology, psychoanalysis and philosophy, thereby encouraging students to conceptually underpin their coursework with broader theories. Technical skills play a principal role in translating the 'knowledge of the domain' into the making of images. Developing competency in studio and location practices, digital imaging and analogue processes are essential skills for students to successfully translate such theories and knowledge gained into coherent and meaningful bodies of work.

In the study of photography creativity-relevant skills enable students to understand and apply the aesthetics of images in both design and symbolism, informed by the intended domain of the field. Ways of generating ideas often develop through practising the medium and by experimenting with various different techniques. Each domain in which a photographer works has its own relevant means of production. It is through researching and working in those different domains that students discover the most beneficial methods of approaching a topic, theme or assignment.

Prior to further discussion of the development of a model of the creative process in the context of the study of photography, it will be useful to take a closer look at the nature of such study in higher education.

Photographic studies in higher education

Current positions

The study of photography in higher education has become popular in recent years. There are now around 150 undergraduate programmes in the UK covering photography in one form or another. The focus within the discipline ranges from simply 'Photography', through 'Fine Art Photography' to 'Marine and Natural History Photography'. There are also various opinions of what it

means to study photography at degree level, dominated by two main ideas. On the one hand, government initiatives such as Skillset⁹ favour photographic education that prioritises the training of skills and application in line with the demands of the photographic industries:

With *Higher Education* now providing a significant route into the sector, it is essential to build *collaborative partnerships* between industry and educators, to ensure that courses reflect current industry practice.

(Skillset, 2007-08)

On the other hand, educators of photography within academic institutions prefer curricula which give equal weight to technical skills appropriate to photographic practice and production and to an understanding of the context and meaning of photographs (Lange & Golding, 2007). In *The Photographic Reader*, for example, David Bate posed the question: 'after all, is not the function of education to develop an understanding and knowledge of the role of images within culture?' (2003, p. 441), while after more than ten years of research into photography in education, Nick Stanley concluded in his paper *Young people, photography and engagement* 'the resistance to critical practice within technical photographic education has hardly been dented' (2003, p. 142).

Divergent views on the purposes of higher education are not unique to the study of photography. Over the last two centuries, some claimed that 'it is not a place for professional education, but its object is to make capable and cultivated human beings' (cited in Silver & Brennan, 1988, p. 8). Others emphasised that 'the universities had always been centres of professional education and specialization, and argued for a creative tension between the pure and the applied, the concrete and the theoretical, the rationalistic and the empirical' (ibid, p. 11), or simply, to support the 'marriage of action to thought' (Whitehead, 1932, p. 74).

⁹ The Sector Skills Council for Creative Media in the UK.

The idea of the integration of theory and practice is part of an ongoing debate in art and design education, the study of photography not excluded. Photographic theory in this context is not meant to be understood as the technical theory of photographic optics, chemical and digital procedures or camera functions. It refers to the theory that provides the foundations for a social and cultural critique of photography and explores meaning in photographs. A central part of the theory/practice debate focuses on how this integration can be facilitated through teaching in art and design disciplines. The recent CLTAD¹⁰ conference, *Enhancing Curricula: using research and enquiry to inform student learning in the disciplines*, provided ideas for such integration. Barnett and Shinkle's presentation, for example, drew on reflections on action research carried out in the context of an undergraduate photography degree programme, exploring 'integrated methods of teaching and key theoretical skills and practical skills' (2008). During their research the authors developed a 'learning triangle', highlighting three modes of learning: linguistic, tacit and social (ibid, p. 498) which, according to the authors, in combination support the 'use' of theory in practice-based disciplines:

The immediacy between material being taught and actively put into practice was successful in embedding complex concepts in students' minds, and encouraged them to think of photographic theory as both a critical and creative tool, and to develop skills in research and practice that balance informed and intuitive approaches to learning.

(ibid, p. 509)

This perspective on the integration of theory and practice meets the views of the Quality Assurance Agency (QAA, 2008b) which recognises photography as a discipline that crosses various subject groups, advancing the boundaries of influential theories beyond the subject-specific. Other subject groups include, for example, communication, media, film and cultural studies, art and design and history of art. This recognition offers degree programmes some flexibility in writing their programme specifications and allows for the

¹⁰ Centre for Learning and Teaching in Art & Design

blurring of boundaries within the subject areas. The QAA asserts, however, that:

Degree programmes within communication, media, film and cultural studies share the aim of producing graduates who have an informed, critical and creative approach both to understanding media, culture and communications in contemporary society, and to their own forms of media, communicative and expressive practice...they [these programmes] emphasise that the fostering of employability requires the development of students' creative, intellectual, analytical and research skills.

(ibid, p. 7)

For the study of photography this statement suggests that the learning of the discipline is not reduced to technical skills acquisition, but it is enhanced through developing understandings of photographic techniques in relation to the production of images and their location in a broad cultural framework. Furthermore, it suggests that a discipline such as photography acts as a vehicle for learning skills that are subject-specific, but might be transferable beyond photography. In that sense, students are learning through photography.

Learning through photography

I expected to be taught how to take photographs; instead I was taught how to see - an enlightening experience!¹¹

Photography is a medium that opens up a world of experiences beyond mere technological knowledge. It has potential to enable people to grow, understand themselves and others, and supports the development of new ways of seeing through understanding connections with culture and society. The process of seeing is different for each individual, as it is influenced by the photographer's, or viewer's, own knowledge, background and cultural experiences. Thus, the process of seeing is the individual's interpretation of

¹¹ Comment from a past student of the course that is being investigated for this study.

the visual information communicated through the photograph (Lange & Golding, 2007).

Students studying photography learn how to construct and control the meaning of photographs; how to communicate their ideas and concerns through the choice of subject and ways of capturing it. Students learn about photography as a visual language, understanding visual symbols and codes that create meaning in their images. The ability to construct meaning in images and decode them is referred to as being 'visually literate' (Raney, 1999). In her extensive curriculum guide *Focus on Photography* Cynthia Way described visual literacy skills:

When we say that students are “seeing photographically” and have developed “visual literacy skills”, we mean that in their photographs and responses, they demonstrate that they have developed the perceptual and thinking skills to understand how the visual image communicates meaning.

(2006, p. 6)

Furthermore, visual literacy has to do with critical knowledge that includes 'awareness of the intentionality of how an image is constructed in order to offer a particular response or experience' (Abrahmov & Ronen, 2008, p. 4). In that sense, critical knowledge refers to the context in which photographs are produced and seen, whether the photographer is making a statement, or is challenging preconceptions and whether ethical, social and political issues are raised through this process.

Illeris's notion of social learning and 'the four axes characterised as action, reflection, communication and negotiation' (2002, p. 135) are central to this process and prevalent in photographic learning¹². Action refers to approaching the subject and the taking of the photograph; the moment of deciding what is inside and what is outside of the frame, which position to take the photograph from and how the light should be applied to add to the

¹² This idea was first discussed in *The Interactive Photograph* (Lange & Golding, 2007) but has been developed further in this study.

meaning of the image. Once processed and printed, this photograph becomes an afterthought on a certain event or concern, which on reflection provokes thoughts, and forms connections between the actual event and the photograph of it, raising issues of representation and communication.

Communication takes place at more than one level. Firstly, it concerns the message that is communicated through the image and secondly, the debate initiated when the image is presented in its intended context. During discussion new interpretations and thought processes develop, due to the different experiences that each student brings. This is where the process of negotiation begins, or as Plucker *et al.* called it the ability 'to cultivate creative aptitudes, e.g. tolerance for ambiguity and flexibility in thinking' (2004, p. 91). Each student, depending on previous experiences and their willingness to engage, will experience this process differently; it is therefore an individual learning process that emerges from engaging in photographic practice and the creative process.

This notion of the individual learning process bears resemblance to Jackson's view on the purpose of higher education:

Higher education is a place where we try to understand the world in all its rich complexity and glorious detail, but it is also a place where we prepare students for a lifetime of working with their own complex issues and problems.

(Jackson *et al.*, 2006, p. 6)

In that sense, studying a medium such as photography provides a platform for developing a questioning mind through making connections between two different worlds: one as seen through the viewfinder of a camera and the other as experienced in students' lives, thus developing their creativity. Other researchers who studied the potential of art and design education, or the study of photography in particular have made similar claims regarding the development of creativity. Richard Hickman, for example, used the term 'educating for transgression' (2003, p. 89) to describe meaningful art and

design activities such as 'resisting the status quo, challenging orthodoxies and rule-breaking' (ibid). In *Focus on Photography* (Way, 2006), Cynthia Way states:

Studying photography can be a conduit to a further understanding of various cultures and different ways of seeing, believing, and thinking. Photography broadens our conception of ourselves and the world.
(ibid, p. viii)

Both claims use characteristics of creativity, such as exploring differences and challenging conventions, to underpin the effectiveness of teaching art and design subjects. The following section offers examples of how, through the study of photography, creativity and related processes may be utilised and directed. Furthermore, the section also discusses what structures in the learning environment may be required to build a platform which supports the development of students' creativity.

Photography and the creative process

Possible directions

Earlier in this chapter Barron's 'ingredients of creativity'¹³ were introduced as a way of thinking about how to apply creativity to the development of an idea or a product. Having just considered the idea of learning through photography, it may be useful to apply these ingredients to the study of photography with the attempt to develop an understanding of the relationship between photography - both practical and conceptual - and creativity.¹⁴

Recognising patterns relates to learning about conventions within different genres of photography; photographs are taken from a particular viewpoint

¹³ 1. Recognising patterns, 2. Making connection, 3. Taking risks, 4. Challenging assumptions, 5. Taking advantage of chance and 6. Seeing in new ways. (1988, p. 78)

¹⁴ This idea was first discussed in *The Interactive Photograph* (Lange & Golding, 2007) but has been developed further in this study.

and for a particular purpose. For instance, the construction of meaning within a classical documentary photograph differs from that of a fashion shot. In most cases the former aims to convey a social statement as observed by the photographer, whereas the latter either simply tries to sell a product or, on an ideological level, attempts to persuade the viewer into aspiring to a lifestyle represented in the image. Thus, iconic, symbolic and semantic levels of meaning are applied accordingly.

On the practical side, patterns may emerge through experimentation and practice with the medium, particularly with skills concerning the control of the aesthetics of a photograph such as composition, framing and lighting. The more students practise these types of skills the better photographers they become. Weisberg calls this development of expertise 'deliberate practice: the repetition, often under the supervision of a teacher or coach, of specific elements of skill that the individual wishes to improve' (2006, p. 174).

Making connections is found in both the technical and conceptual sides of photography: technically, it can simply relate to the relationship between aperture, shutter speed and light intensity; conceptually it alludes to symbols and signifiers within a photograph, and how this relates to one's own culture or life experience. Knowledge and understanding of using the medium, as well as a critical awareness of the different contexts in which photographs are seen, and analytical skills such as visual literacy, are essential to making connections between all aspects in the creative act. Koestler coined the term 'biosociative process' to describe the complexity of the thinking that takes place in such a creative act. According to him, during such a process 'thinking takes place on more than one plane...and the balance of both emotion and thought is disturbed...' (1964, p. 35). The creator of a photograph may enhance its meaning through making connections between the emotional and intellectual stimuli.

Taking risks and *challenging assumptions* apply, for example, to recent developments in the construction of advertising campaigns which employ

photographic and digital techniques specifically to construct meaning. Campaigns such as the much debated Benetton advertising from the early 1990s (Ramamurthy, 2000) or the recently 'deemed too shocking' campaigns by charities such as Barnardo's and the National Society for the Prevention of Cruelty to Children (NSCCP) (Blackburn, 2006; Wnek, 2003). In the case of Benetton, well-known documentary images of, for example, David Kirby dying of AIDS (Ramamurthy, 2000, p. 211) were used to promote the company's products. By crossing the boundaries of using real-life images in the imagined world of advertisement, ethical and moral questions were raised and many consumers expressed their hostile views by boycotting the label. Barnardo's challenged assumptions through exploring and playing on stereotypical representations of real life issues such as substance abuse or homelessness, questioning society's prejudice towards marginalised members of the community.

Taking advantage of chance applies to either exploring an opportunity to photograph something unusual or rare, or embracing elements of serendipity and surprise when they occur, thus being open to new experiences. This approach bears a resemblance to Boden's idea of the creative process as 'exploring and transforming conceptual spaces' described earlier in this chapter. In this sense, exploring unknown territory through the viewfinder of a camera may produce unexpected results which have the potential to produce transformations in the photographer, the spectator or in the context for which the photograph is intended. A good example of such transformation may be the work of Lewis Hine, an American sociologist and photographer, who was dedicated to using his images for the cause of social reform in the early Nineteenth Century (Price, 2006).

Seeing in new ways can relate to observing the world through a viewfinder and looking at it from different viewpoints. In the case of studying photography in an educational setting, further perspectives may be added by meeting a diverse range of students and staff, who bring their own cultural experiences with them. These experiences are shared during discussions of

work in tutorials, seminars and critical reviews, all of which encourage students' critical engagements with the medium. As observed by Stanley, 'the significance of democratic and collaborative creative practice is that it opens up to young people the dynamic possibilities that are inherent in photographic practice and understanding' (2003, p. 141). These possibilities include the activities described earlier under 'applied creativity' as combining, exploring and transforming (p.31), inspired by Boden's three ways of creativity. The following statement seems most appropriate regarding ideas on 'seeing in new ways', creating possibilities and transforming conceptual spaces:

The ability to see things from different perspectives, especially novel or unusual perspectives, and the willingness and ability to change one's perspective – to reformulate a problem on which one is making little progress – have been stressed by many investigators as important aspects of creative thinking.

(cited in Nickerson, 1999, p. 410)

He continues:

It is possible to increase one's own curiosity about the world simply by training oneself to be more observant, to pay closer attention to aspects of daily experience to which we tend to be largely oblivious.
(op cit)

As explained above, photography is an ideal medium for encouraging people to see things from different perspectives and to challenge established ways of seeing. The versatility of the medium invites the creator to explore possibilities, expand the boundaries created by traditions and the visual language of the field and to transform perceptions of both the creator and the spectator. For the purpose of this thesis it is of value to identify whether the development of the knowledge and the skills, both practical and conceptual, to use photography in such creative way follows a certain pattern. And if so, whether this pattern is part of a more general framework for creativity.

Developing a framework for creativity

Summary

In this review I have covered some of the many discourses of creativity relevant to this thesis, and looked at the differing definitions of creativity by researchers from various perspectives, including that of psychology and education. I have considered the creative person, product and process and investigated theoretical frameworks for creativity developed by other scholars. I have included discussions of photographic studies at degree level in the UK and highlighted the significance of creativity as part of the curriculum for the study of photography. The following key points have emerged from the literature review and are of relevance in developing an initial framework for understanding the notions of creativity in the context of the study of photography.

Having considered the various definitions and theories of creativity, it is essential to make a distinction between the creative product, the creative process and the creative person when developing a framework for creativity. I have identified that defining the creative process is of priority to creativity researchers in the field of education. The focus in their definitions lies on developing students' creative potential and on the type of knowledge and skills relevant to being creative. As pointed out in the review, Amabile's 'Components of creative performance' (1996) are a useful resource in developing an initial framework, as she has broken down the creative performance into different types of knowledge and skills. This breakdown helps to identify which knowledge or skills are relevant for each stage of the creative process in the study of photography, using Wallas's four-phase model (1926) as a base of possible phases. Amabile's categories help to introduce the skills that are relevant to working within each phase.

Another useful addition to the initial framework is Barron's (1988) list of 'ingredients of creativity' which demonstrates activities through which Amabile's skills could be used during Wallas's phases. The section 'Possible

directions' on p. 46 offers insightful examples of such activities specific to photography.

Particular learning environments encourage students to construct new knowledge collaboratively as part of their learning process, thus referring to concepts associated with social constructivism. As the learning environment is one of my main concerns in this thesis, it is worth exploring this concept further.

I have described photography as a vehicle for learning and how an individual learning process emerges from engaging in photographic practice and the creative process. The initial framework will help to identify whether this process is specific to the study of photography, and if so, whether the specifics of this process can be translated to a subject other than photography.

The next chapter

The initial framework for creativity is further developed in the next chapter with the aim of providing a structure that guides the analysis of the findings of this study. Within the framework, the creative process might be demonstrated as a developmental process, in which ideas and practices combine and students make new and unfamiliar connections. Through applying the concept of this developmental process to the methodology of this thesis, new ideas of pedagogies for creativity may emerge.

3. Developing the research project

Introduction

The research process of this study is based on my prior research into the potential for creativity in art and design education and creativity and educational theories relevant to this thesis. The research process is partly shaped by Amabile's idea of a 'heuristic approach to a task' (1996, p. 35), as discussed in Chapter Two. This means that rather than having clearly defined goals, the primary aims of the research process were to 'identify the path and its goal through research, experiment and discovery' (ibid). This approach simulates the creative process, described as constantly evolving, flexible and changing, allowing for new knowledge to emerge (Gruber & Davis, 1999). This research project, including the methods, the processes of data collection and methodological issues of sampling and transcription, could be described in similar terms. I have chosen qualitative methods which are flexible in their design and allow for connections to be made within each method and between them (Creswell, 2007), thus mirroring characteristics of the creative process as introduced in Chapter Two.

In this chapter, I explain how the qualitative methods used enabled me to emulate some of the modes of communication and approaches to learning and teaching already employed on the course chosen as the case study for this research. I also describe what type of data emerged from this process and how it was analysed in relation to the theoretical framework of this thesis. Methods used include semi-structured discussion groups, observations of taught sessions and the use of students' coursework to generate discussions about their creative development. All of these approaches are described in detail later in this chapter. In the following chapter, I attempt to describe how the epistemology, method, methodology and theory of this study contribute to 'meaning making' and by way of this produce new knowledge about creativity in the context of photographic education.

Defining the context

Initial inspirations

The outcomes of my Institution-Focused Study (IFS), *Potential for Creativity: Exploring the relevance of creative skills in adult learning* (Lange, 2006) influenced the research process of this thesis in several ways. The study of the literature around creativity and the various interpretations of creativity highlighted the fluidity of the different approaches to understanding its significance. Creativity researchers tend to focus on the creative product, the process or the person. Only a few researchers investigate crossover between the three aspects (Csikszentmihalyi, 1996; Weisberg, 2006). This fragmented approach to understanding creativity is not dissimilar in art and design education. Whilst creativity is considered to be a core concept (Dineen, 2006; Mottram *et al.*, 2008) in this field, the research does not consider how creativity is facilitated in the study of art and design disciplines and how it manifests itself in the art and design curriculum. With this thesis, I aim to shed light on both aspects and to contribute to the understanding of creativity in art and design education.

The research for my IFS generated a list of creativity related skills including, problem solving, generation of ideas, critical thinking and reflection. These skills were explored further in the context of photographic education and findings are summarised in *The Interactive Photograph* (Lange & Golding, 2007). One conclusion from that particular study is that photography as a medium carries potential for students to learn about and engage with the world creatively. The medium offers possibilities of teaching students, not just to use a camera and take photographs, but also to advance their creativity through exploring new and unfamiliar ways of engaging with photographic practices. This notion of learning through photography, defining learning of photography not as a one-dimensional process in which information is absorbed, but as a complex, creative, productive and transformative act during which new ways of thinking and practising are developed, is worthy of further exploration and analysis in this thesis.

My epistemological position in this study is informed by the research processes and findings of my prior research and the theory that photography is an active medium which opens up a world of experiences beyond mere technological knowledge: it has the potential to enable people to understand themselves and others, and supports the development of new ways of seeing through understanding connections with culture and society (Lange & Golding, 2007; Stanley, 1996). This view bears close resemblance to the theoretical framework of constructionism, as described by Crotty:

All knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interaction between human beings and their world, and developed and transmitted within an essentially social context.

(1998, p. 42)

Learning through Photography explores the meanings of the notions of creativity constructed by students and tutors as students engage in the study of photography. Participants' interpretations of creativity and students' creative development relate to the interactions between the personal, social and creative dimensions of learning within their educational settings. These forms of interaction are an intrinsic part of the learning process as described by Cropley and Cropley (2008), discussed in the previous chapter. Applying Cropley and Cropley's ideas of the learning process to this study, students would be encouraged to immerse themselves in developing understandings of photographic techniques in relation to the productions of images and their location in a broad cultural framework. I suggest that one aspect of this learning process is to make connections between the different perspectives, views and issues that students are exposed to and to reflect on how that which emerges from making these connections transforms students' own creative processes.

