Cape Peninsula
University of Technology

STUDENTS' PERCEPTIONS OF THE RELATIONSHIP BETWEEN WORK EXPERIENCE AND UNIVERSITY LEARNING

by

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Thesis submitted in fulfilment of the requirements for the degree

**Master of Technology: Graphic Design
In the Faculty of Informatics and Design**

at the Cape Peninsula University of Technology

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**Bellville
March 2016**

DECLARATION

I, Cheri Velma Hugo, declare that the contents of this thesis represent my own unaided work, and that the thesis has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

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Signed   **Date**

ABSTRACT

This research investigates students' perceptions of the relationship between work experience and university learning. The subjects of the study were third-year students from the Faculty of Informatics and Design at a university of technology in Cape Town, South Africa, and the research focused on the graphic design department within this faculty.

The research was approached from an interpretivist's lens in an attempt to explain and understand the experience that students have in their short time in the industry, namely a two-week work placement, and how they related this to university learning. Students were interviewed before and after work placement in terms of their experience and insight into the relationship between university and the workplace.

The research shows how design students experience the processes of learning at the workplace, compared with the processes of learning at university. The research results indicate that students found collaboration and teamwork in the workplace valuable and meaningful. In addition, the different levels of skills in the community of practice in workplaces gave students a wider variety of solutions as they could draw from fellow workers' experience and skills. This contrasted with university where they work alone and have to produce solutions on their own. Further investigation highlighted that at university there was evidence of interesting findings of timetables, value of the work group, and that at university students are taught in sections compared with the workplace where they draw on anything and everything to complete the assignment.

This research makes a few recommendations based on the data collected. These insights can be used to inform policy and practices, further research and development work in the future.

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this thesis to my late grandmother, Hilda Goetham, for never giving up on me and showing me that everyone deserves a second chance. Also for believing that I had a purpose in life and for believing in me when all hope was gone. Herewith I honour you with my second chance.

To my uncle, Mike Goetham, you were right … "See you in heaven."

My beloved children Cole, Morgan, and Daniel, I thank you for your understanding and patience while I was working on this thesis. And for being so brave and giving me the encouragement to never give up. Through your eyes I became superwoman. I love you all dearly!

The love of my life, my husband and best friend; your love for me is unwavering and your constant support and encouragement have meant the world to me. The late nights you stayed up with me will never be forgotten. You are my rock. There are no words to say how much you mean to me. Love you always!

To all graphic design students who, like me, were ill prepared for the workplace.

For all those struggling with addictions and displacement, I found comfort in family, education and in my job. I wish the same for you.

To my father, for his strict, forceful upbringing in a gang-infested, poverty-stricken environment where few make it out. You supported me, changed me and drove me mad as I rebelled against authority, but never gave up on me.

To my small, but close group of friends for your support and motivation. And mostly for rearranging birthday parties and get-togethers to accommodate me while writing this thesis … it will always be remembered.

To my community and the Methodist Church of South Africa, Bishop Lavis, for always keeping me spiritually grounded.

Finally to Almighty Father, who has strengthened me to do all things through Him, He is my refuge and strength.

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ABBREVIATIONS

AT   Activity Theory

CPUT   Cape Peninsula University of Technology

DHET   Department of Higher Education and Training

DOE   Department of Education

UOT   University of Technology

HEQC   Higher Education Quality Council

DOL   Division of Labour

GD   Graphic Design

ECP   Extended Curriculum Programme

WIL   Work Integrated Learning

CHAPTER ONE
INTRODUCTION TO THE THESIS

1.1 Introduction

This thesis describes research undertaken to determine students' perceptions of the relationship between work experience and university learning. The research is relevant to the Cape University of Technology (CPUT) as it is a university of technology (UOT) as stated by the Higher Education Quality Committee (HEQC). Work experience is understood as significant to the curriculum. Collaboration, feedback and learning in the workplace have been enabling factors to assist students with transitioning from university to the workplace. These enabling factors also have the ability to assist students in dealing with the uncertainties of the graphic design world of work.

1.2 Background

The research focuses on students' experience (as they are the ones who are being taught and who participate in the work-integrated learning period), and more specifically on the relationship between university education and the workplace in the field of graphic design.