The idea of making connections between different perspectives, views and issues can also be applied to the research process of this study. Michael Quinn Patton (1990), for example, advocates the idea that the art of analysis

in qualitative inquiry depends on a balance between critical and creative thinking. He suggests that themes such as 'openness to multiple possibilities, generation of options, exploration of a variety of directions and possibilities before focusing on details and use multiple stimuli' provide guidance for creative thinking (ibid p. 434). Patton's proposed approach to qualitative inquiry exhibits parallel ideas about creativity introduced in the previous chapter. These include, most notably, Amabile's second component of creative performances, 'creativity-relevant skills' (1996, p. 84). This component features, amongst others, a 'cognitive style characterized by a facility in understanding complexities and an ability to break set during problem-solving' (ibid, p. 88). Both of these characteristics also resemble Barron's attributes listed in 'ingredients of creativity', particularly 'making connections', 'taking risks' and 'seeing in new ways' (1988, p. 78).

In summary, the common feature between Amabile's, Barron's and Patton's ideas is the heuristic nature of their proposed approaches to an inquiry, problem or task. In relation to a qualitative inquiry, such as this study, being of heuristic nature suggests that, the methods used are flexible and of multiple format, and that the outcome of the study is not pre-defined and develops through the type of data that emerges from the fieldwork. This developmental process includes the interpretation and analysis of the findings in relation to existing theories.

Insider researcher

To conduct this research, I selected a course on which I have been teaching for over ten years. The criteria for this selection were twofold. Firstly, the course aims to integrate practical training in photography with social and cultural theories embedded in the production and consumption of photographic images, thus making connections between the two elements. This approach to teaching photography provides a learning environment in which creativity may be encouraged to realise the integration of both elements, hence providing a suitable case study for this thesis. Secondly, the selection of this particular course provides me with opportunities to

investigate an area that concerns my own professional practice, and to shift the emphasis of my research in recent years from focusing primarily on the acquisition of creative skills (Lange, 2006; Lange & Golding, 2007) to understanding how these skills are developed whilst practising a particular creative discipline. Focusing on one course within a specific discipline as a case study allowed for an investigation into the concept of creativity, as well as inquiring about related processes and pedagogies that may contribute to the development of structures and strategies of a more creative curriculum.

Using one's own institution as a research setting presents several advantages and disadvantages to the researcher (Mercer, 2007; Robson, 2002). These advantages and disadvantages had to be considered prior to the research being carried out and addressed throughout the research process. Before describing the advantages (1) and disadvantages (2) that I experienced throughout this study, I shall define what 'insider research' means to me. For this, I draw on Sarah Pink's explanation of 'ethnography as a methodology' (2007, p. 22), published in her book *Doing Visual Ethnography*. She explains ethnography as 'an approach to experiencing, interpreting and representing culture and society that informs and is informed by a set of different disciplinary agendas and theoretical principles' (ibid). In that sense, undertaking 'insider' research is about more than choosing a method for collecting data; it is about setting up a framework for a process of creating and representing knowledge about the focus of the research based on the researchers own experiences. Pink concludes:

It [ethnography] does not claim to produce an objective or truthful account of reality, but should aim to offer versions of ethnographer's experiences of reality that are as loyal as possible to the context, negotiations and intersubjectivities through which the knowledge was produced.

(ibid)

It is important for the 'insider researcher' to make the research process transparent to participants, audiences and readers and be aware that prior knowledge, underlying personal bias and preconceived ideas can taint the

reliability and validity of the data collected (Sikes & Potts, 2008). However, as pointed out by Hammersley and Atkinson:

The aim is not to gather 'pure' data that are free from potential bias. There is no such thing. Rather, the goal must be to discover the correct manner of interpreting whatever data we have.

(1995, p. 131)

It is important for me as the researcher to understand how my position as tutor and colleague, my preconceptions of the course and the curricula and my presence in the field may have shaped the data and create the potential for biased findings.

(1) Advantages of being an insider researcher in this study:

One clear advantage lies in the strong rapport that might hold in pre-existing relationships between students and staff. Fontana and Frey (2000, p. 655) indicate that establishing rapport with participants as a researcher/interviewer is paramount. Similarly, previously established relationships provide opportunities for gaining access to participants and information that would not be passed on easily to an outsider (Robson, 2002). My relationships with students and colleagues prior to the research enabled me to gain trust and support for the research. Participation from both students and colleagues was voluntary. This may have added a deeper dimension to the data collected, as participants accepted my presence during practical and theoretical sessions, in the canteen during their lunch break, or even when passing in the corridor. Both parties demonstrated confidence in me as a researcher and were keen to participate in the study and to give their views on the subject of my research.

The study benefited from the support of the institution and all participants. For example, through having been granted some research funding towards my studies on the EdD programme, I was able to offer students and tutors a small incentive for their participation. This was either in the form of breakfast or lunch, depending on what time of day we settled for our discussion group.

This was clearly an advantage as I was relying on the good will of participants to give up some of their spare time. Furthermore, this gesture enabled me to create a relaxed context for the discussion groups and make participants feel at ease (Hammersley & Atkinson, 1995).

Another advantage of this study is the practical significance of the research for the course under investigation, as it is subject to re-validation in the current academic year. Senior management within the department and the School have agreed to consider any recommendations made as a result of the research in order to improve the course, reflecting the general appeal of this research and confidence in me as a researcher.

(2) Disadvantages of being an insider researcher in this study:

Being known to the participants and the immediate learning and teaching environment requires measures to minimise the effects of my position as tutor and colleague on the study. One measure put in place was relief from my teaching for the duration of the fieldwork. The remission provided me with a critical distance to the course and the students and enabled me to minimise issues of conflict concerning, for example, assessment of student work and participation in the research. However, this remission period may not have completely prevented students from perceiving me as their tutor. My position on the course may have swayed them to answer my questions in a way they imagined I wanted them to instead of revealing their actual perceptions of certain aspects of the course, the teaching or the course team. This perception might have been exacerbated by my recent position as admissions' tutor for this course during which most students would have met me in a formal interview situation.

Another disadvantage may have been my additional role as learning and teaching coordinator within the School under which the course is managed. This position offers opportunities to engender change in the learning and teaching within the School. However, some participants, particularly colleagues might have perceived my dual role as one with a conflict of

interest between (a) meeting Senior Management expectations and (b) supporting the course team of which I am part, with regards to the findings of this study. This conflict may have led some colleagues to control or monitor their level of disclosure (Sikes & Potts, 2008).

Research questions

Whilst reflecting on my prior research and identifying further readings around creativity, art and design education and the photographic curriculum, as well as considering my position as insider researcher and possible ways of shaping the research process, the central research question evolved:

How might creativity be understood in the context of photographic studies?

With the purpose of exploring this issue, I followed Creswell's (2007) advice and developed two sub-questions and three procedural sub-questions in order to, first, break down the central question into subtopics for investigations, and, second, indicate the procedure of the qualitative inquiry.

1. What are the key phases that students embark on in developing their creativity on this course?

2. What kinds of learning environments are conducive to students' creative development?

Procedural sub-questions:

1. How might students' creative development on this course be described? (Description of the case.)

2. What themes emerge from the case? (Analysis of the case material.)

3. How might these themes be interpreted within larger educational and creativity theories? (Lessons learned from the case study surrounded by the literature.)

How these questions were addressed and how the sub-questions were mapped to the central question is discussed in the following section.

Motive for research design

In order to answer the research questions that are of concern to this thesis, I decided to collect data by using two methods: discussion groups and observations. This decision was mainly based on my work for the Institution-Focused Study (IFS), which highlighted that the use of several methods to collect data has the potential to maximise the range of perceptions and views on the research topic. Furthermore, by combining these two methods the data from each can be used to illuminate the other (Hammersley & Atkinson, 1995).

Discussion groups

For the semi-structured discussion groups, current students, alumni and tutors were invited to partake in discussions which aimed to identify participants' interpretations and definitions of creativity in the context of the course, in particular, how creativity works within the learning of photography and how it is manifested in the curriculum. A total of twenty students, five alumni, and six tutors participated in the discussion groups¹⁵. They were sampled so as to present a broad spread across each year group of the course, and tutors teaching theory and/or practice on the course. Overall, the sample was formed of an equal split of female and male students and home and international students, and included a range of ages from 21 to 65 years. Whilst this statistical information may not be essential to this particular study, I monitored these nonetheless in case of unforeseen or future relevance.

¹⁵ Resulting in a total of six discrete discussion groups.

Details of participants' ages, genders and prior experiences are presented in appendix 1.

I describe the discussion groups as 'semi-structured' because I designed a 'discussion guide' (Appendices 2 and 3) to structure the discussions. The purpose of the discussion guide was to provide a focus for the discussion, yet keep a non-directive interviewing style to encourage participants to answer openly from their perspective and to minimize, as far as possible, my influence as researcher on what is said (Hammersley & Atkinson, 1995).

All students were encouraged to bring examples of their photographic work produced as part of their studies to the session; particularly images they thought might act as a catalyst for the discussion on their creative development.

Testing the method

Before finalising the discussion guides, I piloted them for the discussion groups with students and tutors in order to 'throw up some of the inevitable problems of converting research design into reality' (Robson, 2002, p. 383). The starting point for this process was the research for my Institution-Focused Study (IFS), which acted as a pilot in several ways. It provided insight into different perceptions and interpretations of creative skills learnt, thus helping to focus this study. Furthermore, it advanced my understanding of research strategies and their application in a learning environment and highlighted the advantages and disadvantages of conducting semi-structured discussion groups as a method for data collection.

In addition to utilising my prior experience, I piloted the guide for the discussion groups with students with two recent graduates from the course that is the subject of this research. I arranged to meet both students at the same time, which enabled me to simulate a discussion group, albeit on a smaller scale. By listening carefully to their responses to my questions, I soon realised that I did not always receive the answers I was hoping for, due

to the choice of a certain word or phrase. One example of such an amendment was the use of 'your creative development' instead of 'the creative development'. Using 'your creative development' invited a more personal response from the students, making it easier to describe his/her own process or progression. The input of both students was critical to the design of the guide, as it enabled me to clarify any possible ambiguities, test the reliability of the data and increase its validity (Cohen *et al*, 2000, p. 112). This process also reinforced the importance of the appropriate use of language to gather the best data possible from all participants. The guide for the discussion group with tutors was piloted with one colleague. As with the pilot for the discussion groups with students, this process was very useful in ensuring that I asked questions relevant to my research questions and used language that minimised the level of ambiguity in participants' responses.

After conducting the 'dummy run' (Robson, 2002, p. 383) for the discussion guides, I simplified the guide for the discussion groups with students by removing questions regarding students' overall expectations of skills acquisition during their course of study, thus focusing entirely on creative skills. This made more sense in the context of this study as the main concern lies with students' creative development and not with the acquisition of skills in general.

I also amended the guide for the discussion group with tutors (Appendix 3). Firstly, I separated 'future learning' from 'employment' to make a clear distinction between the different areas in which students may apply and develop creative skills learnt on the course. Secondly, I encouraged tutors to think independently about 'creativity in the context of photographic education on this particular course' and 'creativity in higher education in general' by presenting the question in two parts. This separation was done to find out if tutors come up with different definitions for either context.

All discussion groups took place within the institution in which the course was being taught. Each discussion group lasted between 60 and 90 minutes and

was audio recorded. This enabled accurate transcription; therefore maximising the validity of the data collected. I transcribed all discussions; this gave me the opportunity to listen to the data as many times as I wished, and to identify any similarities or differences in the findings. Furthermore, this familiarity with the data helped me to identify whether any aspect of the design required amendments during the data collection.

Reasons for using discussion groups

One reason for using discussion groups as a method for data collection, as opposed to conducting individual interviews with participants, was to reproduce a familiar mode of communication for staff and students on the course. Staff, for example, hold regular meetings during which ideas and issues are openly discussed amongst the course team. Topics of conversation during these meetings may concern academic regulations, curriculum design, recruitment, or the teaching of the subject. For students, the format of a discussion group resembles teaching methods used on the course which are interactive and student-centred. These include, for example, group tutorials and critical reviews during which students discuss their coursework with each other and offer and receive feedback from their peers and tutors. As part of the discussion groups for this case study, students were encouraged to bring examples of their practical coursework to describe their creative development which may have taken place during the production of the work. This approach aimed to generate a more focused discussion than had been observed with groups that did not use images as a catalyst for meaning making. As Pink suggests: 'attention to the meanings that people create when they combine images and words can create exciting new knowledge' (2007, p. 86).

Discussion groups allow for asking similar questions of all participants, so that answers can be compared during the coding and analysis stages, thus identifying similarities and differences in the findings more easily. Also, this method provides flexibility for any additional comments by participants during the discussion group and follow-ups by the facilitator/interviewer.

Observations

In addition to discussion groups, I used semi-structured classroom observation. These were semi-structured in the way in which I focused my note taking during each session on particular aspects such as the activities happening, the behaviour of participants, and the general atmosphere in the learning environment. I observed five taught sessions, including a theory lecture (year two), student-led seminars (year three), a practice workshop (year one) and two critical reviews of practical coursework (years one and two). The purpose of selecting a number of sessions across the years was to examine a range of learning processes students are exposed to on this course and to identify pedagogic practices that may or may not facilitate students' creative development.¹⁶

During these observations, I assumed the role of 'observer-as-participant'¹⁷ (cited in Denzin & Lincoln, 2000, p. 677). This role seemed the most appropriate considering my 'insider' position within the course and the relationship I had with students and colleagues. Instead of observing the sessions from the periphery of the room, I placed myself amongst the students in order to observe from the point of view of a participant¹⁸. This approach enabled me to examine sessions, and the behaviour of students and staff engaged in these sessions, from a proximity that allowed me to challenge my own assumptions of both, as well as gain new perspectives on what was happening in the learning environment. A major concern with such observation is, however, that I will never know the extent to which my presence affected the situation under observation (Robson, 2002, p. 311), raising issues of reliability and validity of the data. Whilst this may raise

¹⁶ I did not observe any year four sessions as most of the tutoring at that level takes place on a one-to-one basis or in groups of four students. I chose not to intrude into this intimate student-tutor engagement, and opted to only conduct a discussion group with the year cohort. However, if it had become necessary for this study for me to obtain any data from year four tutoring or facilitation, I could have drawn on my own experiences of tutoring year four students.

¹⁷ For reasons of simplicity, I will continue to use the term observation throughout this thesis as opposed to participant observation.

¹⁸ As pointed out by Hammersley and Atkinson, 'Everybody is a participant observer, acquiring knowledge about the social world in the course of participating in it' (1995, p. 125).

ethical issues, I would suggest that the nature of questions addressed in this thesis, and the data collected in response, are unlikely to be influenced considerably by my presence in the classrooms.

I recorded my data in the form of concept maps (Appendices 4 and 5), which represented visually the observations of the material that was delivered, the activities that were occurring and any contributions that were made by students. The aim of the concept maps was to identify what type of connections between all of these aspects were made within the learning environment. I used a recording device for most sessions that I observed. In addition, field notes were taken on the delivery style of the lecture, interactions amongst students, interactions between the students and the lecturer, and the general atmosphere in the learning environment. Appendix 5, for example, demonstrates the visual material that the tutor used as an aid to facilitate certain exercises. In the concept map, I combined these visual representations with my own observations on how students engaged with this material, how the tutor responded to the various learning styles of students and how students learned from each other. By using this two pronged approach, referred to as 'selected observation' by Angrosino and Mays de Pérez (2000, p. 678), I intended to capture, as closely as possible, the lecture, seminar or workshop experience from the student's perspective. Field notes included observations of students' behaviour and mannerisms during each session, such as whether the students appeared bored, engaged, animated or restless.

The data collected through the approach described above influenced the way in which I designed and developed the questions for the discussion guides. This process is further described in this chapter under 'initial reflections on the fieldwork' (p. 71).

Starting the process

Before using any of the methods described in the field, I announced my research officially to all potential participants. I was given the opportunity to

introduce my research formally at a course committee meeting¹⁹, which was minuted. I also gained informed consent from the Senior Management Group and the Head of Department under which the course is administered. This was followed by e-mail invitations to, and meetings with, students of each year to inform each individual of the research that I intended to carry out. Information provided included the aims and objectives of the study, my role as researcher and ethical issues, (such as that the participation in the study was voluntary,) and that all responses would be treated confidentially. An explanation was given as to why I was not teaching on the course during the year of the fieldwork being conducted, and what implications this may have for the students.

In addition, prior to each discussion group, I explained the purpose of the research and answered questions posed by participants regarding the procedure of the discussion or the research. I adopted the codes of research practice of the British Educational Research Association (BERA, 2004) with regards to ethics and explained to all participants verbally before the discussion:

- the aims of the research,
- my role as researcher,
- that participation was voluntary, and that anybody could withdraw from the study at any time,
- that all responses would be treated confidentially and all data would be represented anonymously,
- that drafts would be available for participants to comment upon,
- how each participant's contribution and the final thesis may inform, or make a contribution, in the future (including presentations at conferences, journal publications and other forms of public display).

Once students and the course team were informed about my research, and I had gained their written consent, I decided which sessions to observe.

¹⁹ The course committee meeting is a forum for students and staff to present their views on the operation and development of the course. The meeting takes place biannually.

Colleagues were very forthcoming in that they suggested which sessions they thought might be useful or relevant to my research. Whilst I appreciated this collaborative approach (Sikes & Potts, 2008) and bore their suggestions in mind, I considered it to be useful to draw mainly on my 'insider' knowledge to decide which sessions would enable me to gain the best data possible. I started the data collection with observations of some taught sessions. This turned out to be useful for arranging appointments with students for the discussion groups, as it might otherwise have been difficult to meet the entire cohort, for students were studying part-time and attending university only once a week.

Views and voices

Collecting the data

The aforementioned research questions (p. 59) were explored through collecting data across all four years of the degree²⁰, from alumni and from tutors teaching on the course. It was important to collect data from all year groups and alumni as students' perceptions of their creative development might change as they progress through the course. Each method used to collect data generated responses to the different research questions as shown in table 2.

The observations aim to reveal information regarding the learning environment and learning community in which students study photography. This method provides data that enables me to consider responses to sub-question (2) which aims to identify the kinds of learning environments that are conducive to students' creative development. My descriptions cover the physical learning environment, the range of teaching methods, social interactions between students and tutors and social interactions between students within the learning space. The focus of each observation was on the facilitation of students' creative development, specifically on how students

²⁰ In year four through a discussion group only, not through observations.

were encouraged to make connections between their own creative practices and any of the ideas or materials presented and worked on in the sessions. Therefore, the findings offer possible responses to sub-question (1), which aims to identify the key phases students undergo in developing their creativity on the course.

Question/Method	Observations	Discussion group with students	Discussion group with tutors	Writing guide for students
Central research question				
How might creativity be understood in the context of photographic studies?		X	X	
Sub-questions				
1. What are the key phases that students embark on in developing their creativity on this course?	X	X	X	X
2. What kinds of learning environments are conducive to students' creative development?	X	X	X	

Table 2. Relationship between research questions and methods.

Earlier in this chapter (p. 60), I described how the discussion groups with students were conducted in two parts. The first part focused on students' general expectations of the course, discovering students' personal histories and establishing their aspirations. This approach intended to ease all participants into the discussion and establish a rapport amongst the group. The second part focused on gathering data in response to sub-question (1) which concentrates on students' creative development. Partly, this was to identify the factors that students believed contribute to this process and to establish the different phases students may have undergone in working creatively. The second part concluded with students revealing their

interpretations and definitions of creativity in the context of the course, providing data for the overarching research question of this thesis. The discussion guide proved useful in providing questions that acted as ‘triggers’ to stimulate a flowing discussion (Hammersley & Atkinson, 1995, p. 152). The guide focused students’ minds initially on their personal stories, before moving on to individual experiences of creativity while studying photography on the course, and closing with students’ definitions of creativity in the context of the course.

In addition to the discussion guide, the photographs students had brought along to the discussion group acted as a further catalyst for data concerning participants’ creativity. As David Gauntlett observed:

Pictures and objects enable us to present information, ideas or feelings simultaneously, without the material being forced into an order or hierarchy. Language may be needed to *explain* the visuals, but the image remains primary and shows the relationship between parts most effectively.

(2007, p. 183)

In other words, asking students to describe their creative development through images may bring out more detailed and deeper insights into their working processes and reveal connections that are made intuitively between course materials, personal experiences and practical experimentation. Concurrently, this may provide further data in response to sub-question (1) regarding the key phases students may pass through in developing their creativity on the course.

My initial thoughts, following the completion of the discussion groups with students, led me to design a follow-up, semi-structured ‘writing guide’ (explained on the following page) in order to generate further data on the descriptions of students’ creative development during the work on a specific photographic project. This idea developed out of the responses I gained, particularly from year three and year four students and from alumni. With this approach, I hoped to gain further data of students’ recognition of skills learnt

while developing their photographic practice, hence generating data in response to sub-question (2).

Offering my writing guide to students to write about their work in their own time was intended to allow time for reflection and perhaps generate data different from that which developed out of the discussion groups.

Furthermore, this method simulates the self-evaluation forms students write at the end of each module throughout their studies. In that context, the writing of 'self-evaluations' intends to help students to develop critical and analytical approaches to their creative practice, thus becoming reflective practitioners (Schön, 1983).

One recurring point observed during the discussion groups was that with particular types of projects – those in which students were commenting on social and/or political issues – students seemed to make use of creative skills, such as making connections between the practice and the theory of photography, in a more advanced way. I therefore targeted a specific sample of students, those who had worked on such projects, to establish whether this data was reliable and valid for this study. I titled the writing guide 'moment of creativity'²¹, and instructed students to describe the creative development of their project using the following as guidance:

- Subject of the project.
- The skills involved in the production of the work (instrumental and creative).
- What visual strategies did you apply?
- What connections did you make between your project and theoretical and visual research carried out as part of the production?
- How important is your engagement with an issue of social/political nature?

²¹ Drawing reference to 'The decisive moment', an expression coined by the photographer Henri Cartier Bresson who described the decisive moment as: 'the simultaneous recognition, in a fraction of a second, of the significance of an event as well as the precise organization of forms which gives that event its proper expressions.' (<http://www.henricartierbresson.org>). Most photography students are aware of this term.

Students submitted their written 'moments of creativity' accompanied by the photographs upon which the discussion was based.

Having read the students' accounts, I decided to include the data in the analytic process. Some of the students' thoughts about their creative development were articulated more eloquently in their written reflection than in their verbal accounts given in the discussion groups. Where I felt that the data adds further weight to that which had already been illuminated during the discussion groups, I have included students' quotes in Chapter Four and Five.

Following the discussion groups with students, I conducted a discussion group with six tutors of the course team, including the course leader. This discussion was to ascertain tutors' opinions on students' creative development, thus gathering further data for sub-question (1). Furthermore, the discussion with tutors aimed to find out how students' creative development may be supported and facilitated through tutors' teaching methods, hence providing data for sub-question (2). As with the student discussion groups, the session concluded with tutors' interpretations and definitions of creativity in the context of photographic studies, providing further data for the main research question of this study.

Initial reflections on the fieldwork

Hammersley and Atkinson (1995) suggest that any decisions about the choice of methods used to generate data in a qualitative inquiry depend on the context and the purpose of the research. They conclude that the appropriateness of particular methods (or combinations of) can often only be recognised in hindsight. The fieldwork for this study lasted for several months and was ongoing; it therefore seemed useful to record initial reflections on the research process in my research journal. The journal had the function of a 'visit report' (Eraut, 2003). It included thoughts on observations, discussion groups and informal conversations with participants, as well as concept maps and descriptions of the learning environment. Although this material is

not always included in the final analysis, it helped me to generate ideas in relation to the research design and direct the fieldwork into a fluid and evolving process.

My initial thoughts on the observational data, for example, form an important part of the study. The knowledge gained through each session informed and, where appropriate, fed into the discussion guides of the discussion groups. For example, the fourth question of the discussion guide: *Identify the key factors that have influenced your creative development. (This could be the physical learning environment, your interaction between tutors and peers, prior skills, etc.)*, derived from seeing students' and tutors' interaction in the learning environment, in addition to observing the ways in which each participant interacted with any material presented. Furthermore, on reflection, the reading of the data collected during the discussion groups acquired meaning from the observations and vice versa as 'what we see or hear can lead us to see, hear or interpret differently' (Hammersley & Atkinson, 1995).

My detailed descriptions of the observations, included in Chapter Four, aim to give the reader a clearer understanding and insight into some of the learning processes to which students are exposed. I noted, but did not analyse, the physical learning environment in which each session was taught. I concentrated more on the social interactions amongst the students, and between the tutor and the students. Through this focus, I realised the importance of the role that photographs play as part of interactions in the learning community, and how photographs can act as a catalyst for discussion and debate. This confirmed the value of my initial idea in asking students to bring photographs to the discussion groups, with the aim of helping participants to describe his or her creative development on the course.

Mapping connections

Working with an initial framework

In Chapter Two, I introduced the idea of developing an initial framework for understanding creativity in the context of the study of photography. I identified the work of Amabile (1996), Barron (1988) and Wallas (1926) as potential bases upon which to develop this framework. In this section, I explain how I have developed the initial framework further during the analytic process of this study by creating concept maps such as figure 1 and 2. By using this method for working with the data, I was able to explore possible directions and ways of interpretation before focusing on specific details (Patton, 1990). During this process, I identified initial codes from the emerging themes, some of which were then used in NVivo²² to label data collected during the discussion groups. These initial codes²³ helped to highlight common characteristics and disparities amongst the data, both of which were then mapped into categories, such as ‘creative development’ or ‘learning environment’ (Fig. 1), to enable me to make connections to the most relevant literature.

As shown in figure 1, each of these categories generated sub-categories that describe what I observed in a particular session, and how this observation is mapped against an aspect of one of the theories. Considering, for example, ‘Creative development (O4)’²⁴ in figure 1, and its sub-category ‘Engaging in debates’; the relationship between this sub-category and Barron’s attribute ‘Challenging assumption’ has been highlighted through a line of connection (green dotted line). Cross-referencing the data with the literature in this way helped me to make sense of the data and to contextualise it within existing theories.

²² A specialist qualitative data analysis (QAD) computer programme.

²³ Codes included: motivation, personal skills, instrumental skills, conceptual skills, interaction, communication, creative development, creativity, inspiration, future, creative skills, technical skills, confidence, and conceptual approach.

²⁴ ‘Creative development (O4)’ refers to the creative development in the fourth observation.

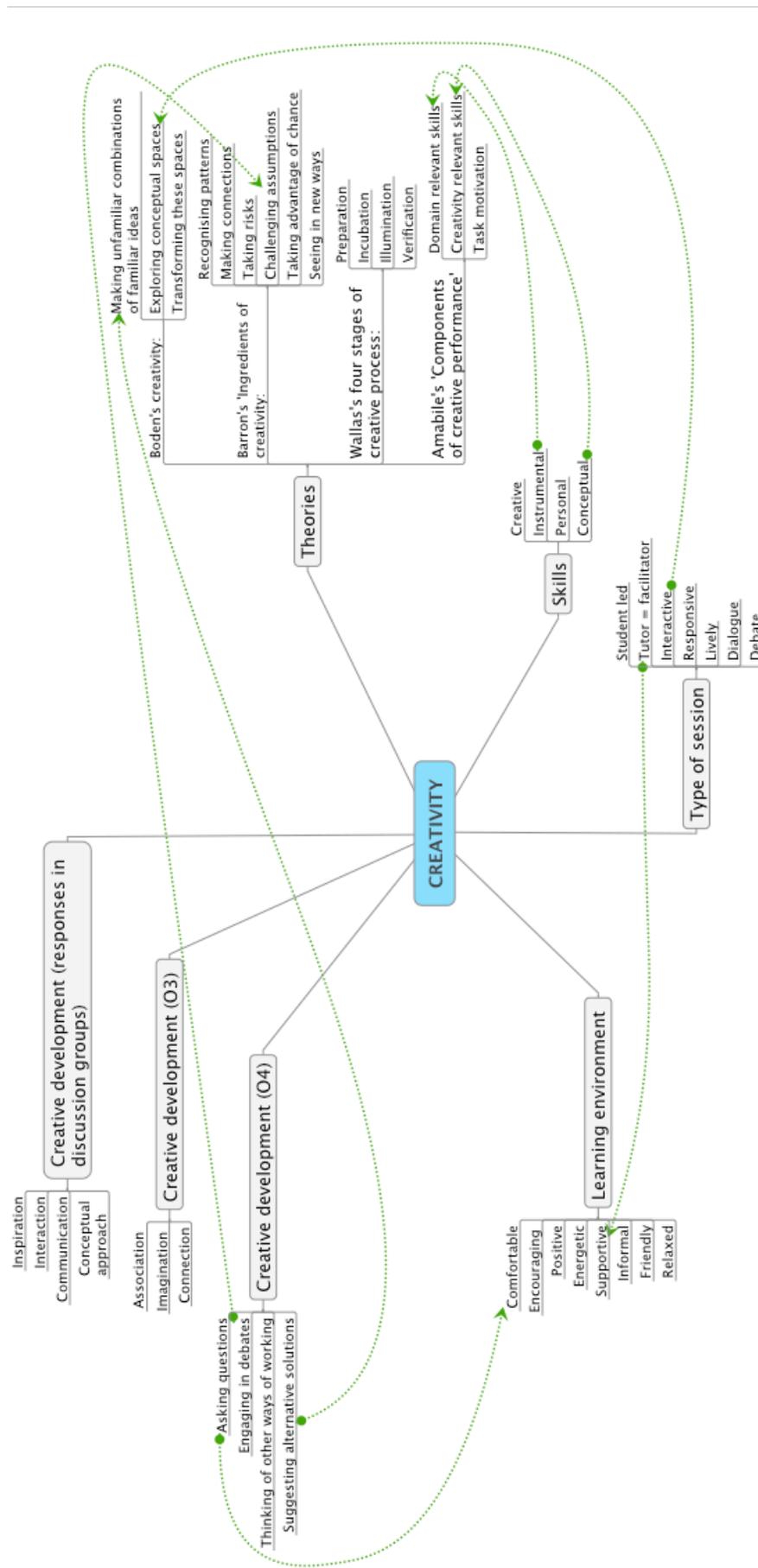


Figure 1. A concept map as a tool for coding data

Emerging themes

Figure 2 illustrates the concept map that I used as a tool for the data analysis. It consists of the three theories (Amabile, 1996; Barron, 1988; Wallas, 1926) that I selected as potential bases from which to develop a framework for creativity and four themes that emerged from my own data. The four themes are: knowledge about photography; photographic practice; the learning community and the learner. These themes emerged through a categorical aggregation²⁵ (Creswell, 2007) of the data using two of the procedural sub-questions introduced earlier in this chapter (p.59) as a guide. The questions are: *'How might students' creative development on this course be described?'* and *'What themes emerge from gathering information about the case?'*

Through investigating the data with these questions in mind, additional sub-themes for each of the four themes surfaced. The four themes with their sub-themes are:

1. Knowledge about photography:
 - (i) command of technical skills,
 - (ii) understanding of visual literacy,
 - (iii) understanding of conventions, styles and traditions.

2. Photographic practice:
 - (i) linking theory and practice,
 - (ii) researching and planning,
 - (iii) creative conversations²⁶.

3. The learning community:
 - (i) learning environment,

²⁵ Creswell describes that 'in categorical aggregation the researcher seeks a collection of instances from the data, hoping that issue-relevant meanings will emerge' (1998, pp. 153-154)

²⁶ I adopted the concept of creative conversation from Charles Leadbeater who introduced it whilst working on his book *We - think* (2007).

- (ii) atmosphere,
- (iii) structure.

4. The learner:

- (i) motivation,
- (ii) aspiration,
- (iii) fascination for photography.

In the context of this thesis the term 'learning community' refers to the students and tutors who work together on the photography course that is the subject of the research. Participants in this community actively engage in the theories and practices that shape this particular programme and construct its identity to varying degrees (staff obviously have more influence than students). This idea of an interactive community echoes Lave and Wenger's earlier work on 'Communities of practice' (1991).

The 'learning environment' forms one aspect of the learning community in that it provides the conditions under which individual members of the community work and develop collectively. These conditions may include the size and layout of physical spaces such as classrooms and studios as well as corridors and communal spaces such as the library or canteen.

Whilst the theme 'the learner' is at the centre of the creative development, I will not use this theme with its sub-theme during the analysis process of my data. As explained in Chapter Two (p.39) attitude and self-perception are important factors in relation to the creative process, however, the size of this study does not allow a full justification of the vast field of research into psychological influences on creativity.

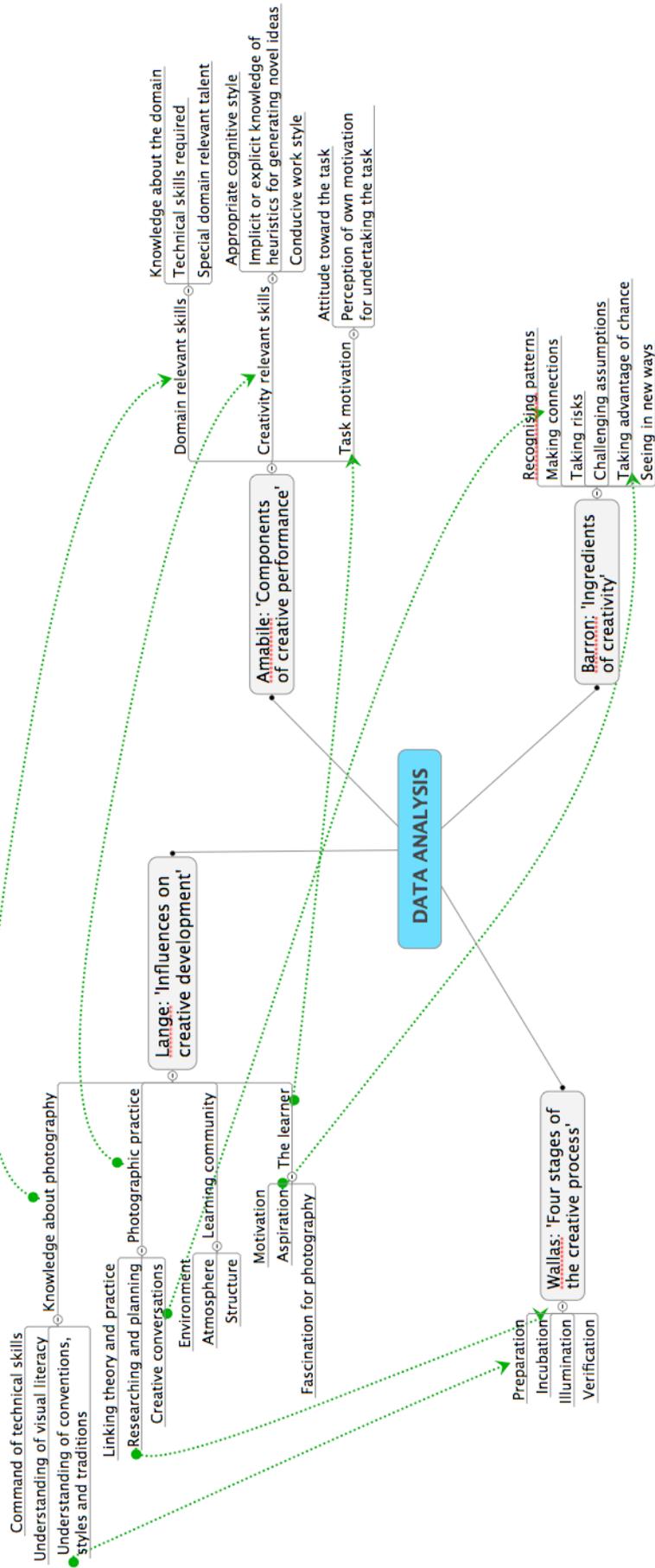


Figure 2. A concept map as a tool for analysing data

Influences on creative development

In figure 2, I summarise the themes and their sub-themes as 'Influences on creative development'. The review of the literature and my initial findings emerging from the fieldwork seem to suggest that there is a link between the creative development of a person/student and the creative process.

Moreover, it is during the creative process that this creative development is moulded incrementally. This observation may help to shed further light on why, as suggested in Chapter Two (p.35), creativity researchers in education are mainly concerned with the creative process or being creative as opposed to the creative product or the creative person. The link between the creative process and creative development is also demonstrated by mapping the creativity theories in figure 2 against the influences on creative development identified throughout my fieldwork. Making connections between a theme, its sub-theme and a certain aspect of the theories enables patterns to emerge and meaning to develop. For example, the first theme in figure 2, 'Knowledge of photography' shows a close link to Amabile's first component 'Domain relevant skills' (Amabile, 1996) in a way that both refer to the knowledge of a specific field or domain within which a creator may work. The line of connection (dotted green line) between both aspects is extended to Wallas's (1926) first stage of the creative process, 'preparation'; indicating that the creator requires a level of knowledge, skills or experience about the domain or field in order to initiate the creative process.

A framework for the creative process

In order to underline the relationship between Amabile's (ibid), Barron's (1988) and Wallas's (ibid) theories, I have synthesised the theories into a single framework (Fig. 3) for the creative process. The aim of this framework is to identify those aspects of each theory which best help to explain the developmental process of creativity (Gruber & Davis, 1988) and to recognise how each theory complements the other. In the context of this thesis, the framework may help to establish what the creative process of a student entails and how the involvement in this creative process influences the students' creative development overall.

As shown in figure 3, Wallas's (ibid) four stages of the creative process (preparation, incubation, illumination and verification) form the foundation for the framework. Each of these stages presents a different phase in which an individual may engage in as part of the creative process. The black arrowheads linking each stage (pointing to the right) signify the movement through the stages, implying that the process is continuous and of developmental nature. The black arrows underneath the stages (pointing to the left) suggest that the process may not end at the 'verification' stage; that there is a possibility of re-visiting each stage in order to change, adapt or develop an idea or product in a different way. In Wallas's four-stage model of the creative process, individuals are encouraged to evaluate and assess each stage and reflect upon the outcome before completing the process.

Amabile's (ibid) components 'domain-relevant skills' (red in fig. 3) and 'creativity-relevant skills' (yellow in fig. 3) introduce desirable skills for working within each of Wallas's (ibid) stages. The red arrow pointing from 'domain-relevant skills' to 'preparation', for example, indicates that these types of skills are required to start the creative process. At the other end of the diagram, where the red arrow points from 'verification' towards 'domain-relevant skills' it is suggested that in order to verify an outcome, the creator will refer back to his/her knowledge or skills. For the purpose of this thesis, Amabile's components are used to categorise the various skills learnt through the study of photography and to identify influences on students' creative progress in attaining these skills.

Barron's (ibid) 'ingredients of creativity' (recognising patterns, making connections, taking risks, challenging assumptions, taking advantage of chance and seeing in new ways) form the connection between Amabile's skills and Wallas's stages in the way that they suggest 'activities' of how to apply skills to a particular stage. In figure 3, Barron's list of ingredients is placed separately on blue arrows that either point from the skills (Amabile) to a stage (Wallas) or visa versa. 'Recognising patterns', for example, points from 'domain-relevant skills' to 'preparation', suggesting that in order to

recognise patterns whilst working with materials and ideas, or participating in debates, the creator requires knowledge about each of these aspects. As shown in figure 3, the same attribute is also a useful link between the 'incubation' phase (Wallas) and 'creativity-relevant skills', as processes of discovery and recognition may happen subconsciously whilst working on something else. In the context of this thesis, Barron's 'activities' help to identify ways in which students apply the skills learnt, and distinguish which, if any, contribute to students' creative development.

Conclusion

In this chapter I have described the research processes of this thesis and how the analytic process influenced the development of the initial framework introduced in Chapter Two into a framework for the creative process. The focus of the next chapter is on interpreting the findings of the fieldwork in relation to three of the emerging themes, the framework and the existing literature that has informed this thesis. The discussion aims to show how all of these aspects connect with each other and identify any patterns to emerge from this interaction (Creswell, 2007). Furthermore, the discussion of the data intends to highlight how the research developed through the analysis process.

References to specific data from the discussion groups in the text will be coded as follows:

Discussion group with	Abbreviation
Students year one to four	(Y1) – (Y4)
Alumni	(A)
Tutors	(T)

Table 3. System for abbreviations of data.

All direct quotes from the participants are shown in italic.

4. Exposing creativity

Introduction

This chapter is organised into two parts. Part I, 'Observing creativity', describes some of the learning environments in which I collected observational data. Each description aims to provide the reader with an insight into the specific context, with particular focus on how students' creative development on this course might be facilitated. The descriptions are followed by the interpretations of the findings and any propositions arising from this analysis. In Part II, 'Discussing creativity', I present the data collected during the discussion groups with students, alumni and tutors, my analysis of this data and any proposals evolving from this analysis. Part II is organised into two discrete sections: the first (a) focuses on views by students and alumni, and the second (b) comprises tutors' opinions on the influences on creative development.

The analysis of all data is guided by the framework for the creative process (Fig. 3, p.79) and the influences on creative development (Fig. 2, p.77) introduced in the previous chapter. The two parts of this chapter are structured around the influences on creative development, using three themes and their sub-themes (detailed on p.75). The themes are: (1) knowledge about photography, (2) photographic practice and (3) the learning community. This structure enables me to categorise the findings and draw comparisons between the findings emerging from each part. This categorisation helps to identify key points in each part and to describe how these key points relate to each other.

Part I: Observing creativity

(1) Knowledge about photography

Observation

The year two theory lecture *Digital embodiment* was part of a module during which students were encouraged to develop a critical understanding of different technologies of vision, including photography, film, video and the web, and how these operate in the formation of Western thought and subjectivity. The expected coursework for this module was a 3000 words essay. The lecture was presented in two and a half hours to 50 students of which one third were part-time students²⁷.