During the June and July vacation period, third-year students of this programme spend two weeks in the workplace. Work-integrated learning,[1] and in particular work placement, is the first experience of learning in the workplace for a short period of time for most graphic design students during the third year of the graphic design programme at CPUT.[2] The research concentrates on their experiences and perceptions of their work placements and how they are able to function as designers. It also indicates how they are able to use the skills and knowledge learned at university, as professional courses at universities of technology should be preparing students for work.

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[2] Cape Peninsula University of Technology.

The role of graphic design specialists is to help clients communicate an appealing image through digital, electronic and print media. They may, according to Cross (2004), design logos, brochures, signs, movie credits and website graphics. Designers often work for advertising, marketing and media management firms. They assess client problems and design graphic solutions to aid product branding and sales. According to Dorst (2008), graphic designers also produce solutions for the selling of services and educational problems. Furthermore, Zollinger and Martinson (2010) maintain that they should be culturally sensitive to create outputs that are favourably received by consumers. However, with the ever-changing world of work, the graphic designer's role is changing.

A typical design studio has various motives that drive its activities accordingly. All the role players all have the best interests of the agency's project at heart and so will provide input advice and skills to enhance the project. According to Boud and Middeleton (2003), nothing is done in isolation. Collaboration and sharing in the work group are essential to the success of the project. As individuals are not rewarded for their particular role in the project in the workplace, there is no pressure to keep a strict record of individual input. There is little competitiveness among designers to score better marks, as is the case at university; therefore collaboration happens naturally (Eraut, 2010). Critique in the work group is focused on the project and not on individuals, and group work is important.

Unlike a design studio, the motives that drive these students to participate in this activity at university are often those of the student's individual desires. Students choose the course they wish to study at university, they enrol and attend classes (Buchanan, 1995). Assignments are given by lecturers and submitted by students during classes (Dinnen et al., 2005). The same lecturer oversees all students and may facilitate a few sessions. The same lecturer provides guidance in over 15 different projects. Individual feedback is provided in class per subject, per project after the project window. This feedback is seldom shared with other classes or subjects, and may differ from project to project at CPUT, as supported by the findings of Dorst (2008).

In my opinion, the competitive nature of design classes limits the sharing and nurturing of ideas. However, an advantage to this competitive nature in the design class is that it drives students to design better. These students often have limited skills and worldviews, and collaboration is limited. This is endorsed by Appiah and Cronjé (2013). This often leaves students working independently and prohibits them from asking for advice. Students have to be physically present in a university studio when critique[3] is given; this cannot be reviewed at a later stage. Work done in the work studio may turn into a joint effort between the student and the lecturer, making it difficult to determine what part of the project the student has done (Heskett, 2005), as studio work is guided by the lecturer.

1.2 Rationale and problem statement

One's own experience is valuable, and this also applies to my own experience in transitioning from university to work. The latter experience was difficult and overwhelming. The environment at work was substantially different from university and I found my preparation at university insufficient to navigate through this transition. However, I found that the work-integrated learning period, in particular, work placement, was the most significant educational experience of my studies. I often wondered if other students had experienced the same difficulty. In fact, discussions with staff, students and peers (designers) around work readiness, led me to believe that students do indeed have difficulty in making the transition from university to work.

Research has shown that students' experience difficulty in making the transition from the university to the world of work, research done by Eraut (2004) supports this. In his work he explains, this diificulty for students. My research supports such work in which I suggestions that lecturers underestimate the difficulties students experience in moving from university to workplaces, as these are quite different social situations with different purposes? Paré and Le Maistre (2006) further suggest that the two sites are different social (or activity) systems, often with different cultures and rules,

and different roles students can assume, as well as often widely different purposes. Furthermore, according to Hardman (2005) explains the experience of investigating two different cultural systems with rules and the use of tools.

The latter statement has bearing on this research as the university and workplace have different purposes and how students deal with these experiences is well worth investigating.

1.4   Research problem and research questions

There are differences between university and the workplace, and consequently students experience difficulties in making the transition. In this context, my research sets out to examine students' experiences of being at work.

1.4.1 Aim:

To explore the relationship between the learning experiences in the work place compared to the learning experience at university.

Two questions drive this study:

1.4.2 Research questions:

1.4.2.1 What do students do at work?

1.4.2.2 How are these activities related to their university experience?

1.5   Objectives

More specifically, this research attempts to describe and understand students' experience of the learning in the work place compared to the university learning experience. In understanding their experiences students´ learning in both environments can become more meaningful learning experience. Through exploring, describing and understanding there perspective of this learning experience we have learned valuable insights.

The findings could offer opportunities for both environments to adjust and develop in various areas, as supported by the work of Reid and Solomonides (2007) and Rohlwink (2008) who contend further development and research is needed.

1.6 Theoretical framework and research design

Using the explanation from Cronje (2006) in which he compares interpretivists (what people think, what meaning they make of things with no real acknowledgment of pre-existing structures) to what he calls functionalism (a belief in rules and structures in the world which we must find out). He also states that research can have or involve both of these. These explanations compare well to what researchers call a social realist paradigm (Carter and New, 2004). Here it is understood that society and systems within, for example, communities of practice and activity systems, have structures and cultures that are historically embedded within them. These structures and cultures can take the form of how roles are typically divided up (called DOL in AT), rules of the organisation and what people generally understand as its purpose.

These structural and cultural elements in both the university and the workplaces precede students entering them. They do not just exist but also influence what students can and cannot do in the organisation; they are real. However, they do not determine exactly what students can do. Students also have agency and thus their own ideas of how things can be done in a system. They thus can choose to construct their own ways of understanding or even dealing with these structures. This is the social part of social realism.

Activity theory was the theoretical framework used in this research. Activity theory was also used as the method for gathering data and analysing and interpreting the data into findings. Activity theory was used as a theoretical framework for this research study as it allowed me to analyse both the university and workplace activities using the same analytic tool in the same way as Hardman (2007a) has done.

Activity theory investigates human activity, understood as activity in a specific social setting (Parks, 2000), such as work or learning. The main unit of analysis in AT is the activity system, defined as "object oriented, collective, and culturally mediated human activity" (Engestrom & Miettinem, 1999, p. 19). A model of the structure of activity system was formulated by Engestrom (1987), which includes the interacting components of the subject, object, tools

(instruments or artefacts), division of labour, community, rules and outcome (Pare and Le Maistre, 2006).

From the view there is a move away from the individual as the unit of attention and analysis in education research toward a focus on collective activity in disciplines, organizations, institutions, and other "communities of practice" (Lave, 1991; Lave & Wenger, 1991;Wenger, 1998).

Le Maistre and Paré (2004) used activity theory to investigate learning in two communities comparable to this research. They established that students found it difficult to transition from one community to another, as supported by Engeström and Kerosuo (2007). Hardman (2007b) has also used activity theory to examine learning in two environments and has supported Vygotsky's stance on mediation, in which it is believed that no one just does a job, but is mediated by more knowledgeable others and through the mediation of tools. Furthermore, Mwanza and Engeström (2003) concur that mediation through tools and through more knowledgeable others is part of the process.

In this research, therefore, activity theory is used as a set of descriptive headings in a AT system or activity to describe role players, actors or influences that impact on the activity or system investigated.
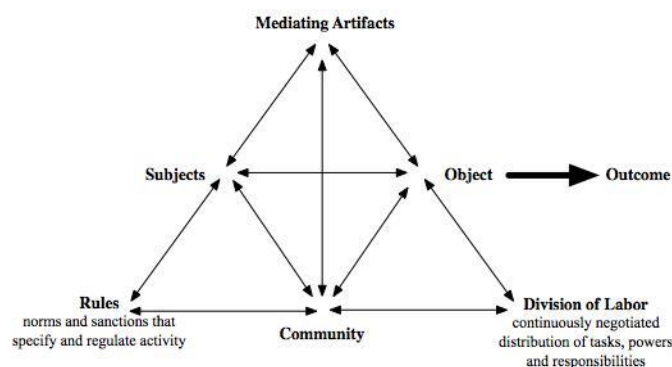
**Figure 1.1: Engeström´s model of an activity system
Engeström (1987)**

In Engeström's (1987) model (Figure 1.1), it is useful to understand how a wide range of factors works together to impact a work activity. For an outcome to happen it is necessary to produce certain objects (e.g. experiences, knowledge, physical products). Human involvement is mediated by artefacts

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(e.g. tools used, documents, mental tools), according to Eraut (2004), the activity is also mediated by the community in which the activity is taking place (i.e., the setting). The community also imposes rules and regulations that impact on the activity (Boud & Middeleton, 2003). Stevens (2000) asserts that the division of labour (how things are done or divided) also impacts on the activity.