The lecturer started the session by playing a sound piece to the students. The students within the group were encouraged to respond actively to the demonstration by imitating the sound to which they were listening. This activity produced lots of laughter in the lecture theatre and created a pleasant atmosphere for the remainder of the session. The playing of the sound piece was followed by the screening of a short video by a former MA photography student who had studied within the same department as the students who were attending the lecture.

The rest of the lecture returned to a teaching style in which the lecturer asked questions to engage students and invited contributions. The lecturer used simple language to make the complex comprehensible, drew references to previous lectures and made connections to previously taught material.

Whilst only a few students asked questions or contributed with their own thoughts, most students appeared to be engaged in the lecture, evidenced by pensive facial expressions, attentive body language, and the writing of

²⁷ Most theory lectures on this course are delivered simultaneously to part-time and full-time students.

notes. Questions asked included: “*What impact does the use of MAYA²⁸ have on the future development of photographic practice?*” and “*What ethical implications have games such as PainStation²⁹?*” The lecturer did not offer any answers to the questions; allowing the questions to generate discussion within the cohort and the lecturer.

The lecturer used a variety of visual aids to explain and clarify the topic presented. These included a mathematical formula applied to building a virtual space, historical representations of perspective drawings and an entertaining sales talk by an American video game producer. All material was presented in a clear style through the breaking down of textual paragraphs and the colour-coding of crucial terminology, both accompanied with relevant imagery. (Examples of the visual material presented are included in appendix 4).

Analysis

(i) Command of technical skills

Whilst it is unlikely that students’ practical command of technical skills of photography can be gauged in a lecture situation, the type of questions asked can reflect their level of understanding of the medium. Questions such as: “*What impact does the use of MAYA have on the future development of photographic practice?*” show a level of understanding of the use of photographic imaging that is suggestive of a sophisticated and critical engagement with the medium. It requires a student to possess a sound knowledge of current practices and applications in the production of images.

Because the lecturer did not provide direct answers to the questions, students were encouraged to explore the issues raised through discussions within the group. These discussions help students to develop a questioning

²⁸ Software used to create computer-generated images.

²⁹ PainStation is an arcade machine that inflicts pain via electric shocks in a Pong-like game. <http://www.painstation.de>

approach to the ideas presented and to consider these in relation to their own photographic practices. For the group to be working together and, by way of this, to construct their own knowledge reflects what Sawyer calls a 'classroom inspired by social constructivism' (2004, p. 13), as discussed earlier in this thesis in Chapter Two (p.33).

(ii) Understanding of visual literacy

During the session, students were presented with a variety of visual imagery. In order to contribute to discussions of images, or to be able to refer to historical or contemporary practices within the field, necessitates students having a certain level of visual literacy (Lange & Golding, 2007, p. 136), thus possessing critical knowledge of image construction and image intentionality (Abrahmov & Ronen, 2008). For the construction of a fashion feature, for example, different visual symbols and codes would be applied than for producing images that aim to raise awareness of current societal issues. Gaining knowledge of the different domains may equip students to develop a foundation of a visual language that would enable them to communicate their ideas through their photographic practice.

(iii) Understanding of conventions, styles and traditions

The material that was presented during the lecture covered a range of conventions, styles and traditions, enabling students to build on existing knowledge and gain new knowledge about photography and related subjects. The varied ways of presenting material during the lecture may explain why students kept up their attention and were engaged with the material. This was reiterated by the fact that the material of the lecture was presented in an accessible manner, with the aim of making complex ideas and thoughts comprehensible to the students. The lecturer also drew upon references to previous lectures and made connections to other material that had been taught earlier. Both approaches demonstrated to students how to make links between the different materials and presented ideas and possibilities of how they could relate the content of the lecture to their own photographic practice. The processes described here resemble Koestler's

'biosociative process' (1964) introduced earlier in this thesis (Chapter Two, p 47). In this process, thinking takes place 'on different planes' and, through a juxtaposition of the different planes, new knowledge and ideas emerge.

In view of the framework for the creative process (Fig. 3, p.79) the above analysis points toward Wallas's 'preparation phase' (1926) which he describes as the phase during which we 'can consciously accumulate knowledge, divide up by logical rules in the field of inquiry, and adopt a definite 'problem attitude'" (ibid, p. 10). In that sense, the lecture described here could be regarded as an opportunity for students to build up their knowledge base and use it in preparation for the creative process of producing their photographic practice. Such a knowledge base, including existing and newly gained knowledge, could enable students to produce work which is informed by current practices and conventions in the image producing world, thereby resulting in projects that carry meaning or significance within a particular context. Contexts include the arts, editorial and advertising.

(2) Photographic practice

Observation

To demonstrate the relationship between students' photographic practice and the theories that they are exposed to on the course, I will describe a second year critical interim review of students' practice work. The interim review was part of the module *Documentary Photography*, within which students choose their own subject matter and produce a body of work within the genre of documentary photography. At the outset of this module, students are introduced to the work of key historical and contemporary practitioners within this field, with the intention of helping them to understand the conventions of this genre.

The critical review took place in a seminar room with a large set of tables in the centre. Fifteen students were present at the session, all of whom were showing their photographic projects, either projected digitally on to a large

screen, or in book format, laid out on a table, or pinned to the wall. The tutor explained the procedure for the critical review at the outset, clarifying the purpose and inviting all students to contribute with comments or questions. Each student was allocated fifteen minutes for their presentation, beginning with a brief introduction to the project, before viewing the work, which was followed by feedback from their peers and the tutor. The aim of each review was for students to reflect on their work, engage with that of their peers, and to offer and take on board critical feedback of the work. As this was an interim review, students had the opportunity to use any feedback given in order to develop their practice work prior to the final project submission. The first student laid out his project on the table and everybody stood around the table to view the prints. Following the student's introduction, peers immediately started to ask questions regarding the concept of the work. They also made suggestions on how to improve the editing of the series, and the tutor questioned the choice of lighting and framing used to create atmospheric images. These initial dialogues between peers, or the tutor and the student, whose work was under critique, soon developed in to a general debate about the issues raised. These included questions such as: *"What makes a photograph a portrait?" "Do you want to be a 'fly on the wall' or intervene with your subject matter?"*

After the more general debate on documentary photography, the tutor brought the discussion back to the student's work. The first review was concluded with a summary of visual strategies to develop and a repeat of other advice that had been given throughout the review. The remainder of the session continued in a similar way.

Analysis

(i) Linking theory and practice

The above observation shows common characteristics with the previous observation in that students are introduced to the work of key practitioners in order to assist them in developing an understanding of the conventions used

within a genre; in this case documentary photography. The level of discussion observed demonstrated that some students had carried out further research on certain practitioners in order to expand their knowledge base. This knowledge enables students to better understand the conventions and how to apply them (or challenge them) to their own photographic practice. This approach to working within a creative discipline is also referred to as the integration of theory and practice and is, as discussed earlier in this thesis, generally expected to be part of the teaching and learning in art and design. The following subject benchmark statement by the Quality Assurance Agency (QAA) reiterates this expectation:

In learning about the contextual settings of their discipline(s), students also engage with appropriate various theories within global, historical, contemporary and cultural settings which inform that context and add purpose to their activity. As a consequence, students develop and may challenge their own critical disposition in relation to their discipline(s) and even the convention of the discipline themselves.
(2008a, p. 4)

Considering this statement in relation to my observation of students questioning the concept of the work presented in the critical review could be interpreted in two ways. Students either wished to understand what theories had informed the production of the work and how this was achieved, or they were attempting to clarify (and understand) the intention of the work, especially in the case of its purpose not being communicated successfully through the images.

By suggesting visual strategies, such as use of perspective, lighting and composition of the image to the student in order to develop the work, the tutor demonstrated a similar level of expectation to that expressed in the subject benchmark statement, regarding students' knowledge and understanding of the conventions of the genre. This also applied to the manner in which the editing process of the work was discussed, which included elements such as juxtaposition of images, creating a narrative within and between the images, thus using the visual language of the genre.

The more general debate that took place in the critical review, initiated by questions such as: “*Do you want to be a ‘fly on the wall’ or intervene with your subject matter?*” covered issues that are of concern to most photographers working in the documentary photography genre. Students’ engagement with these debates will help their overall understanding of the conventions, in both the theoretical and the practical nature, of the genre.

(ii) Researching and planning

The researching and planning of photographic projects are activities that do not lend themselves easily to being observed during a critical review in a seminar room. One way of measuring the level of research conducted by students, however, is the level of articulacy used when discussing their own work or that of their peers. In the main though, researching and planning are part of the process of image production, which is evidenced in students’ images taken for a project and their workbooks. As research forms an important stage of the creative process, I will return to this theme in Part II of this chapter.

(iii) Creative conversations

The structure of the critical review appeared to encourage students’ willingness to address issues related to their own and others’ work and to express candidly their emotional response to certain images. Students appeared to be confident and comfortable when talking about each other’s work and when trying to understand the intentions of the work produced. Students’ interactions were facilitated by the tutor ensuring that each student, whether strong or weak, received positive, yet critical and constructive, feedback. This approach resulted in an overwhelmingly positive and energetic atmosphere, and all participants were supportive of, and encouraging to, each student presenting. The students acknowledged the benefits of being part of a learning community in which they had the opportunity to discuss their own work within the wider context of photography in general.

The level of discussion observed in the critical review suggests that it may contribute to students' creative development, and can be best described by adopting Leadbeater's idea of a 'creative conversation':

Creative conversations are like a shared exploration the results of which cannot be guaranteed in advance...Each participant must give something of themselves in a way that encourages the other to reciprocate.

(2007)³⁰

The discussions that occurred within the critical review could be described as 'shared exploration'. Students had opportunities to see each other's work, assess whether their images were communicating the intended message, and discuss their work in the wider context of historical and contemporary photographic practice. These forms of active engagement with each other's work, and thought processes such as reflecting on one's own work and that of one's peers in response to the feedback given, contribute to the creativity of the individual by 'constructing new tools and new outcomes – new embodiments of knowledge' (Kleiman, 2008, p. 209).

The analysis of the critical review shows parallels with a particular stage of the framework for the creative process (Fig. 3, p.79). Wallas's 'verification phase' (1926, p. 10), described as 'testing apparent solutions' (ibid), relates to the particular student presenting work and receiving feedback from their peers and the tutor. In this sense, the critical review provides an opportunity for students to test the effectiveness of the work produced, beyond their own judgement of their achievements, and to evaluate the feedback received. Any student offering feedback is likely to draw on the knowledge they had gained during the 'preparation phase' for the module generally, and their own work more specifically, to verify the work reviewed.

³⁰ This quote is taken from the draft without page numbers that is published on-line. The book was published in 2008, but the idea of creative conversations is no longer included.

(3) Learning community

Observation

During the first year practice workshop *Photoshop as workspace*, 24 students were introduced to various aspects of the software³¹, working individually on a computer in a dedicated computer teaching room. The workshop was part of the module *Introduction to digital imaging*, during which students work to a brief, producing digital images that utilise and explore the conventions of photographic realism and image manipulation. The workshop was broken down into three stages: firstly, the description of the virtual working environment; secondly, setting up the working environment; lastly, students working on specific tasks within the virtual workspace. The workshop ran over a period of six hours.

The workshop began with a description of the virtual working environment by the tutor. This was done via a step-by-step demonstration projected onto a large screen (1.5m x 2m) for all students to follow. After several Photoshop tools had been introduced, students were given five minutes practice time with them before the tutor moved on to the next set. During the practice time, students would consult the tutor or their peers if they could not remember any particular short-cuts or tool manoeuvres.

Stage two of the workshop focused on setting up a workspace in Photoshop. This stage required students to make connections between the different settings of the software and related tools, and to understand how these could be applied while working on an image. The tutor used photographic terminology as a vehicle to explain digital terminology³². Similarly to the first stage of the workshop, this stage was also concluded with practice time for students to work with the various different tools to which they had been exposed.

³¹ Adobe Photoshop CS2

³² Most students studying on this course would have encountered photographic terminology in prior education and would be more familiar with that terminology than with digital imaging terminology. This trend might, however, change with future cohorts if, over time, basic introductions to photography tend to focus more and more on digital processes.

During stage three, students were set a task and given 30 minutes to complete it. The tutor then asked for three volunteers to demonstrate their method of completing the task to the rest of the group. Each volunteer went to the front of the class and talked through their method of achieving the task.

The structure of the workshop responded to different learning styles amongst the student group. These included individual note taking, discussion of techniques in student pairs, students practising with newly learnt tools and the refreshing of existing skills. Students were also given time for reflection on each task carried out. (A concept map of this session is featured in appendix 5)

Analysis

(i) Learning environment

As with the previous observation, the learning environment of this workshop presented students with a clear structure and an outline of what they may expect to have achieved or gained by the end of the session. Knowing 'what comes next' seems to instil confidence in students; this was expressed through their enthusiasm to participate in and contribute to the session. The size of the student group appears also to have an affect on students' willingness to contribute. Based on this and the previous observation, a group size between 15 and 24 students seemed most conducive to students' engagement. During the observation of the practice workshop, students demonstrated a level of keenness to experiment with their ideas, share them openly, question what was presented to them by peers and tutors, and were not afraid of making mistakes. This was evident in the level of interaction between students in the teaching room. David Jaques arrives at a similar conclusion in his book *Learning in Groups* (1984), in which he suggests that 'the size of a group most amenable to a variety of aims and techniques is 20 to 30' (ibid, p. 116).

(ii) Atmosphere

The atmosphere in the teaching room was relaxed and friendly, because of the engaging teaching style of the tutor. The tutor seemed approachable, encouraging students to ask questions. Students appeared very comfortable in this session and nobody, including students with very little knowledge of the subject, appeared afraid to ask questions throughout. At the time of the observation, the group of students had only been studying together for a few months. Yet, the cohort already seemed to have bonded, suggested by the trust and support students gave to each other.

Considering the nature of this class, in which the level of skill in digital imaging ranged from total novice to expert, it can easily happen that students present an attitude or a certain level of arrogance towards each other. However, none of this kind of behaviour was visible to me during the session. Instead students, regardless of their level of existing knowledge and skills of digital imaging, presented openness for learning new skills.

This openness for learning new skills is key to several attributes of Barron's list of creativity: 'taking risk, taking advantage of chance, seeing in new ways' (1988, p. 78), some of these attributes are shown in the framework for the creative process (Fig. 3, p.79). In this, the attributes describe activities the individual may undertake in the 'illumination phase', explained by Wallas as 'the stage when possible results become apparent' (1926, p. 10), which then have to be evaluated and acted upon. A student who is open to learning a new skill is prepared to leave familiar territory and to embrace new ways of working. Once a new skill has been learned, the student may also be able to see their work in new ways. Ultimately, this process may nourish the advancement of the students' creativity.

(iii) Structure

The design of the workshop - students were working on specific tasks - encouraged peer-to-peer learning through experimentation and the sharing of skills. This approach created a positive and dynamic atmosphere in which

students took charge of their learning. Students were encouraged to make connections between the various tools they had learnt, their existing skills and the task that they were aiming to fulfil. Because students were learning from each other as well as the tutor, the range of methods of working was extensive.

Students had the opportunity to acquire new skills or learn about different ways of approaching a task. The process of learning described here invited students to apply their problem-solving skills and imagination. Furthermore, the tutor introduced the task with such passion that students were encouraged to participate. In addition, the tutor invited students to the front of the class to present their way of working to their peers, and showed appreciation to the volunteers for sharing their knowledge and skills with the rest of the class.

My analysis of the learning community in the context of the influence on students' creative development is confirmed by Amabile's research on the impact of the social environment on creativity (1996, p. 17). As part of this research, she investigated 'intrinsic motivation' and came to the conclusion that it is 'conductive to creativity' (ibid, p. 15), and 'can be significantly affected by the social environment' (ibid, p. 17). In relation to the social environment of educational spaces, Amabile referred to Chambers' investigation of the college teaching styles which facilitate or inhibit creativity (cited in ibid, p. 208). The results of this investigation highlighted several factors through which teachers can facilitate students' creative development. These factors include: 'encouraged students to be independent; enthusiastic; directly rewarded student's creative behaviour or work; interesting, dynamic lecturer'. As pointed out earlier, some of these factors were very evident during the observation of the practice workshop.

The following **observation** illustrates a different learning community to the above:

The year three student-led theory seminars were part of the module *Contemporary theories* during which students attended introductory lectures and discussions of topics such as 'trauma', the theme of 'the body in contemporary art', 'monstrosity', 'fetishism' or 'memory'. One aim of the module was to engage students actively in debates covering a range of advanced theoretical material within the field of visual culture. The purpose of the seminars was to provide a platform for students to share their own research interests and to engage in theoretical debates on contemporary culture. Each student was expected to give a short presentation on their research, using visual aid to illustrate their ideas. Following the seminar, students were assessed on a written seminar paper based on the research for their presentation.

The session was held in a lecture theatre seating approx 80 students. Seven students attended and each gave a presentation. The session began with the lecturer giving a brief explanation of the seminar procedure. All students were expected to give their presentation from the front of the lecture theatre. The time allocated for each presentation was eight minutes. Feedback was given once the presentations had all been completed.

Analysis

(i) Learning environment

The first student to give a presentation appeared very nervous, read mostly from the screen and did not make eye contact with the audience. This nervousness might have been exacerbated by the size of the room, which seemed intimidating and not necessarily the most appropriate seminar space for a group of seven students. The student also seemed to have prepared far too much material for an eight-minute presentation, resulting in them rushing through their PowerPoint slides. There was no discussion of the presentation or the content with either the lecturer or peers.

Whilst the second student seemed more confident in presenting, she also had prepared too much material and, likewise, had to rush through her presentation. This was repeated with each student's presentation although, according to the module leader, students were given detailed instructions about the format of the seminars in their module programme at the beginning of the module.

(ii) Atmosphere

Throughout the entire session, the atmosphere in the room was tense. Students appeared preoccupied with thinking about their own upcoming presentation and did not engage with the work of their peers. The lecturer did not encourage students to engage either, and there was no discussion after any of the presentations, only a very general discussion at the end of the session.

(iii) Structure

The format of these seminars seemed counter-productive to students' learning. The seminars aimed to 'actively engage students in debates', yet students were not given any opportunity to do so. During an informal conversation with a number of students following the seminars, students pointed out that they would have appreciated a discussion of their research and feedback on their presentations, as this would have helped them to develop their ideas and learn from any mistakes. One student expressed frustration at not being able to do so, and described the seminar as a '*missed opportunity*' for engaging with each other's ideas on a deeper level and making connections between the material presented by each student.

General reflections on my observations

Some of my observations of the learning community echo to Dineen's comments on the art and design teaching environment discussed earlier that 'the teacher-student relationship was believed to be at the heart of teaching in art and design, and the non-hierarchical nature of the relationship was frequently reiterated' (2006, p. 112). She continued that 'the collaborative

nature of post-compulsory art and design education' nurtures creativity (ibid, p.113). These remarks correspond with Amabile's claim that:

Whatever an individual's talents, domain expertise, and creative thinking skills, that individual's social environment - the conditions under which he or she works – can significantly increase or decrease the level of creativity produced.

(1996, p. 17)

Consider, for example, the creative conversations discussed earlier in this chapter. The chances for these conversations to occur are significantly determined by the conducive nature of the learning community. In the critical review, students felt comfortable enough to participate and engage at a personal level of a conversation which requires them to 'give something of themselves in a way that encourages the other to reciprocate' (Leadbeater, 2007).

The opposite situation was evident during the observation of the theory lecture. Most students seemed involved and paid attention to the material being delivered, yet only a few contributed with comments or questions. As I established during an informal conversation with some students following the lecture, students' silence did not necessarily signify that they were not interested in the lecture. Students commented that they are often reluctant to speak up in front of large groups³³, and prefer small seminar groups in which to discuss their ideas. Jaques claims that in a group larger than 25, the face-to-face interaction between individuals becomes virtually impossible, often due to logistical arrangements (ibid, p. 19). This contrasts with the critical review which was attended by fifteen students, all of whom participated actively in discussing each other's work and offering critical and constructive feedback in response to the work on display.

From all the sessions I observed, the seminars were the only ones that were perceived negatively by students. Even the lecturer who facilitated this

³³ For some of the theory lectures on the course the cohort can consist of up to 85 students.

particular session commented that these seminars were not very conducive to students' learning in general, nor were they nourishing students' creative development, and admitted that she would prefer not to be involved in the seminar presentations. The theory team recognises the significance of student-led seminars as part of students' learning, in that students have the opportunity to develop their communication skills and theoretical concepts through sharing their ideas with their peers and tutors, and to gain feedback. However, according to the tutor, due to lack of time and resources, each presentation felt rushed and the team were considering reverting to a more traditional way of teaching, such as lecturing on the appropriate subject.