What is really interesting about the theory discussed in the previous paragraph, is that it is not the study of a person involved, but is about the entire activity and that which impacts on it, as indicated by Paré and Le Maistre (2006).

For the researcher in this study, understanding students´ experience and explanations and how they have made sense of their experiences is the focus of this research. Their truth and meaning making are investigated.

Mwanza (2002) has used more naturalistic methods for similar studies; this study uses interviews and observations in a similar fashion to Mwanza (2002) qualitative research. Facebook, blog posts and interviews were also used to gather data in a similar fashion to that of Garraway and Morkel (2015), namely a typical qualitative research method. I preferred the manner in which Mwanza (2002) has used Activity theory in particular the AT system. Mwanza (2002) cleverly interrogates a learning activity system by posing questions drawn from each element (e.g. roles an division or labour) which allows the researcher to directly populate those elements on the diagram in Figure 1.1.

A comparative study between the university studio and the workplace was done using the activity theory system. Interviews, Facebook page comments and blogs were used to gather data. The advantages of using mainly social networking platforms were that these are flexible and mobile. However, a disadvantage was that access to the Internet for the students was problematic at times. The implications of this were that some students could not meet online at the given times due to data problems. Other students used there

own laptops and not computers from the work place and at time were not able to connect to Wi-Fi or data cables at work.

1.7 Outline of this study

In this chapter an introduction to the research was given and the background to the research was sketched to underscore its importance. Justification for the use of activity theory for this research was provided. The research question and sub-questions were listed and the methods used to obtain the research objective outlined. The background to the research was sketched. A theoretical introduction to the research approach was provided.

Chapter 2 discusses the literature of graphic design as a profession. In addition, design education and the transfer between university and work is elaborated on and activity theory is explained. A focus on developing the 'identity' of a graphic designer and the importance of learning in the workplace is explored.

Chapter 3 discusses the methodology of the study, highlighting the ways in which data was collected through observation, interviews, Facebook comments and blog posts. This qualitative data was analysed in terms of frequently emerging themes (Saldaña, 2012).

Chapter 4 provides the findings and in particular considers the extent to which the activity theory system could be populated with the data. Other concerns arising from the data are also discussed. Findings are described under activity theory elements and all the findings are used to populate the activity system of the university and of the workplace.

Chapter 5 highlights the most important findings and compares them to the university and workplace experience from a student's perspective. A discussion of these findings follows and is linked to the theory. In this chapter an attempt is made to provide some conclusions and recommendations, as well as a consideration of some of the issues raised in the study to ensure that work placements are a meaningful and valuable learning opportunity. In this way the results of the research may assist students to more easily transition from university to the workplace. There may also be opportunities

for better relationships between the university and workplace from the perspective of students.

(Cousin 2009)provides a general summary of the most pertinent findings and the main differences in each activity. Some recommendations pertaining to university practices are made. Conclusions are drawn and indications for further research and development provided.

CHAPTER 2
LITERATURE REVIEW

CURRENT STATUS OF THE RESEARCH AREA

There exists the [human capacity] to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives … (Heskett, 2005).

2.1   Introduction

Eraut (2004), states that we experience difficulty in the transfer of knowledge and skills from university to work. In some instances students learn better by doing and seeing first hand (Bransford et al., 1999) what the total and final outcome of a job is. This interactive experience is better than that experienced in smaller isolated classroom examples, according to Engel-Hills et al. (2005). Students find it difficult to transfer knowledge to the practical aspects of tasks (Eraut, 2004). This is possibly because, as Schön (1987) states, problems of real-world practice do not present themselves to the practitioner in a well-formed structure, as in a classroom setting.

Often the community that students find themselves in has an influence on how they deal with navigating through these problems (Boud & Middeleton, 2003). If the work community is one that is slow to react to imposing factors, the student will mimic this behaviour. In the same way, if the community the student finds him- or herself in at work is panicked and flustered when imposing factors occur, the student will react in the same way (Billett et al., 2004).

Schön (1987) provides a good analogy: he says that civil engineers know how to build roads suited to the conditions of particular sites and specifications. They will use the knowledge and skills learned about soil, material, construction technologies, grades, surfaces and dimensions. When these engineers have to decide which road to build, where to build it or whether to build it at all, they cannot use technical skills or building material knowledge to solve the problem. Here they will be faced with complexities such as

topographical, financial, economic, environmental and political factors. This example can be used to explain the situation of a graphic design student too. Students gain skills and knowledge of theory about being a practitioner, according to Garavan and McGuire (2001), in a specific field of study and need to be exposed to the external factors that may influence the design, or these design factors may have a direct impact on the user of the design.

An example of such design factors occurred in 2011 when the graphic design third- year group was given a WIL project in which they had to design for the client where the design factors should have influence the design stronger.

Graphic Design students in the level three-year, were asked to design print media for a non-profit organisation in the Western Cape; The print campaign was for a local informal settlement in Imizamo Yethu;[4] to promote cleanliness to young children. They designed books and posters for small children (aged 6 to 8) about keeping things neat and tidy.

In the hope of improving the living conditions in the informal settlement, students designed the books and posters in properly lit studios in the graphic design department at CPUT. However the posters were designed in dark browns and black, making them difficult to read at night in the informal settlements where there is no electricity. Despite their good design and layout they were not practicable, especially as the community relied on paraffin lamps and candles.

Schön (1987) highlights this very point, namely that exposure to complex, real-world problems is important to prepare students more adequately as practitioners. In light of the above example, doing graphic design in the studio or classroom does not always prepare students for the real-world challenges they may encounter.

Internationally cited authors, Danvers (2003), Gordon (2004), and Zollinger and Martinson (2010), support the notion that what happens in the university curriculum and what is required at work may involve different knowledge and

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[4] An informal settlement closes to Hout Bay in Cape Town, South Africa.

skills. Their views are also supported more locally by the annual CPUT DACUM[5] workshop (Rohlwink, 2008).

It should also be noted that persons responsible for learning in the workplace are often confined to the structure of daily occupations. These constraints then open up areas for learning to happen, as tasks are done. Bearing this in mind, a community of learning is important as other workers normally demonstrate tasks to a new employee.

Workplaces impose certain expectations and norms in the interest of their own continuity and survival, and in the interest of certain participants, but learners also choose to act in certain ways dependent on their own preferences and goals. Thus, the workplace as a learning environment must be understood as a complex negotiation about knowledge use, roles and processes – essentially as a question of the learner's participation in situated work activities (Billett et al., 2004).

Schön (1987) suggests that we conceptualise workplaces as authentic learning environments, and in doing so it is necessary to transform the current discourse on learning through work, in an informal context. According to Billett (2002), informal or unstructured learning environments are negative, imprecise and ill focused. Often universities send students out to the workplace and call the time there unstructured and informal (Boud & Garrick, 1999).

2.2   Complexity of graphic design

Society has, through the ages, looked for ways to express ideas and thoughts visually. People have always wanted to store knowledge and find ways to share that knowledge, concomitant with the drive to possess information and store it to be safe over time (Meggs & Purvis, 2006). From prehistoric times these needs have been fulfilled by tribe leaders, storytellers, and wise old members of society, including scribes, holy men, printers, painters and artists. And so people will continue to have the need to document and express

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[5] CPUT DACUM – Document written after Industry meeting with Department of Graphic Design at CPUT to discuss student readiness for workplace.

themselves visually. Thus graphic design will still be needed in the future, although designs may be conceptualised and displayed differently, based on technological advances. Therefore educational institutions will need to know how best to prepare graphic design students.

The history of graphic design takes us through many eras, from pre-history, the invention of writing and various alphabets, the Asian contribution, the medieval era and the invention of paper. The medieval period produced illuminated manuscripts, and the renaissance the printed book, with new typographical designs. This then was also the renaissance of what would become the discipline of graphic design. Later, the industrial revolution led to the Arts and Crafts Movement and its heritage (Meggs & Purvis, 2006). This vast life journey of graphic design has made it difficult to adequately prepare graphic design students for this industry and also for graphic design to maintain its identity.

From Art Nouveau,[6] movements developed into twentieth-century design, the Modernist Era, the movement of Bauhaus, new typography, and now the Age of Information (Meggs & Purvis, 2006).