Summary of Part I

During the analysis of the observations the following key points for each of the three themes have been identified:

Theme/ Sub-theme	Command of technical skills	Understanding visual literacy	Understanding conventions, styles and traditions
<p>Knowledge about photography</p>	<p>The type of questions asked by students can reflect their level of technical skills.</p> <p>-----</p> <p>By not providing immediate answers in a lecture situation the lecturer may encourage students to explore the question collaboratively, and to construct their own knowledge from this.</p>	<p>Understanding of domain of specific visual symbols and codes enables students to contribute to discussion of images.</p> <p>-----</p> <p>Gaining knowledge about specific domains helps students to develop visual language accordingly and then apply it to their own practice.</p>	<p>Exposing students to a variety of material enables them to build on existing knowledge and to gain new knowledge.</p> <p>-----</p> <p>Presenting material in an accessible manner helps students to comprehend complex issues.</p> <p>-----</p> <p>Drawing reference to material from previous lectures demonstrates to students how to make connections and how to build on existing knowledge; both attributes are part of the creative process.</p>

Table 4. Key points for knowledge about photography Part I.

Theme/ Sub-theme	Linking theory and practice	Researching and planning	Creative conversations
<p>Photographic practice</p>	<p>Students use the critical review to engage with each other's work on a conceptual and technical level by finding out about theories that may have informed the work and through clarifying its intention and purpose.</p> <p>-----</p> <p>Discussions with specific focus on visual strategies demonstrate how ideas and practice have been contextualised.</p> <p>-----</p> <p>The level of depth of discussions in the session is an indication of students understanding of the theories that have informed their own practice and that of their peers.</p>	<p>The level of research conducted by students can be reflected in the depth with which they talk about their own work or that of their peers.</p>	<p>Critical reviews can provide an environment in which students can explore ideas and practice collectively.</p> <p>-----</p> <p>The structure of the session encourages students to openly discuss emotional responses to their own work and that of their peers.</p> <p>-----</p> <p>Critical reviews provide a space for the 'verification phase' (Wallas, 1926) of the practical work by allowing students to assess ideas and productions.</p>

Table 5. Key points for photographic practice Part I.

Theme/ Sub-theme	Learning environment	Atmosphere	Structure
<p>The learning community</p>	<p>Clear introductions to the session and facilitation throughout (its outline and its goals), seem to instil confidence in students and encourage engagement.</p> <p>-----</p> <p>Judging by the level of interaction in the classroom, a group size between 15 and 24 seems most conducive to students' engagement. This includes experimenting with ideas, questioning what is presented to them, and the willingness to make mistakes.</p>	<p>The atmosphere in the room impacts on students' openness to learning. A friendly and relaxed environment encourages taking risks and making mistakes.</p> <p>-----</p> <p>A tight schedule for student activities, lack of opportunities for discussion and feedback can create a tense atmosphere in the classroom.</p> <p>-----</p> <p>The physical appropriateness of the learning space in relation to the learning activity impacts on the atmosphere created in the room.</p>	<p>Teaching practical skills within a task-based, student-centred structure enables students to develop problem-solving skills and apply their imagination. This assists students to immerse themselves in the activity, explore and experiment with different techniques, make mistakes and learn from them.</p>

Table 6. Key points for the learning community Part I.

Part II: Discussing creativity

Section (a) Student and alumni views on the influences on creative development

(1) Knowledge about photography

(i) Command of technical skills

Students expressed a variety of views relating to the command of technical skills:

What I want to learn are technical skills which would enable me to make what is in here [pointing at head] to come out. (Y2)

Building a foundation of technical skills that I could possibly use in my photography. (Y1)

For creativity to flow you really have to be in command of the technique. (Y3)

I felt in a lot of ways not teaching us these technical skills has stifled my creativity. There are pictures that I want to take but don't know enough about the lighting and so on. (A)

As these comments show, students across most year groups recognised the importance of acquiring technical skills before developing their creativity. Technical skills were either seen as a tool to express what is on one's mind, or as a foundation from which to develop photography creatively. Students expressed dissatisfaction with the lack of teaching of practical skills on the course, as they felt that a lack of practical expertise hindered them from producing the desired images. Concerns regarding the teaching of practical skills were raised particularly in the areas of digital imaging, studio based skills (such as lighting and the use of large format cameras), and practical guidance on how to promote oneself as an artist. However, as the comment below suggests, not all students shared this view:

I think the thing with technical stuff is that at the end of the day anyone who put a bit of time into it can read a book and learn all those technical skills, but the creativity is the difficult part of it. (Y2)

This comment does not take into consideration that not all students find it easy to learn technical skills from reading, and may instead pick up those skills more effectively through face-to-face instruction or through practising in a supervised learning environment.

(ii) Understanding of visual literacy

Students explained visual literacy as follows:

What I'm learning here [on this course] is to see again. It is a way of seeing, much more intensely and much more critically aware. (Y1)

...to go into the more conceptual and structural thinking through vision, through images, and as a result of that communicate certain ideas that I have been exposed to during my lifetime. So, for me, photography is a tool for expressing experiences and emotions. (Y2)

These comments reflect Way's description of visual literacy introduced earlier in this thesis (Chapter Two, p. 44). She claims that when students have developed visual literacy, they 'demonstrate that they have developed the perceptual and thinking skills to understand how the visual image communicates meaning' (2006, p. 6) through the photographs that they produce and through the way in which they talk about them.

Student 1: *...so it's creating meaning.*

Student 2: *Yeah, and that meaning is from you to the person looking at it and then that meaning is transferred from the person looking back to the image. So you get this two way osmosis of meaning.*

Student 3: *... the ability to communicate an idea.*

Student 2: *which is part of that creative process.*

This extract from the discussion group with students (Y2) demonstrates students' understanding of the relationship between communication of an

idea and the creative process. The intention to use photography as a tool to visually express one's ideas, views and concerns was brought up by several students during the discussion groups. Students revealed their appreciation for the ways in which the language of photography can be used to translate their ideas into images and explained that they were eager to understand the various audiences to whom they might present their work and the many different contexts within which their photographs may be seen.

(iii) Understanding of conventions, styles and traditions

During all of the discussion groups, students made noticeably few remarks about their understanding of conventions, styles and traditions or how it influenced their creative development:

Pop art, I never liked it, still don't particularly like it, but we had a lecture about it and now I understand where it is coming from, whereas before it was just something I didn't particularly like, but I had no real understanding of why people did it in the first place. So I think it is just broadening my knowledge base, which gives me a much better perspective of what I'm seeing and hopefully then of what I want to create. (Y1)

To use my brain again, to experiment and to kind of understand where my photographs fit in. To find a context for my photographs. (Y1)

The Lartigue exhibition³⁴ is one that gave me inspiration for my final project...he had the idea of using panels to present stereo images instead of presenting images traditionally on the gallery wall. (A)

However, the comments that were made demonstrated a range of students' approaches to understanding the work of other photographers and artists who may help them to develop their own photographic work and/or to establish an appropriate context for their work. Furthermore, in the first comment the student recognised that, through learning about an art movement, she is able to identify the basis of her likes and dislikes. The range of approaches includes: practical experimentation, enquiring about

³⁴ Jacques Henri Lartigue (1894 – 1986) was a French photographer and painter. His work was exhibited at the Hayward Gallery in London in the summer of 2004.

other photographers and art movements, and visiting exhibitions of photographers' work. All of these approaches relate to Wallas's 'preparation phase' as described earlier in this chapter (p.86).

(2) Photographic practice

(i) Linking theory and practice

In each discussion group students discussed the theory to which they are exposed on the course:

The theory has been a tremendous influence on the creativity just because it informs you so well, and you get access to much more information than you could even imagine was out there. (Y3)

I think the theory is a really interesting part of the course, sometimes a bit dense, but it introduces you to so much thought. That is whatever writings that you would never ever think to read and they do tend to open your eyes to lots of different things. (Y2)

These examples of students' remarks clearly express students' understanding of how the theory introduces them to a broad range of knowledge they might not have known had they not studied photography on this course. They also recognised that the theory enhances their creativity, and described its integration with their practice in the following ways:

To find a voice, to build confidence and to be able to articulate what I really feel and think and learn that skill which I think is extremely important. So the theory side and how that affects your practical side. (Y1)

...not just looking at one tiny aspect, suddenly being exposed to loads of influences which you could develop...and think why you like it, break it down and see how you could apply that to your work. (A)

The bombardment of images, not just painting, you know, photography and films, and different genre of films. So you are kind of literally bombarded with stuff which is bound to permeate, isn't it? As a result of that, the input is going to come out in your work. (Y1)

...the process between taking an image and thinking about it...to see how they [images] link, to see the narrative. For me it is that intellectual way of overall thinking, of linking things in, of opening your mind up to why you do things and why you consciously don't want to do things. (Y2)

In these further comments students identify the theory element of the course as a source of inspiration and as having a visible impact on the production of their photographic practice. As one student pointed out, this is partly done through a step-by-step approach of understanding different aspects of the various influences and thinking about how to utilise them in your own work. This process helps students to articulate their ideas visually, as well as verbally, both of which will help them become a confident practitioner.

The description of 'the intellectual way of overall thinking, of linking things in...' by the year two student relates to Barron's idea of 'making connections' (1988, p. 78) and 'applying creativity' (ibid, p. 97), as featured in the framework for the creative process (Fig. 3, p.79). What the student is describing here is how to analyse each image taken for a photographic project and how to link the various ideas and thought processes he/she has engaged with into the production of an image or a project. This approach may enable the student to develop a critical way of looking at the process of production, and to make informed decisions about the ways in which they could develop the photographic work or studies overall. However, one final year student expressed a slightly different view about the impact of the theory:

Actually, this course has made me even more scared [of the real world], with all the theory, and getting to know what the reality is can make you feel terrified. Completely feeling like that you are not on the same level as other established photographers. (Y4)

This student describes the theory as some kind of 'reality-check' that makes students understand what the photographic industry is like and what challenges students may meet after graduating from the course.

(ii) Researching and planning

Students' comments in relation to this theme differed notably in the way in which they articulated it:

The process of planning and researching is as important as taking pictures...every module that we go through kind of opens new doors. And so we can come in for a couple of weeks, have a look around, take whatever we need for a practical project, but always like leaving a room into the next one. I always leave a door open and I know that I can come back there, just finding something more because I know where to look for it. (Y1)

What I found most fascinating was with whatever I started with, or somebody else started with, through talking, through developing, through taking a few pictures, what you got at the end was incomparable, so much more developed, and more rounded, it just worked, and was much more successful than what you started with... (A)

Yet both students described their approaches to working on a practical project as a continued process during which they are working with materials, methods, tools and ideas of practice (Bolt, 2007) and, by way of this, discovering new practices and ideas that influence the work produced. The first comment suggests that the student orders, filters, and compartmentalises experiments, ideas and results to shape future projects. In art and design education, students are encouraged to keep records of this 'material thinking' (cited in *ibid*) in form of a workbook³⁵.

The workbook for me has been a huge help, a huge part of my creative thinking. I was sitting there at home the other day, you know, panicking that it wasn't all coming together. There was just something wrong, something missing, and then I just took a step back. It is always like this, you know before you hand anything in, it is always like this. This is just the process of it...that sort of creative process of feeding it all into the end thing. (Y4)

³⁵ Keeping a workbook is common practice in art and design education. Its content usually consists of visual and textual references, production schedules, test material and any other evidence of experimentation with the medium and reflective commentary by the student on the material included.

This statement expresses how this student used the workbook as a structured thinking space to reflect upon her ideas and her practice, assisting her to develop both. Her account could also be interpreted as an active engagement in the learning process, during which students have the opportunity to recognise their own strengths and weaknesses and to initiate independent learning.

This view by another student conveys similar benefits of the use of a workbook for realising the potential of a project:

I wanted to string a story together, see the background, see the coherence...so when I started to use my workbook properly, it was amazing...to have an idea of what I wanted in front of me, the planning, just seeing the whole thing. (A)

Both views are supported by the Quality Assurance Agency (QAA), which regards workbooks - sometimes also referred to as 'reflective journals' or 'personal development records' – 'as an essential contribution to students' development of independent learning skills within art and design education' (2008a, p. 10). Parker, whose writing I discussed in an earlier chapter, also stresses the importance of the use of sketchbooks for understanding one's creative practice and developing creativity:

If a unit of work at Key stage 4 offers equal opportunity in terms of challenge, and subsequent teaching provides security for the individual during the incubation³⁶ stage through the appropriate use of a sketchbook, then a truly creative outcome may be achieved. At the very least the result will be a resolution of ideas appropriate to intention.

(2005, p. 197)

The investigation of student workbooks was not part of my methodology for this research project, yet being familiar with the working practices on this

³⁶ Graham Wallas believed that the creative process was made up of four stages, the second being incubation: the period of time (which varies according to the individual) between preparation and incubation. During incubation the collected material is elaborated and organised within the creative individual's mind. Importantly, the individual will not consciously be thinking about the problem. (Cited in Parker, 2005, p. 190).

degree, I agree with Parker's statement. It might be worth pointing out that some students, who participated in the discussion groups for this research, brought their workbooks to the session hoping that this might help them to talk about their own creative development and generate ideas for general discussion. This intention implies that students recognise the significance of their workbooks and regard the content as a valuable reflection on the development of their photographic practice.

(iii) Creative conversations

Under this theme, I have grouped students' remarks into two separate sections, the first referring to discussions generally, and the second referring to critical reviews exclusively. Bearing in mind that creative conversation is a term I specifically adopted for this thesis, students did not use this particular expression in their discussions:

...but if I start to speak and share my idea with other people...I don't think it is about copying other people's ideas, it is kind of this interaction which enriches my way of thinking. (Y4)

The most important thing is to discuss at the end of each lesson what people have done, just put it [the work] up and talk about it... That ongoing discussion makes you analyse and justify what you are doing. (A)

A big part of this course is the constructive criticism we have from students as well as lecturers...and that sort of is quite an important part of creativity anyway. It is good to hear what everyone else has to say rather than just hearing it from one tutor in that module. (Y3)

The first remark comments on how the social exchange of ideas between students and tutors expands students' minds. The second and third remark describe how the discussions of practical coursework enable the student to gain a deeper understanding about their photographic practice through explaining and evaluating the work. Furthermore, students claim that the variety of feedback gained in these sessions contributes to students' creativity. This process relates to Wallas's 'verification phase' during which

'apparent solutions are being tested' (1926, p. 10). In this sense, peers and tutors who are participating in the critical review are verifying the work.

I think the crits³⁷ were one of the things that I found most valuable. It is one of the things that I miss most... without that input from other people, and without that kind of encouragement, or without other people's eye and just saying 'I don't understand that', 'I think that is too obvious, I don't think that picture works', or 'those three want to go', or even just that 'one picture works, the rest don't', and just changing the direction... (A)

I have to say I agree with you about the crits, ...I felt the crits were really good... also I found with the crits it sometimes sparked off another idea, another way, it sort of fed you, it fed your creativity. And you know, when we were in our groups with people from all walks of life and we would see things in a very different way and have different experiences. (A)

These two remarks show how the students value the opportunity of discussing their work with their tutors and their peers, as this process offers encouragement and a space in which to question each other's photographic practice. Students particularly seem to welcome the input of their peers as they feel that they are gaining a broader range of interpretations of their work and are being challenged from different positions. Furthermore, these students' statements demonstrate their understanding of how this social form of exploring one's ideas, thoughts, and visual work contributes to advancing their creativity. The processes described here echo Boden's idea of 'exploring conceptual spaces' (2004, p. 4), introduced earlier in this thesis (Chapter Two, p. 31), which she defines as a 'disciplined way of thinking that is familiar to (and valued by) a certain social group' (ibid).

The aforementioned comments by students are also worth considering in the light of Bernadette Blair's study on critical reviews in *Perception, interpretation, impact; an examination of the learning value of formative feedback to students through the design studio critique* (2006). In this study, Blair concluded that the critical review 'was not perceived by any student as

³⁷ Jargon for critical review of practical coursework.

a particularly important “learning environment”. My own observations of critical reviews presented in Part I of this chapter, and comments made by alumni and students, seem to suggest the opposite view, which is that critical reviews are generally perceived as a crucial part of students learning. Moreover, it was suggested by students that critical reviews provide a learning environment which facilitates their creative development through encouraging imagination and broadening their horizons.

(3) The learning community

(i) The learning environment

During the discussion groups critical reviews were also frequently mentioned in relation to the learning environment:

I have never known such a supportive group of people. Every crit that you have, every tutorial you have, there is always something positive that comes out there. (Y2)

What I think it [the crit] also taught people was not only accepting criticism, but how to give criticism, but in a nice way. In a way that is kind, and is constructive rather than obstructive so that you don't actually lambaste their pictures and hurt their feelings, but you make them grow, you don't make them shrivel up. (A)

One of the things I really liked was how different people interpreted the same topic... You have given something of yourself, or just thought about that because of your background. In terms of the creative development for me it was about how I can tell a story...(A)

These comments make two main points about the learning environment on the course. Firstly, students comment on the level of support which they are given from their peers and the tutors, and how this assists them not only in the advancement of their photographic work, but also in their self development.

The openness described as ‘*you have given something of yourself*’ may only happen if students are prepared to discuss these somewhat delicate subjects

amongst their peers and tutors and feel comfortable in their learning environment.

The second point relates to the diverse range of people studying on the course and how this enhances students learning experience, for example, through seeing different interpretations of the same brief.

(ii) Atmosphere

Students did not comment specifically about the atmosphere in the learning community, though, the comments under the learning environment imply that students mainly experience a friendly and relaxed atmosphere in their sessions. The descriptions and analysis of my own observations in Part I of this chapter provide a broader view of the findings in relation to this theme.

(iii) Structure

In this analysis, I am using the term structure in two ways: firstly, in relation to the structure of a taught session, and secondly, to refer to the structure of a module or the course.

I sometimes wish I could be more 'organic' when I take pictures rather than, say, following a theme all the time you know. This is your prospectus; that is what you have to follow, off you go. You know, sometimes, would it not be nice to just go out and just go mad and shoot anything? (Y2)

This student comments on her frustration with the modular structure and the set briefs given, both of which seem to constrain her desire of using a more intuitive approach to taking pictures.

The following comment is by a student who referred to the practice workshop I observed as part of my fieldwork:

... to use it [Photoshop] as we are using it at the moment, to actually cut and paste different images and come up with something new; that is a new creative skill that I didn't have. And it is not even something that I was particularly interested in, or thought: "Oh I might go and do

something like that". So I think it is just being shown all these different directions just enhances your skill set. (Y1)

The overall impression given by this student is that she welcomed the structure of the workshop. The student describes 'coming up with something new' as a 'creative skill' she had acquired, and that 'being shown all these different directions just enhances your skill set'. This way of explaining creativity and acquisition of skills corresponds with Amabile's concept of creativity, in which 'implicit or explicit knowledge of heuristics for generating novel ideas' is classified as a 'creativity-relevant skill' (1996, p. 84). She continues 'a heuristic may be considered as a general rule that can be of aid in approaching problems or tasks' (ibid, p. 89). In this sense, the activity of cutting and pasting images described by the student could be used as a metaphor of 'creativity heuristics' for different ways of working with images, and through this develop new methods of completing the task.

Students, as demonstrated in the next remark, perceived the student-led seminars I observed less positively:

Well, there is no reason for that to exist really. You go there; as soon as you arrive you have ten minutes. As soon as you arrive at the eight minute they start to say, 'Can you please finish up'. You start to panic, because you think you have got no more time and then you finish. You go back to sit down and it is finished. I mean, like, there is no discussion. (Y4)

This statement reveals an overall dissatisfaction by the student with the structure of the seminars. They felt that it was rushed and pointless. The student also expressed their frustration in not being able to discuss their ideas.

General observations of data

You have to feel it within yourself. However difficult it is you have got to be comfortable with the process because that is always the challenge. And you have got to feel confident within yourself with your idea. (Y3)

I just wanted to immerse myself in photography and then perhaps find out what I really wanted to do. (Y3)

I knew I had something that had to be fulfilled, and I really wanted to give myself the opportunity to do that. So, immerse myself and see what happens. (Y4)

In these three comments, students describe their relationship with photography in an emotional way and as a form of self-development or self-discovery. In the context of influences on the creative development, this level of engagement with a subject echoes Cropley and Cropley's (2008) description of creativity in education, discussed in Chapter Two of this thesis. Here it is suggested that creativity develops out of learning processes in which the learner is fully immersed in his/her subject of study, and from which the learning may lead to a transformative experience.

One student commented on the importance of confidence in both, with yourself as a person and with your ideas. Confidence is an attribute that previously has been associated with creativity, particularly in relation to 'creativity as a transformative process' (Kleiman, 2008, p. 215).