It was not until 1922 that book designer William Addison Dwiggins coined the term 'graphic design' to describe his activities as an individual who brought structural order and visual form to printed communications. Meggs and Purvis (2006) maintain that at this point an emerging profession received an appropriate name.

According to Meggs and Purvis (2006), graphic design today finds itself incorporating simple corporate identity and visual systems, to conceptual image. Postmodern design has led to the digital revolution that is experienced now and the future. Appiah and Cronjé (2013) enumerate the diverse contributions to graphic design over the ages, driven by societies developing new technologies, thereby making definition difficult.

According to Dorst (2008), there is not a single moment when something called 'graphic design' appeared. There are separate practices such as

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[6] A nineteenth- and twentieth-century modernist art, decorative arts, and architecture movement.

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typography or book design whose histories have different durations (Meggs & Purvis, 2006). Typography began at the end of the fifteenth century but by that time there was already a long history of book design. The history of lettering in the West goes back to the Romans and we also have heraldic signs and crests that preceded today's logotypes. Most of these objects were designed by different kinds of people. Typographers created type; artists created heraldic shields and later business cards; printers and engravers designed advertisements.

Meggs and Purvis (2006) maintain that with the expansion of mass communication in the nineteenth century, some of these strands began to come together in new forms of practice by common media such as wood engraving or lithography. Famous book designers and typographers – Aldus Manutius, Baskerville, Didot, Bodoni – were well known, but famous poster designers like Chéret and Mucha only become recognised in the late nineteenth century, according to Béltran (2000). In Germany before World War I, we find the beginnings of a graphic design profession characterised in the work of the journal *Das Plakat*. "The poster that urged artists to work for industry", *Das Plakat* promoted the idea that posters, logotypes, and the same commercial artist could now do all lettering (Béltran, 2000).

This idea of one artist that could do different parts of the job led to the emergence of the generalist. Previously professionals, respected in their craft, did single, specialised tasks; graphic designers are now expected to do all these activities. Mass communication as well as computer technology has made formerly specialised activities (like those of the typesetter and printer) redundant, and brought new skills to the industry. These rapid changes make it difficult for universities to prepare an adequate curriculum and produce professional graphic designers for the current and future industry. Should the curriculum cover everything? Garraway et al. (2014) maintain that the curriculum can only do so superficially, and therein lies the problem.

One cannot begin to understand the relationship between workplace and university learning if one does not explore the essence of graphic design. Graphic design, in a broad sense, is a combination of many fields and entities.

The term was coined by the American book and advertising designer, William Addison Dwiggins in 1922 (Béltran, 2000). At this time it represented something more than just the accepted book design, typography and general design.

The term 'graphic design' still has meaning for some because the range of media graphic designers work in has not changed dramatically. However, by the 1960s graphic designers were working on large exhibitions, urban signage projects, and corporate identity programmes. By then the practice had outstripped its traditional nomenclature and new terms like 'visual communication' or 'communication design' came into effect (Béltran, 2000). Recently there has been further rapid expansion of the designer's work in the digital realm. Designers currently work with images, text, and sound, and visual communication is merging with filmmaking and sound design. As Béltran (2000) suggests, we probably need another new term to describe what designers do.

The term 'graphic design', by its nature and the nature of its activity, became the issue of debate. The lack of a modern label for this profession has had ripple effects for the education of graphic designers and so, before the latter is investigated, one should probe into the nature of the profession as discussed below. The problem of what to call graphic design is contentious both for education and the industry.

The graphic design profession is an integrated profession, with many elements that are created jointly using different skills and tools. According to Rohlwink (2008), graphic design education is taught as separate subjects, each with its own assessments and outcomes at university.

However, it is the opinion of Eraut (2004) that the profession and teaching environments are very different, and it is this disjuncture that may leave students with difficulty in transitioning from one learning environment to the other. Students could find it difficult to transit from a safe environment such as the university, where lecturers and fellow students could give guidance, and an environment which is well resourced, to an environment where the process

is driven by outcomes, such as meeting deadlines and profit-driven margins in the workplace.

According to Swanson (2002), design is synthetic, meaning that design does not have subject matter of its own; it exists as a practice only in relation to the requirements of a given project. This leads one to the point that design does not work as a stand-alone entity and needs other factors to work. How well are we preparing for these other factors and changing environments in graphic design education at CPUT?