Summary of Part II (a)

During the analysis of the data from the discussion groups with students the following key points for each of the three themes have been identified:

Theme/ Sub-theme	Command of technical skills	Understanding visual literacy	Understanding conventions, styles and traditions
Knowledge about photography	<p>Obtaining technical skills helps students to develop their creativity.</p> <p>-----</p> <p>Lack of teaching technical skills can impede on students' ability to realise their ideas visually.</p>	<p>The language of photography is a tool to visually express one's views, emotions, experiences and concerns.</p> <p>-----</p> <p>A way of seeing critically.</p> <p>-----</p> <p>Conceptual and structural thinking through images and vision.</p> <p>-----</p> <p>Understanding the different audience and contexts in which images are shown.</p>	<p>Students broaden their knowledge base through the exposure to art works they are unfamiliar with; learning why something was created and being able to articulate likes and dislikes.</p> <p>-----</p> <p>Students gain this understanding through practical experimentation, through enquiring about other photographers and art movements in general and by visiting exhibitions.</p>

Table 7. Key points for knowledge about photography Part II (a).

Theme/ Sub-theme	Linking theory and practice	Researching and planning	Creative conversations
<p>Photographic practice</p>	<p>Theory as inspiration and visible impact on students work.</p> <p>-----</p> <p>Theory introduces students to knowledge that influences the development of their creativity.</p> <p>-----</p> <p>Looking towards many directions whilst working on a photographic project and to link the various ideas and thought processes in to the production of images.</p> <p>-----</p> <p>Developing a critical way of looking at the process of production and to making informed decisions about methods of working.</p> <p>-----</p> <p>Theory can demonstrate to students what the photographic industry is like ('reality-check').</p>	<p>A continuous process of working with materials, methods, tools and ideas of practice and, by way of this discovering new practices and concepts that influence the work produced.</p> <p>-----</p> <p>A heuristic approach to practice during which experiments, ideas and results are ordered, filtered and compartmentalised.</p> <p>-----</p> <p>Workbooks provide a structured thinking space in which to reflect on research, ideas and practice and to actively engage with the learning process.</p>	<p>Critical reviews and tutorials that allow reciprocal, verbal interactions, between students and their peers and students and tutors, enrich participants' ways of thinking.</p> <p>-----</p> <p>Developing practical work collectively through articulating what has been done, analysing how it has been done and receiving and offering constructive feedback.</p> <p>-----</p> <p>A social form of exploring ideas, thoughts, imagination and visual material that encourages creative development.</p>

Table 8. Key points for photographic practice Part II (a).

Theme/ Sub-theme	Learning environment	Atmosphere	Structure
<p>The learning community</p>	<p>A supportive learning environment assists both students' photographic and personal development.</p> <p>-----</p> <p>A comfortable learning space encourages students to 'open up' and to create work that communicates personal issues and concerns.</p> <p>-----</p> <p>A diverse range of students on the course enhances students' learning experiences, for example, through seeing different interpretations of the same brief.</p>	<p>Students made no specific comments in relation to the atmosphere in the learning community.</p>	<p>The constraints of set briefs or the modular structure can inhibit students from working intuitively with photography.</p> <p>-----</p> <p>Teaching practical skills within a task-based structure can encourage students to develop a heuristic approach to working on the task and their photographic practice generally.</p> <p>-----</p> <p>A tight schedule for student activities, especially those for which they have prepared work, discourages students from engaging with the learning process.</p> <p>-----</p> <p>Lack of opportunities for discussion and feedback in responds to their ideas and their work creates disappointment amongst students.</p>

Table 9. Key points for the learning community Part II (a).

Section (b) Tutors' opinions on the influences on creative development

(1) Knowledge about photography

(i) Command of technical skills

All tutors contributed to the discussion on technical skills:

Some students come in to [the course] with a lot of technical skills and need to kind of develop conceptually, and sometimes it is the reverse, some who come with a lot of creative ideas don't have those technical skills.

In this comment the tutor alludes to what may turn out to be a challenging situation for the team when teaching a cohort with different levels of technical and conceptual skills. Whereas these two tutors ended up in a disagreement concerning the teaching of technical skills:

They are technically very good I guess, but I think, conceptually and in their creativity, they need to do most of the work.

I disagree, I think there are a lot of students who are actually very creative and have got the ideas, sort of conceptual ideas, and then lack the technical skills to produce the work.

Everybody can learn technical skills, I think, easily, and you can go to various places to learn that, or you can teach yourself from a book.

These extracts of the discussion demonstrate the differing views expressed by tutors in response to this theme. Some tutors thought more teaching of technical skills was needed to enable students to realise their conceptual ideas, others placed less emphasis on teaching technical skills as part of the curriculum and suggested students could learn these skills elsewhere. It is worth noting that, according to the current subject benchmark statement for Art and Design, 'considerable importance is attached to the acquisition of technical skills in the use of discipline-specific materials and processes' (QAA, 2008a, p. 5).

(ii) Understanding of visual literacy

The following dialogue between two tutors raises issues concerning the teaching of visual literacy:

They are softer photographic skills, so they are not quite technical, they are not quite conceptual, they are not the craft of photography...learning about how to look, and looking at things in different ways, and developing your eye, and that is very difficult to kind of quantify and to fit in to our module structure.

They [students] learn a lot from looking at each others work, and it is very difficult to quantify, as you said. We are talking about visual literacy, and there are rules of composition, two thirds and so on, and that is a good starting point, but there is so much that is unquantifiable of what makes a good image...it is an assumed thing that we are developing visual literacy...

Both comments convey an awareness of the importance of teaching visual literacy; yet they also express uncertainty of how to teach 'what is a good image' within the given structure of the course, at the same time recognising that there is an expectation on tutors to do so.

(iii) Understanding of conventions, styles and traditions

Tutors' comments refer to this theme in two different ways:

How to conduct business as a photographer...to put your work into a context, freelance photographer for magazines, editorial, as an artist... And you have to figure out different strategies of approaching clients or an audience.

I think students sometimes don't see the value of looking at other work. They think it is about getting an idea, or copying something, to try and find out what is ok to do, to kind of lock it [the work] into some kind of convention and then it is ok. Whereas pitching it to them [students] as a way of understanding the profession they want to go in to, knowing the terrain, understanding whether it is fashion photography or art photography, you have to understand it professionally, you know, you wouldn't think of becoming a writer and not read books.

... Jürgen Teller³⁸ for example, pictures all over the wall as opposed to in a line, just kind of getting students to think about more interesting ways of producing work. And I think that comes from an awareness of contemporary practice.

The first two comments reveal tutors' understanding of the importance of teaching or facilitating the students on the course with what Amabile calls 'domain-relevant skills', with particular focus on 'knowledge of the domain' (Amabile, 1996, p. 84). In both comments, this knowledge of the domain consists mainly of the students' understanding where photography is seen, its intentionality, and what kind of strategies a photographer requires to communicate or negotiate within a certain area of the field.

The third comment emphasises the importance for students to develop an awareness of what is currently happening in the photographic world, how their work may fit in to this context, and how they may be able to challenge conventional ways of producing work. Viewing other artists' work becomes a catalyst from which to generate ideas for students' own photographic work.

(2) Photographic practice

(i) Linking theory and practice

Tutors' comments on this theme varied notably in content, I will therefore analyse them accordingly.

I think a lot of it comes down to resourcefulness and being able to apply [skills and knowledge], so you have got a range of skills. There are specific technical professional skills, but I always try and encourage students to join things up in their thinking, so that they can take something that they can apply to their own area or their own sort of direction that they want to work in.

This comment refers to developing transferable skills which can be used in different ways through 'joining things up in their thinking', thus multiplying one's skill set. In this sense, students explore technical and conceptual knowledge in several ways and develop both through the thinking of methods

³⁸ Jürgen Teller is a German fashion photographer and artist.

to integrate them and in order to utilise them for their own ideas. This way of working may also encourage students 'to take ownership of their projects' through working on ideas which carry a particular meaning for the student. In relation to the framework for the creative process (Fig. 3, p.79), this attribute reflects Barron's notion of 'making connections' between different aspects of an idea or a production to create something new from it.

The notion of making connections echoes also in this comment:

In photography, or any kind of creative practice, or in the arts, it is a much more fluid relationship. It is much less tangible in the way in that you use it [theory] as a practitioner. The way in that you use theory and practice sort of together, ...it is the most kind of creative act, isn't it?

This tutor suggests that the integration of theory and practice is almost done seamlessly; both aspects develop in parallel in order to shape the artefact. Yet, the following tutor pointed out that:

We don't teach students how to generate ideas, how to inform their practice through other images, research or their theory, how to connect things. And this is part of creative thinking and problem solving. Some students do that automatically, but there are some that don't quite think in that way and we could probably do more along that: How do you use this text to develop ideas... it is not about illustrating theory, but about all these different stimuli that come together to inform new practice.

The tutor claims that tutors could do more in ways of facilitating students to understand how to utilise the theory in the production of their practical work, and suggests that creative thinking and problem solving play a part in this.

The next comment suggests that:

As a medium, photography is very useful as a way of teaching creative thinking. If you use the medium itself, there are so many different ways of taking a photograph. So you send students off to take photographic sketches and ideas, and that way of shooting is

very different to taking out a 5x4 camera³⁹ and lighting...that process of going out into the world, and coming back, checking back, having that very organic process, having that discourse based on images that students have shot.

This tutor proposes that the use of the medium lends itself to teaching creative thinking. He points to two aspects that are part of developing creative thinking: *'having an organic process and a discourse based on images'*. According to this view, creative thinking in photographic practice is a phase of realisation that happens while students evaluate their work at various stages of production, make connections between many different elements of the work, reflecting on what they have achieved so far and thinking about ways of improving the outcome.

(ii) Researching and planning

Tutors' focus under this theme was more directed towards researching than planning:

I think research is about a state of mind, isn't it? About students being open to being informed by a variety of resources. So that they don't perceive research as something that they have to do, then duplicate or produce a derivative body of work...a state of mind that leaves them open to read images, and text, or a conversation at the bus stop, or whatever their source of inspiration is that feeds their creative juice.

This account by a tutor suggests that researching for a practical body of work should become second nature to the student and be seen as an ongoing activity in order to develop ideas and gain inspiration. As the following comment will demonstrate, this is not always the case:

A student who had finished their whole project came up to me at the end of the crit and they had got three or four days before they had to submit their work. And the student said: "Are there any photographers that you think I should include in my workbook?" [the tutor asked] "What do you mean? You actually shot the entire project and now you

³⁹ This term refers to large format cameras with which photographers can take pictures up to the negative size of 5x4".

are asking me for visual references to put in your research, what's the point of that?" [and the student replied] "Well, to get a good mark".

This extract from a conversation between a tutor and a student shows that the student did not recognise the value of carrying out research during the production phase of a photographic project, and that research is supposed to be an ongoing process in photographic practice. The student's final comment suggests that his or her motivation for completing coursework is driven by achieving a good grade, and not seeing research and keeping a workbook as part of their creative development from which they might benefit during as well as after completing their degree.

Research was also described in this way:

I think encouraging them to really explore, to spend more time, to encourage the students to actually creatively explore using the cameras and so on. I suppose it is the thing about opening up that box again, not being too prescriptive, thinking that research isn't just about looking at other images, but to actually do it in a practical sense.

According to this tutor, research goes beyond collecting visual material and requires students to use a camera to explore their chosen subject and broaden their understanding of the medium. 'To spend more time' relates to planning a project sufficiently; allowing time for photographing a subject more than once to explore it from more than one position.

...it's about informing your practice, working intuitively, revisiting the research, finding something else, and those two things shift continuously, they are like stepping stones throughout a production phase...

In the last comment of this section, the tutor talks of discovery and stages of development. This notion of research relates to the framework of the creative process (Fig. 3, p. 79), particularly to Wallas's preparation stage and Amabile's 'domain-relevant skills'. Both phases of the framework refer to the exploration of one's existing knowledge and to applying this to the

production. Through 'Revisiting the research' a deeper understanding of related theories and processes would be gained which ultimately shape the way the practice is developed.

(iii) Creative conversations

Tutors made very few comments in relation to this theme during the discussion group:

They [students] talk about their work in crits all the time and increasingly talk about each other's work. So there is an articulacy and critical ability that they get from their own and others work.

... having that discourse based on images that students have shot.

Both comments acknowledge the ongoing discussions of students' work in critical reviews, with the first comment highlighting what students learn from talking about each other's photographs. However, no further details were mentioned in relation to talking about work, offering and receiving feedback, or tutors' general perception of critical reviews.

(3) The learning community

(i) The learning environment

Tutors did not comment greatly on the actual learning environment during the discussion group.

Something that we always tell students when they come in the first year is that they are an important resource in themselves, and I think that really compliments the creativity, because you have got people from all different walks of life, different backgrounds, and so on.

However, this tutor clearly recognised the diversity of the student group as an asset to student's learning experience and their creative development.

(ii) Atmosphere

As with students, tutors did also not comment specifically about the atmosphere in the learning community. The descriptions and analysis of my own observations in Part I of this chapter provide some findings on this theme.

(iii) Structure

Tutors comments in relation to this theme concerned both the structure of briefs and taught sessions.

My sense is that there is often the confusion, or the students perception of creativity is often kind of romantic, about the ability to be absolutely free...yeah, this idea that creativity is just about having no boundaries at all, ...and actually, I think creativity is about problem solving, about being given restrictions and to work a way out of that.

In this comment the tutor suggest that some form of structure in a session or in an assignment promotes creativity, because it provides the students with a framework within which to develop and explore ideas. This tutor expresses a similar idea:

Every brief does set parameters, and sometimes I have changed this, sometimes I'm really specific as in they have to do this, that or the other. And quite prescriptive in the content, so then they have to deal with that particular element, and put the elements creatively together. Those briefs tend to be more successful than the ones that have been less limiting. Because if you leave it too open, they won't know where to start...

Yet, in contrast, this tutor complains about students producing work which is 'repetitive' due to tutors using the same structure for each module:

...we set the brief, you go and do some research, you make a proposal, you execute that proposal, and then it gets criticised and then you get some feedback.

Considering these comments, tutors seem to suggest that a more flexible structure of the module itself would help students' creative development, yet

the assignment or brief of the module promotes creativity better if the structure is more rigorous.

General observations of data

One tutor in the discussion group expressed this view, in the context of being creative, with great passion:

I don't quite know how to express it other than say: confidence, I think students' confidence, however they get that confidence, is one of the most important things about whether they will be creative. I think without it you can't be creative.

As we have seen, confidence is a reoccurring factor for nurturing creativity. Whilst personal attributes are not a focus of my investigation in this thesis, it is important to highlight it and show its potential for further research.

Summary of Part II (b)

In the analysis of the data collected during the discussion group with tutors the following key points for each of the three themes have been identified:

Theme/ Sub-theme	Command of technical skills	Understanding visual literacy	Understanding conventions, styles and traditions
<p>Knowledge about photography</p>	<p>The diversity of the student cohorts presents tutors with a challenge of bringing all students to the same level of technical skills.</p> <p>-----</p> <p>The tutor group did not come to an agreement as to how much emphasis should be placed on technical skills in the curriculum.</p> <p>-----</p> <p>Teaching technical skills was seen as separate from teaching conceptual skills.</p>	<p>There is an expectation on tutors to teach visual literacy, including how to look, to look at things in different ways and to understand the language of photography.</p> <p>-----</p> <p>How to teach visual literacy within the structure of the course remained uncertain.</p>	<p>This understanding consists of where photography is seen, its intentionality, and the strategies required to communicate and to negotiate to work within a specific genre.</p> <p>-----</p> <p>Viewing and engaging with work of other photographers and artists can be a catalyst to generate ideas for students' work.</p>

Table 10. Key points for knowledge about photography Part II (b).

Theme/ Sub-theme	Linking theory and practice	Researching and planning	Creative conversations
<p>Photographic practice</p>	<p>To explore technical and conceptual ideas/knowledge and develop both through thinking about ways of making connections between them.</p> <p>-----</p> <p>In creative practice the relationship between theory and practice is fluid; both aspects develop in parallel to shape the artefact.</p> <p>-----</p> <p>Creative thinking and problem solving play a key role in applying theory to practical work.</p>	<p>Research in photography is an ongoing process that goes beyond collecting visual material and involves the camera as an instrument for developing ideas and gaining inspiration.</p>	<p>Students develop articulacy and a critical ability through discussing each others practice.</p>

Table 11. Key points for photographic practice Part II (b).

Theme/ Sub-theme	Learning environment	Atmosphere	Structure
The learning community	The diversity of the student group contributes to students' creative development.	As with students, tutors did also not comment specifically about the atmosphere in the learning community.	Structure within a session or an assignment promotes creativity in that it provides a framework within which to develop and explore ideas. ----- Using the same structure for each module on the course encourages students to produce work that is repetitive.

Table 12. Key points for the learning community Part II (b).

Conclusion

The outcome of the categorisation of the key points emerging from analysing the data is twofold. Firstly, it has identified the main promoters and inhibitors on students' creative development in this case study (summarised in Table 13), and secondly, it highlights the core differences between the views from students and tutors (summarised in Table 14). The following chapter focuses on the relationship between the key points and the research questions of this study and draws out their relevance to the framework for the creative process (Fig. 3, p. 79) which I have developed for this study, and any pertinent theories on creativity and associated processes.

Main promoters
A learning environment in which students are exposed to a variety of material, and connections are made to a number of resources, supports students to build on existing knowledge, to gain new knowledge and to combine the two.
A learning environment in which students have opportunities to develop practical work collectively through discussion, analysis and reflection on the process of production and its outcome.
A group size between 15 and 24 students is most conducive to students' engagement in attributes of the creative process, such as experimenting with ideas, questioning material presented to them, and being open to making mistakes.
Critical reviews provide a platform for exploring and integrating theory and practice collectively, developing articulation and critical ability in regards to visual imagery, and to validate the practice of individuals.
Teaching practical skills within a task-based, student-centred structure enables students to develop a heuristic approach to working on the task and their photographic practice in general.
Structure within a session or an assignment provides a framework within which to develop and explore ideas.
Diversity in the student group enhances students' learning experience through being exposed to a variety of perspectives and views.
Effective integration of theory and practice enables students to develop a critical way of looking at the process of production and to make informed decisions about methods of working.
Developing visually literacy helps students to articulate the meaning of images they engage with, and create meaning in their own photographic productions.
Obtaining technical skills assists students in building a foundation on which to develop their creativity.
Discovering new practices and concepts through a continuous process of working with materials, methods, and tools and ideas of practice.
Workbooks provide a structured thinking space in which to reflect on research, ideas and practices, and to actively engage with the learning process.
Main inhibitors
A tight schedule for student activities, especially those for which they have prepared work, discourages students from engaging with the learning process.
Inappropriate physical learning space can have a negative impact on the atmosphere in the learning environment.
Using the same structure for each module on the course encourages students to produce repetitive work.
Lack of opportunities for discussion of and feedback in response to students' ideas and their work creates disappointment and disengagement amongst students.
Lack of teaching technical skills can impede students' abilities to realise their ideas visually.

Table 13. Main promoters and inhibitors of students' creative development.

Students' views
The constraints of set briefs or the modular structure can inhibit students from working intuitively with photography.
Lack of opportunities for discussion and feedback in response to students' ideas and their work creates disappointment and disengagement amongst students.
A supportive learning environment assists both students' photographic and personal development.
Lack of teaching technical skills can impede students' abilities to realise their ideas visually.
Obtaining technical skills assists students in building a foundation on which to develop their creativity.
A learning environment in which students have opportunities to develop practical work collectively through discussion, analysis and reflection on the process of production and the outcome.
Tutors' views
Structure within a session or an assignment provides a framework within which to develop and explore ideas.
Tutors differed on how much emphasis should be placed on technical skills in the curriculum.
Using the same structure for each module on the course encourages students to produce repetitive work.

Table 14. Core differences between views by students and tutors.

5. Framing pedagogies for photographic creativity

Introduction

Throughout this thesis creativity within the context of photographic studies in higher education has been explored. Particular focus has been given to the role of the creative process in enabling individuals to make connections between various forms of knowledge and the skills acquired, and how this process is best facilitated within an educational setting. The analytical focus of the previous chapter has enabled me to identify the main promoters and inhibitors of students' creative development on this course. In this concluding chapter I will address how these findings contribute to, firstly, defining a learning community that is conducive to students creative development and, secondly, articulating the key phases students embark on in developing their creativity whilst studying photography. By considering the findings in this way, I am able to direct the concluding discussion towards the overarching aim of the thesis: the question of how creativity is understood in the context of photographic studies. My intention is not to present conclusive findings, rather it is to provide a framework for the creative process that may be useful for understanding creativity in the study of photography and art and design education generally, and create the potential for further research and debate on students' creative development in art and design education and beyond.

By returning to the three themes that structured the analysis in the previous chapter, I am able to make direct references to my observations and interpretations of the data. Where appropriate, I discuss the findings in relation to the framework of the creative process and other theories that support my research.

The learning community

The main promoters and inhibitors of students' creative development identified in the previous chapter (table 13, p.130) demonstrate how the learning community (the learning environment, structure and atmosphere) plays a central role in influencing this development. On the one hand, the learning community can provide a physical and social setting in which students' creative development can flourish, and on the other hand it can hinder this advancement (Amabile, 1996; Dineen, 2006). I have shown that a learning environment in which students are exposed to a variety of material, and where the lecturer is drawing references from a range of sources, can encourage students to build on their existing knowledge, gain new knowledge and to make connections between the two, thus initiating the creative process through engaging in the 'preparation phase' (accumulate knowledge and define problem) (Wallas, 1926, p. 10).

The 'production' of new knowledge by students is enhanced through creating a student-centred learning environment in which students are presented with opportunities to construct new knowledge collectively (Sawyer, 2004). One example of creating such an environment in the classroom was the instance in which the lecturer of a theory lecture did not answer students' questions directly, instead used the questions to instigate general debates amongst the students to identify possible answers. By using this approach, the lecturer was able to engage the student group in a lively discussion around the topics, with the aim of students coming to their own conclusions. The result of such a session is that students are able to 'take ownership' of the knowledge produced, as they will have contributed to forming the answer, or possibly a number of answers due to the variety of views amongst the cohort. The findings of the research have shown that the diversity in the student group has the potential to enhance students' learning experiences through being exposed to a number of perspectives and views. In other words, the more opportunities students have to hear and see the views of

their peers, the more inspiration and 'thinking material' they may gain for the development of their own studies.

Whilst the above example illustrates the possibility for students to learn collectively in a large group lecture (50+ students), this is not common in such settings⁴⁰, as students are more likely to contribute in smaller group sessions. My analysis has shown that a group size between 15 and 24 students is more suited to learning collectively, as a medium-size group offers more possibilities for students to contribute and share their ideas through various arrangements of the group (working in pairs or small group or the entire group) (Jaques, 1984). A medium-size group provides opportunities for students to question the material presented, experiment with ideas, and students are more likely to be open to making mistakes. The activities described here resemble Barron's 'ingredients of creativity' (1988) as outlined in the framework of the creative process (Fig 3, p. 78). My research has shown that participation in such activities has potential to enhance students' creative development. This is particularly evident in the analysis of the critical review, which demonstrates the effectiveness of a learning environment in which students have opportunities to develop practical work collectively through discussion, analysis, and reflection on the process of production and its outcome. Whilst these activities predominantly take place during the phase of 'illumination' (possible result become apparent) and 'verification' (test apparent solutions) (Wallas, 1926, p. 10) of the creative process, they continuously occur throughout the production of work and underpin its development.

The size of the group relates to another issue that was raised by students; the level of support students experience on the course from their peers and tutors. Photography is a medium that is used by many students as a form of self-expression, so discussions of the work may focus on personal issues,

⁴⁰ During an informal chat about this lecture, students commented that they enjoyed the lecturing style of this particular lecturer most and felt that they learnt more in her lectures than in any others.

sometimes of a delicate nature. The depths of the discussions and the amount of personal information revealed are determined by the trust and rapport amongst the group. For students to engage in this type of discussion, they have to feel comfortable in the learning environment and trust their tutors and peers. Establishing this kind of trust is less likely to happen if classes are of large sizes where individuals can disappear within the crowd. Students remarked that the supportive nature of the learning environment helped both the development of their photography and them as a person.

The way in which students and tutors interact in a learning environment is not only dependent on the size of the group, but also on the size, or rather appropriateness, of the learning space. The investigation into the impact of the architecture of a learning environment on students' creative development was not a direct concern of this thesis. However, having been able to examine how the structure of a learning environment shaped creative development at specific moments in the classroom, it became clear that a lecture theatre designed for up to eighty students was intimidating to some individuals, if used for student-led seminars with a group of less than ten students. This may seem a minor point, yet feeling intimidated does not help students to build up their confidence; a personal attribute considered by students and tutors of this case study as well as in recent research (Kleiman, 2008) as one crucial to nurturing creativity.

This thesis demonstrates that for students' creativity to develop, structures in the learning environment have to be provided and tutors have to assume the role of facilitator (Sawyer, 2004). The structures can be imbedded in the module design, in the ways in which briefs are written, or in how individual sessions are facilitated. My analysis has shown that, for example, the learning of practical skills within a task-based, student-centred structure enables students to develop a heuristic approach to working on the task and their photographic practice in general. This was particularly evident in the practice workshop during which students were able to use their pre-existing Photoshop skills as well as those to which they had been newly introduced.

The combination of both enabled students to develop yet another set of new skills or methods to fulfil the task they had been set: students were exploring multiple possibilities instead of pursuing a single approach, resulting in advancing students' creativity (Amabile, 1996).

This result was partly achieved by the way in which the tutor had designed the session, and partly in how students engaged with the processes of learning initiated by this structure. Students had opportunities to learn new skills, combine these with their existing skills, refer to prior knowledge and develop new knowledge. Students had been given sufficient time to practice and experiment with all this material and then share any result with their peers. The tutor had provided a basis on which students could build, develop and explore ideas, to think for themselves, to work on their own and with others, hence 'taking ownership' of their learning. The session mirrored 'the non-hierarchical nature of the teacher-student relationship in art and design education' (Dineen, 2006, p. 112), representing a positive, supportive and dynamic environment that promoted students' creative development through increased levels of confidence, by letting students 'take ownership' of their learning. Within such a space, students were more likely to be open to new ideas and thought processes which, ultimately, was reflected in the work produced.

By contrast, the student-led seminars presented a very different picture. Whilst students were able to make connections between existing knowledge and their research conducted for the seminars, there was no opportunity to develop this creative approach further in the seminars through discussion or any form of open engagement with each others presentations. This was partly due to the tight schedule of the session, which left only enough time for each student to rush through his or her presentation, and partly to the lack of facilitation by the tutor. The only form of facilitation from the tutor was to announce the order of the presentations at the beginning and to close the session with general remarks on the supposedly student-led seminars. My research, however, shows that discussions do not just happen in a learning

environment: students need encouragement and facilitation to build up their confidence and to feel comfortable within their environment. Only when such supportive structures are set up, and opportunities for discussion and feedback on students' work and ideas are created, are students willing to engage in the learning process, be open to new ideas and thought processes and be prepared to take risks and make mistakes (Sawyer, 2004). All of which will ultimately promote their creative development.

The most student-led form of structure to encourage engagement with the learning process are students' workbooks. On this course, based on students' comments, it would appear to provide a structure for their thinking. In the workbook students can organise their thoughts, ideas, material and any methods they develop in order to work on their photographic practice. This structure helps students to follow their own progression and the development of their ideas and work (Parker, 2005), encouraging them to engage with the content critically and creatively and through this to shape their photographic practice and become reflective practitioners (Schön, 1983). In the next section of this chapter I demonstrate, amongst other matters, how the workbook plays a role in each phase of the creative process.

Key phases of the creative process in photographic studies

Wallas's (1926) four-phase model (preparation, incubation, illumination and verification) forms the foundation of a framework for the creative process (Fig. 3, p. 79). Considering each phase in relation to the main promoters and inhibitors of students' creative development identified in the previous chapter (table 13, p. 130), it becomes clear how certain methods of studying the subject of photography are similar to what happens in each of Wallas's phases. However, to understand each phase in the context of this study, the phases need to be explained more specifically in relation to the creative process in photography.

Photographic knowledge and practice

In the context of this thesis, photographic practice is defined as a directed production of images that communicate meaning, is critically informed, and addresses the context in which these will be seen. This process of constructing photographic images and projects is realised through the application of theoretical knowledge, and practical and technical skills of the medium. My research shows that students consider the learning of practical and technical skills of photography to be an essential foundation from which to develop their creativity and that the lack of teaching these skills can impede their abilities to visualise their ideas. Tutors do not make strong a connection between the teaching of practical and technical skills and students' creative development. Such was the level of feeling, that one tutor questioned the necessity of including these skills in the course curriculum and suggested that students could learn these skills elsewhere or by reading a book. This view fails to recognise that many students do not learn technical and practical skills successfully by reading a book, but learn better 'by doing'. The tutor's opinion does also not take into account that the learning of subject specific technical skills is a requirement of degree level study in art and design education in the UK (QAA, 2008a), and therefore ought at least to be considered a valid element of the course curriculum.

That some students learn best 'by doing' was confirmed in the analysis of the practice workshop, where it was highlighted that students responded well to learning techniques in a task-based workshop structure, which enabled them to practice and experiment with techniques, whilst benefiting from the facilitation and the supervision of the tutor.

Research phase

The practical experience of working with the medium can help students when working on a photographic project, which may present them with situations in which they have to work around restrictions and solve problems as the project progresses. The restrictions or problems can be of a conceptual, ethical or technical nature. In cases of technical challenges, such as

equipment failure or unforeseen lighting situations, a student benefits from a sound command of the medium, in order to manage the progress of the project. This will be achieved through continual experimentation and practice with the medium. Making mistakes is central to this development, as it helps students to learn. By and large, careful control of techniques enables students to be more creative with the tools of the medium. The 'preparation phase' (Wallas, 1926) is the place in the creative process during which students can identify which tools they may need to learn in order to fulfil the task at hand, gain further knowledge about those tools and begin to develop them accordingly.

My analysis shows that tutors welcome the idea of students using the camera as a creative tool for exploring and researching the subject of their project work (so it is a surprise that teaching the functions of this tool should not be part of the curriculum). The notion of 'practice as research' was debated during the discussion group with tutors whilst focusing on the role of research in the study of photography and how practice can operate as a valid alternative mode of enquiry to traditional scholarly research (Barrett & Bolt, 2007). In a sense, 'research with the camera' forms a part of the 'preparation phase' (Wallas, 1926), during which students discover new practices and concepts through a continuous process of working with materials, methods, and tools and ideas of practice.

The research that students undertake as part of developing their photographic practice on this course is multifaceted. Investigating conventions, styles and traditions of photography are central to this process. For example, a thorough understanding of conventions within different photographic genres offers students a choice of either applying standard techniques to their photographic practice, or of challenging the standard use by 'breaking the rules'. This could be achieved, for example, through using recognised conventions of one genre purposely for the production of images within a different genre. Examples of this kind of practice were introduced in Chapter Two in this thesis when discussing advertising campaigns such as

those for Barnardo's and Benetton. As concluded earlier, this approach requires an image maker to have a mind open to risk-taking and mistake-making (Barron, 1988), as the result can be either effective or not. In this sense, the process of image making becomes part of the research phase in that it provides the space for students to experiment with ideas, materials and methods and to test out different techniques which may or may not communicate the intended ideas.

Approaches such as the blending or merging of conventions and styles benefit from a sound knowledge of the various contexts in which photographs are seen. In order to challenge viewers' expectations and perceptions of photographic imagery within a specific context, it is crucial to explore and understand the boundaries of that context fully before attempting to cross or blur these boundaries. Students' understanding of the visual language of photography - visually literacy - helps to shape such knowledge. Visual literacy on this course includes the interpretation and creation of visual symbols and signifiers in a photographic image, and the use of styles and aesthetics in order to construct and convey meaning. The combination and the development of the aspects that make up the research phase shape the next step of the process of production, a phase in which the 'research material' is translated into actual practice.

Practice phase

In Wallas's model, the second phase is the 'incubation phase' (1926) during which divergent thinking and focusing on other projects can take place. For this case study, I will name this phase the 'practice phase', during which the student is immersed in his or her practice and explores all possible directions of the project. This exploration is partly carried out by working through ideas in a deliberately structured way (Weisberg, 2006) in which certain aspects of the exploration are repeated to improve the process or the outcome, and partly in a more subconscious manner (Parker, 2005), whereby the student orders, filters, and compartmentalises experiments, ideas and results to shape the process of production of the photographic work. Students often

use their workbooks to capture this exploration. This enables students to work independently and at their own pace through the collected material, evaluate their experiments, methods and ideas, and the 'result will be a resolution of ideas appropriate to intention' (ibid, p. 197).

For students to be able to evaluate such results, and to decide which methods of working are most conducive to reach their goal, the use of existing knowledge and skills, both theoretical and practical in nature, are central factors in this process (Koestler, 1964). Whilst there is disagreement amongst a number of creativity researchers about the relevance of existing knowledge (Cropley & Cropley, 2008), I would argue that it is crucial for students to use such knowledge in order to understand the various contexts (including artistic, historical, political and social) for which photographs are produced and within which photographs are seen. As highlighted in my analysis, effective integration of theory and practice enables students to develop a critical way of looking at the process of production and to make informed decisions about methods of working. Without some form of knowledge base from which to begin, a student will not be able to make those informed decisions and is less likely to understand what it is that he or she is producing or intends to achieve. This lack of understanding will ultimately inhibit students' creative development, as it will be difficult for students to meet the conceptual and practical challenges that they may encounter during the production of photographic work.

If students are technically proficient they can focus on developing visual strategies which address, for example, conceptual or ethical challenges of photographic work. One such challenge was described by a student who participated in one of the discussion groups of this study. The student had been working with asylum seekers on a documentary project dealing with themes of exile, displacement, cultural difference and human rights. Such themes pose ethical challenges of representation and protection of the subjects' identity, requiring the photographer to carefully consider the visual approach of the subject matter. The student explained how she used the

subjects' emotive narrative as a starting point from which to develop her own visual interpretations of the story. By visiting the places the subject had described, and through using a visual language that expressed the subjects' emotions in the form of lighting, framing and symbolism, the student intended to place the viewer into the position of *'what it actually feels like - on a day-to-day level - to be an asylum seeker in the UK'* (A).

The student's description of her way of developing the story she wished to communicate highlights how connections between existing knowledge (her knowledge of the medium) and new knowledge (the subjects' narrative) were made (Barron, 1988), how meaning was constructed through applying visual literacy skills and how somebody else's story was told through the interpretation of a photographer. Such a critical approach to photographic practice will distinguish the mere technical operator of photographic equipment and related processes from the creative and critically informed practitioner.

Realisation phase

The development of visual literacy has been identified in my research as a promoter of students' creative development in the way in which it helps students to articulate the meaning of images they engage with, and create meaning in their own photographic productions (Way, 2006). This development goes beyond the 'practice phase' into the next phase of the creative process which Wallas called the 'illumination phase', during which 'possible results become apparent' (1926, p. 10). In this thesis, I defined this phase as the 'realisation phase', as its main purpose is for students to decide whether ideas or the intended meaning of their photographic work is communicated successfully through the images and if the visual language used is appropriate to intention. Students commented during the discussion groups on how workbooks are commonly used for planning and envisaging work in progress. The workbook provides a space which helps students in translating ideas into possible visual representations of their subject matter

and to make connections between the different stages of production and develop their photographic practice.

The discussion of photographs amongst peers and tutors plays a central role in the development of photographic practice on this course and helps students especially during the 'realisation phase'. These discussions take place in the form of group tutorials and critical reviews and provide opportunities throughout all stages of the production of the work to talk about the development of the images, share ideas and gain feedback to progress with the project. My research shows that the critical review in particular provides a platform for exploring and integrating theory and practice collectively, developing articulacy and critical ability in regards to visual imagery, and to validate the practice of individuals. It is worth commenting that my analysis shows that students placed much more emphasis on having opportunities to discuss their photographic work during the discussion groups than tutors did. My observation of a critical review, however, demonstrated that the tutor had considered the structure of the session and, judging by the participation of students, facilitated the critical review effectively. A conclusion from this could be that critical reviews have become an assumed practice amongst tutors on the course, so much so that they do not consider it worthy of further discussion. For students, however, the opportunity to participate in a critical review and, by way of this, gain valid feedback on their photography, is one that they may only have experienced since starting the course.

In these critical reviews, photographs play an important role in challenging or reinforcing individuals' perspectives, acting as a catalyst for discussions and, by way of this, helping to shape ideal platforms for developing creative conversations (Leadbeater, 2007). These types of conversations go beyond the mere reflection on a photograph or a method of working; they encourage students to discover and learn through dialogue and debate. Unlike the process of reflection, which could be described as an internal individual process, creative conversations are a collective,

external exploration of images, processes of production and contexts within which photographs are viewed.

It is the social exchange of ideas between students and tutors during critical reviews that play a role in expanding students' minds, thus enabling them to acquire new knowledge and understandings about photography. This knowledge may comprise technical skills of the medium such as camera functions, lighting and analogue and digital processes, as well as conceptual and theoretical understandings of photographic techniques in relation to the production of images and their location in a broad cultural framework. The conceptual and theoretical understandings include visual literacy and critical knowledge, (both referring to the construction of meaning in a photograph and to the context in which photographs are produced and seen) whether the photographer is making a statement or is challenging preconceptions and whether ethical, social and political issues are raised through this process.

Reflection phase

Critical reviews provide the space in the creative process within which the work produced may be 'verified' (Wallas, 1926) by peers and tutors through having the opportunity to test if an image, or a series of images, tells the intended story, evokes a particular response from the group, or engages the group at any level, including emotionally, intellectually or visually. Students have confirmed the importance of engaging in these debates as a way of gaining a deeper understanding of their photographic practice and in helping them to learn how to communicate their thoughts and to transform their experiences into photographs. Communication is integral to the creative process (N. Jackson & Shaw, 2006); through successful communication an idea or a body of work is verified and achieves a valuable status within the context in which it is presented (Csikszentmihalyi, 1999). In the event of unsuccessful communication, the student has the opportunity to reflect on the outcome and can return to the stage of the creative process that is most likely to help improve the effectiveness of the work. Thus, communicating through photographs and talking about photographs contributes to the

process of students becoming reflective practitioners (Schön, 1983), whose practice develops through a critical engagement with the creative process of image making.

The research shows that students on this course engage in two types of reflection whilst developing their photographic practice: the social and the individual. The social reflective practice happens mainly during creative conversations in tutorials and critical reviews, during which students discuss ideas, methods and photographs with tutors and amongst peer groups. In these sessions students have the opportunity to reflect on the development of their ideas as well as processes related to the production of their photographic work. These sessions could be described as a 'community of practice' (cited in Kleiman, 2008) in which students can develop their creativity collaboratively - through asking questions, analysing and justifying their practice, and by giving and receiving constructive criticism. Students' contributions in these conversations may be experiential, factual, emotional or personal in nature, adding multiple dimensions to the knowledge shared and gained from each other. This range of knowledge may assist students in developing different aspects of their practice, nurturing their learning and their ideas, thus enabling them to acquire further understanding relevant to their field of study. This knowledge is not taken solely from textbooks, but partially developed from students' experiences and the exchange of these experiences with their peers. As students and tutors commented during the discussion groups, due to the diversity of the students group, this exchange of individual experiences is an invaluable contribution to their learning and enhances students' creative and personal development.

In addition to these collaborative opportunities for reflections on students' photographic practice, students are encouraged to reflect individually on ideas, methods and their photographic work. In art and design education the workbook is a common place to keep records of this process. As described earlier in this chapter, the workbook provides a structured thinking space for organising thoughts, analysing and reflecting on different visual strategies to

develop a photographic project, and to revisit research to critically inform the continuation of the project.

The discussion of the key phases of the creative process in photographic studies has helped me to identify the four phases that form the basis of this process. The phases are: research, practice, realisation and reflection. The relationship between these four phases and Wallas's four-phase model as shown in Figure 3 (p. 79) could be summarised as follows. Wallas suggests that the 'preparation-phase' encompasses accumulating knowledge and defining the problem (1926, p.10). In my model of the creative process in photographic studies (Fig 4, p. 147), it is during the 'research-phase' that students identify tools, develop their usage and discover new practices and concepts through practical experimentation, thus accumulating knowledge and defining the problem. In Wallas' s model, the second phase is 'incubation'; a phase during which thoughts are diverted or priority of work on other subjects takes precedence. In my model, the second phase is the 'practice-phase' in which working methods are explored and tested, different contexts are examined and existing knowledge is utilised. Walla's 'illumination-phase', in which 'possible results become apparent', is comparable to my 'realisation-phase' during which students make decision about how ideas are best communicated. Wallas named the concluding phase 'verification', somewhat implying closure. In my model, the fourth phase is 'reflection', referring to the consideration of previous actions, being open to suggestions and potential change, thereby implying that the creative process may continue.

The following section focuses on the progression between the phases, the objectives of the key phases, and how both contribute to developing an understanding of a concept of creativity in the context of photographic studies.

Understanding creativity in photographic studies

Progression between the key phases

A photography student, who engages in the four key phases of the creative process identified earlier, is likely to undertake specific activities in order to develop ideas and projects. Figure 4 shows the core activities that make up each phase (as they emerged from my research) and demonstrates the flexible and unpredictable nature of the progression through the phases.

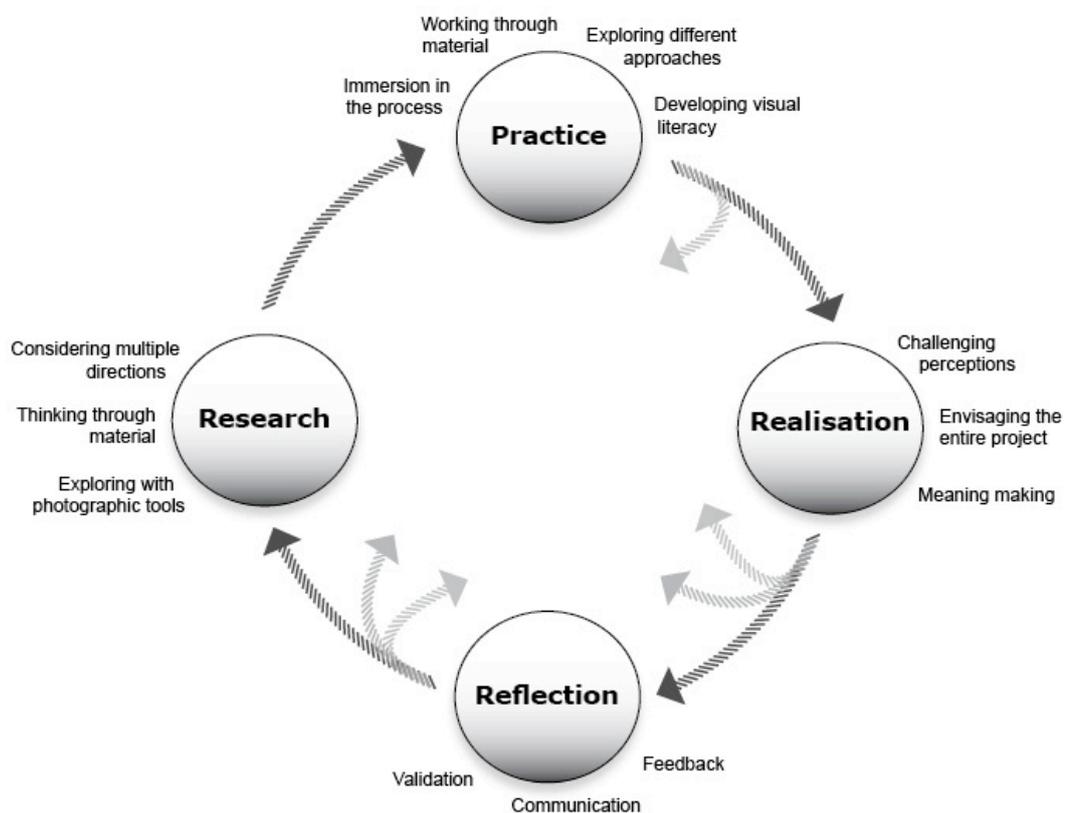


Figure 4. The creative process in photographic studies.

During the practice phase, for example, the student explores different conceptual and practical approaches in order to visualise the subject matter of his/her project. In developing systematic methods of working through the material produced - visual experiments, the combination of text and images, the format of presentation - visual literacy will be developed and meaning

constructed. During this phase, the student is, ideally, fully immersed in the process of production, acquiring and applying existing and newly gained knowledge. At some stage in this phase, the development of ideas and images has to be viewed from a critical distance; progressing towards the realisation phase, whilst reflecting on the work produced so far. This is done best by presenting the work in progress to a tutor or a group of peers. During this presentation, constructive criticism can be offered, alerting the student to successes and failures up to this point. The student can then return to the practice phase (illustrated by the lighter arrows in figure 4) and work through any problems or unresolved issues of the project that have been raised. This part of the process can be repeated until the student is satisfied with the criticism received, and has developed the confidence necessary in order to move towards the next stage of the creative process.

Viewing a project from a critical distance is essential at any stage of the creative process. For example, in the view of a student, a project may have been fully realised - visually, technically and conceptually - yet, when presented to a tutor and/or a group of peers it comes to light that the intended meaning is not communicated successfully, or the images do not evoke the emotional response desired. In the case of such a result, the student has the opportunity to revisit the research and the practice phase (again, illustrated by the lighter arrows in figure 4) in order to further explore directions and approaches with the aim of producing a more convincing outcome.

Most ideas or projects that students work on begin with the research phase of the creative process. Until any outcome of this phase has been translated into a form of practice, it is not likely that a previous phase will be revisited. This explains why the arrow between the research and the practice phase in figure 4 does not show a diverging strand.

Objectives of the key phases

The earlier discussion of the four phases highlighted that the phases do not exist in isolation but form what could be described as a continuous, developmental, and transformative process, which evolves over a period of time. This ongoing process is underpinned by five objectives. First, knowledge acquisition and application - theoretical, practical and technical – commence during the research phase, play a core role in the practice phase and continue until the end of the realisation phase. Second, linking theory and practice also begins within the research phase, but reaches its peak in the practice phase and ends gradually during the realisation phase. Third, discovering new ideas and methods occurs continuously from the outset of the creative process into the reflection phase. Fourth, structured thinking varies throughout the process.⁴¹ Fifth, collective learning – through discussion and critique – takes place throughout the creative process, but to varying degrees depending on the amount of opportunities provided for tutorials and critical reviews.

In order to meet these five objectives in an educational setting, structures and facilitation have to be put in place. In the section of this chapter relating to the learning community, I demonstrated possible structures of such a setting and methods of facilitating the process effectively. My research shows that a collective approach to the creative process most nurtures students' creative development. Pedagogies such as student-centred learning, discussions and working together through ideas, play an important role in the facilitation of this development. However, before I offer further recommendation to the development of such pedagogies for the study of photography, I will address the overarching aim of this thesis, which is to elucidate how is creativity understood in the context of photographic studies.

⁴¹ For example, in student workbooks this thinking is ongoing throughout all four phases. As part of a practice workshop, the 'space' for structured thinking depends on how the tutor designs the workshop and intends this thinking to take place, but it will mainly be during the practice phase.

From process to concept

In Chapter Two, I suggested that researchers of creativity in education are concerned mainly with the creative process, as opposed to the creative person or the creative product. Throughout this thesis, I have followed this strand of enquiry and focused on how students' creative development is promoted through the facilitation of the creative process. Like other scholars (Cropley & Cropley, 2008; Kleiman, 2008; Osborn, 1953; Wallas, 1926), I have worked towards an understanding of creativity by focusing on defining the different stages that make up the creative process. Unlike some researchers (Cropley & Cropley, 2008; Osborn, 1953)⁴², I have not extended Wallas's four-phase model, but used it as a basis from which to develop my own definitions for the creative process in photographic studies.

The close scrutiny of each phase of the creative process has not only enabled me to shed light on each phase, but also to demonstrate the progression between the phases and to articulate their objectives. The connections between the phases and their objectives, and the transformations that develop from the progression through the phases enable creativity to evolve. My research shows that creativity in photographic studies is a continuous, developmental, transformative process. It originates from existing knowledge and experiences, ideas and materials. The process advances through making, thinking with, and through, photographs; working through material, applying tools, reflecting on what is being produced, revisiting initial ideas and transforming these ideas and experiences into photographs.

Defining creativity as a continuous, developmental and transformative process raises the question of how such a process can be realised and evaluated in an higher education environment in which the length of the academic year and the modular structure place strict time constraints on

⁴² Cropley & Cropley promote a seven-phase model for the creative process, and focus their research on how this could be facilitated systematically in an educational setting.

students and tutors. These limitations make it difficult to design a curriculum that offers time and space for an 'organic' development of creativity to occur, whereby students and tutors have opportunities to move beyond the surface approaches to learning. An examination of these aspects is beyond the scope of this thesis, which does not allow for further exploration of this question, nor has it been possible to test the significance of time in the creative process through, for example, following students' creative development for the duration of their studies and possibly beyond. There is no doubt that such an approach to exploring creativity in photographic studies would have brought different and equally interesting areas of investigation into the thesis and I would like to expand my theorisation of the notion of time and the creative process in future research.

Other questions that are raised by my focus on the creative process in photographic studies in the thesis will inform the development of larger scale research in the future. The questions include: 'What kind of modular structure could facilitate best students' creative development?', 'How can the four-phase model of the creative process in photographic studies be applied to other subject areas?' and 'How can a virtual learning environment help facilitate the creative process in art and design subjects?'

New ways of seeing

The research findings of this thesis have derived from a case study focusing on students' creative development on a particular photography degree, and therefore provide, primarily, an insight into this specific context. However, the study shows some potential to inform the wider field of art and design education and, possibly, beyond. Before I describe this potential in further detail, I will address the limitations of the study.

Limitations of the study

Most of the fieldwork carried out for this thesis went very smoothly, though including theory tutors in the discussion groups turned out to be more difficult than anticipated. Whilst all of them had shown great interest in participating, it was impossible to agree on a date that suited all practice tutors and theory tutors within the time period I had been allocated to carry out my fieldwork. Whilst their input could have added further understandings of creativity and related processes to the outcome of this study, I regard this as symptomatic of the challenges with which a researcher in education is likely to be faced.

A disadvantage to the qualitative research approach was the time involved in the analysis of the collected data. Therefore, to keep the data analysis manageable within the time frame allocated, the sample and the project was kept small to allow enough time for me, as the researcher, to fully analyse the material.

Recommendations

My research generated a number of recommendations for the course team to consider in order to promote students' creative development whilst studying photography. Although the recommendations stem from this particular case study, they have the potential to provide useful stimuli for disciplines other than photography, and for teacher education and pedagogic practice in the relation to promoting and facilitating creativity in the classroom/studio.

My recommendations are to:

1. Create a student-centred learning environment in which students are presented with opportunities to construct new knowledge collectively.
2. Utilise the potential of a diverse student group to contribute to students' learning and to enhance their creative and personal development.

3. Aim to create student group sizes of between 15 and 24 students, as this is suited best to working collectively and enhances students' creative development.
4. Create opportunities in the course curriculum for students to improve practical work collectively through discussion, analysis and reflection.
5. Create a supportive learning environment in which students feel comfortable and trust their tutors and peers, as this helps the advancement of students' photography and their development as individuals.
6. Provide structures in the learning environment, such as using students' questions as a generator for debates, or working on a task in small groups, and encouraging tutors to assume the role of facilitator, as all can help students to develop their creativity.
7. Consider embedding the learning and teaching of practical and technical skills of photography in the course curriculum, as these skills form an essential foundation for students upon which to develop their creativity.
8. Consider the teaching of techniques in task-based workshop structures with opportunities to practice and experiment, and with supervision from the tutor at hand, as students seem to respond well to this method.
9. Promote 'research with the camera' to students as it supports their creative development by discovering new practices and concepts, through a continuous process of working with materials, methods, tools and ideas for practice.

10. Facilitate discussions of photographs amongst peers and tutors throughout the duration of the course as they play a central role in the development of students' practice and their creativity.

In light of the above recommendations, further exploration of the notion of collective learning in art and design education seems necessary, especially to enable students to acquire practical and technical skills. Equally, the impact of students' motivation on their creative development may well provide valuable insights into why some students appear to immerse themselves more in the creative process than others.

In her study *Views from the chalk face*, Dineen concluded:

...lecturers and students in post-compulsory UK art and design education are not just 'talking the talk' but 'walking the walk', engaged in an energising and transformative experience of creative learning.

(2006, p. 117)

My research suggests that, whilst there is some truth in Dineen's statement, within creative learning and teaching in art and design, some lecturers and students are still crawling, rather than walking. Too many assumptions are being made about creative learning being inherent in creative subjects and that creativity 'just happens' in art and design studios. The research findings of my thesis have enabled me to develop an original and invaluable model of the creative process in photographic studies, which I believe has the potential to be of use well beyond my field of art and design education.

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Appendices

Age	Gender	Prior experience
18 - 25	Female (2)	Short course in photography
		Professional Certificate in Photography
26 - 35	Female (2)	ND Photography
		BTEC Photography
	Male (3)	Medical photographer
		Work experience
	Professional Certificate in Psychology	
36 - 45	Female (6)	BTEC ND Accounting/ short course in photography
		Foundation Course in Art
		A2 A-Level Fashion
		BTEC ND Graphic Design
		Left school at 16, photography as hobby
		ND Photography
	Male (3)	City & Guilds in Photography
		Working photographer
City & Guilds in Photography		
46 - 55	Female (4)	City & Guilds in Photography
		Access to HE in Photography
		Evening classes
		Work experience
	Male (1)	Different career, photography as hobby
56 - 65	Female (1)	City & Guilds in Photography
	Male (2)	HNC Photography
		MA in Politics, City & Guilds in Photography
65+	Male (1)	HNC Photography

Number of total participants: 25 (15 female and 10 male).

Appendix 1. Details of research participants' (students and alumni) ages, genders, and prior experiences.

Learning through Photography

Group Discussion Guidelines

(Students are encouraged to bring some of their own photographs to this session)

Part one: Exploring expectations of the programme

1. Why did you initially choose to enrol on this course?
2. What types of skills were you hoping to learn?

Part two: Exploring creativity in relation to your learning

1. What creative skills are you learning?
2. How will you use them in future learning or employment?
3. Describe your creative development using your photographic work as an example.
4. Identify the key factors that have influenced your creative development.
(This could be the physical learning environment, your interaction between tutors and peers, prior skills, etc.)
5. How would you define creativity in the context of photographic practice or theory?

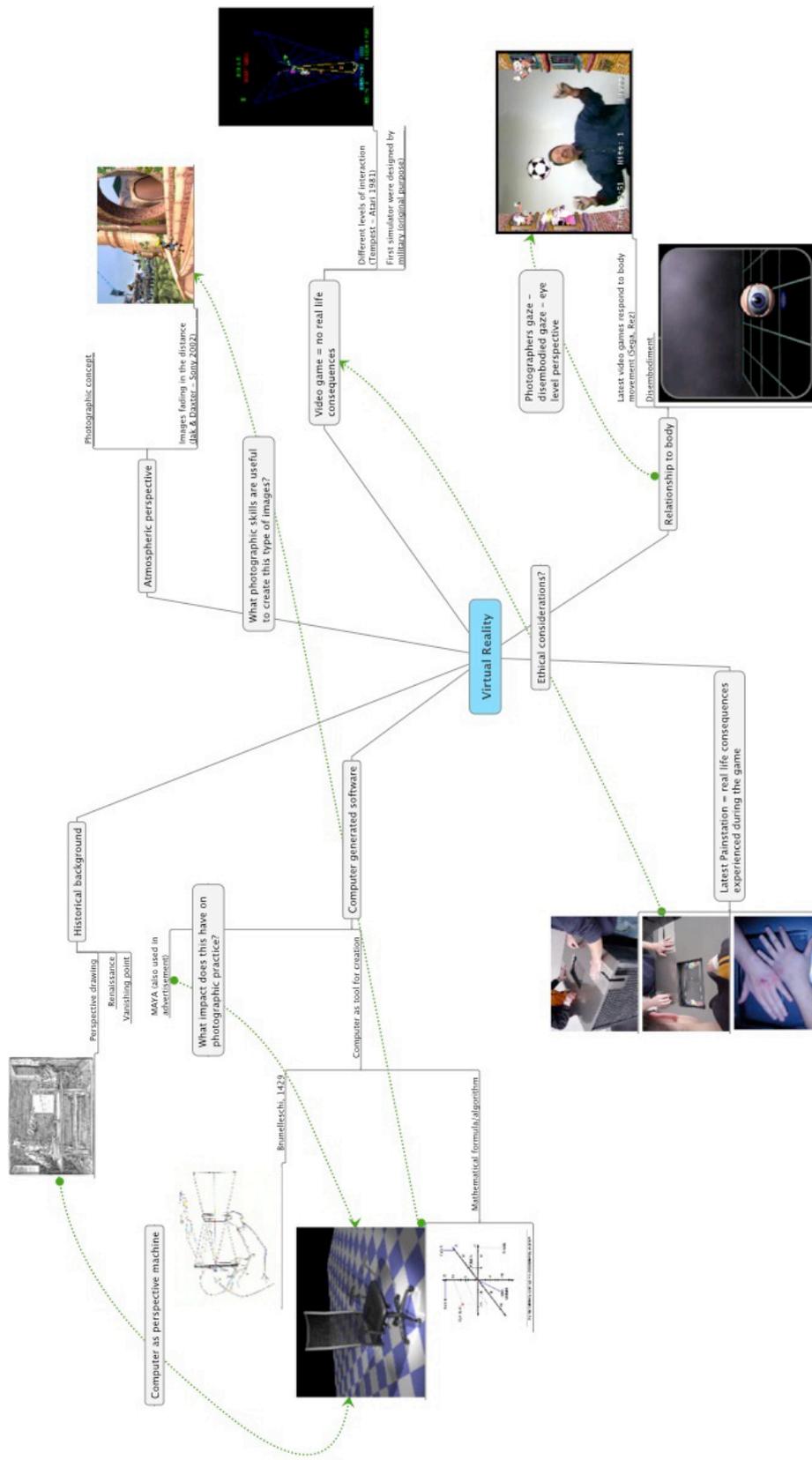
Appendix 2. Discussion guide for discussion group with students.

Learning through Photography

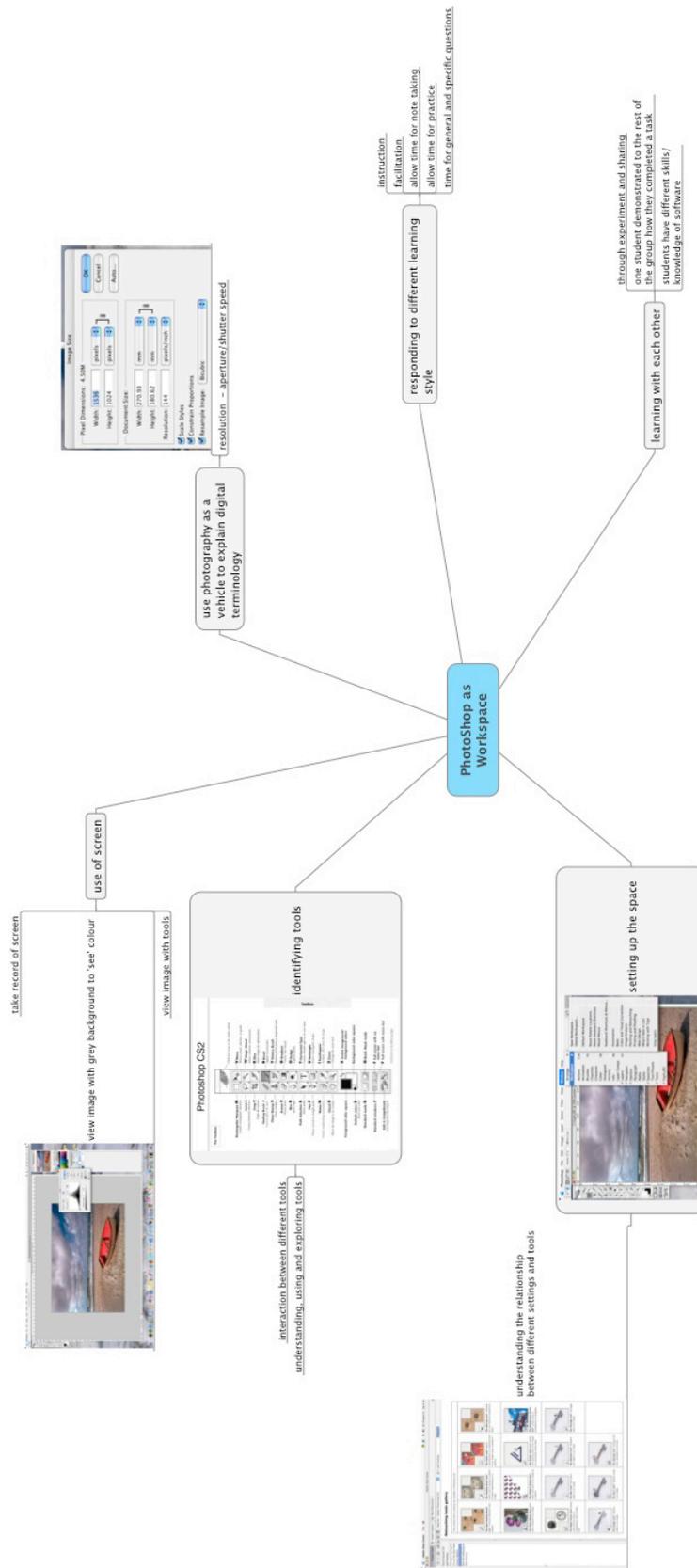
Course Team Discussion Guidelines

1. What type of skills do you want students to learn?
2. What creative skills do you want students to learn?
3. How do you facilitate the learning of creative skills?
4. Identify the key factors that you think influence students' creative development.
(Prompt: This could be the physical learning environment, your interaction with students, prior skills, etc.)
5. How do you think students could use these creative skills in (a) future learning or (b) employment?
6. How would you define creativity in the context of (a) photographic education on this particular course and (b) higher education in general?

Appendix 3. Discussion guide for discussion group with tutors.



Appendix 4. Recorded data of observation of the theory lecture.



Appendix 5. Recorded data of observation of the practice workshop.