Graphic design can be explained by its function, which, according to Rowe (1987), is persuasion, decoration, and magic. Graphics in relation to persuasion convinces or merely affects a change in thought or behaviour. Graphics in relation to decoration is for aesthetic value; it may have a decorative function, it may be fun, or it could be entertaining, ornamental and a source of enjoyment and pleasure (Rowe, 1987). However, magic is the least obvious function of graphic production. This 'magic' function allows graphic designers to make images appear in ways that they are not normally seen, or make images more attractive, like magic. Somehow designs use images to make people feel that places and objects are closer to them and more accessible. According to Rowe, this persuades people to act in a particular way, for example, to buy a product based on the images that made that person feel the product could create magic: in this way graphic design is communication.

The question to ask is whether students are trained to create this 'magic'? Is it something they acquire over time? Can it be taught or is it experienced?

If so, then graphic design should be taken more seriously if it is seen as a vehicle for communication. It deserves the same treatment as some more traditional art forms such as architecture and visual art. Rowe (1987) suggests that graphic design is a social phenomenon. For the general public to acknowledge the latter, and see it as a viable profession, according to Appiah and Cronjé (2013), more exhibitions, conferences and forums where serious discussions take place, and scholarly books and journal articles should be written. This in itself is difficult, as so many components fall under graphic

design: advertising and branding campaigns, commercial and service needs, visual and audio requirements, as well as web and social media requirements. Graphic design is difficult to categorise, and this applies to the more traditional forms such as painting and art as well.

Most graphic design is less ambitious than painting. Rowe (1987) states that painting is the free choice of an artist to make a statement about anything he wishes and with whatever media he chooses. Graphic design is created to satisfy the needs of a client, usually to sell something or to promote a kind of service. A graphic designer informs, educates, entertains and persuades customers either to buy or use the service, or to influence behaviour in a particular way. So graphic designers engineer and design towards a desired outcome.

2.3 Graphic design education

Graphic design education is grounded on the Bauhaus model. According to (Swanson 2002), the model is strongly situated in craft ideology, with a strong emphasis on intuitive solutions to design problems. This foundation provided much of modern design training. Bauhaus training strongly leaned towards bringing experts from different disciplines together as speakers on a topic, or to provide insight into a particular design problem. Swanson (2002) maintains that these short injections of expert knowledge left little time for theory.

Later, with the establishment of the New Bauhaus[7] in Chicago in 1937, lecturers, philosophers and scientists were included. This led to the inclusion of semiotics, literary theory, history of art, technology studies and engineering in design training programmes. This approach is evidence of the growing recognition of a wide-ranging education in design training (Swanson, 2002).

There is still little understanding by university and art school administrators of what value graphic design history or a wider history of design has. The idea that students must simply design and have good ideas to inform, entertain, educate and persuade without any knowledge of the history of the profession,

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[7] The Institute of Design at Illinois Institute of Technology.

is common. Occasionally there is a mad scramble for someone to teach design history and no qualified people can be found; the task is then assigned to a junior lecturer or outsourced to a history of art or design department. The focus is not really on the history of graphic design, for as we can see, it is a complicated history to teach or understand. The issue of sourcing qualified graphic design lecturers becomes problematic, and may add to the problem of transition to the workplace.

Often the teaching of the history of design is delivered by a completely different department in the university and has no connection to the teaching of the practical aspects of the course. Thus different departments teaching the curriculum, creates a problem regarding the link between theory and practical subjects. A disjuncture is created.

According to Rowe (1987), often separation of subjects is derived from the refusal of administrators to commit to new programmes in design history or design studies and from the dragging of heels to change and adapt to changing curricula. Actually the history, theory, and criticism of design have never been more important or relevant to design education. Rowe is of the opinion that in developing countries, the emphasis is on training graphic designers for the market only.

There is much we can learn about history that will allow for opportunities to solve current problems, but the need to be original and have fresh and creative ideas is often confused and students are made to believe that studying history will result in unoriginal concepts for design.

Swanson (1994) states that in creating design education systems, it is difficult to simulate design fields and to integrate fields in education. However, in the industry it happens naturally.

Graphic design education for the future will have to consider that the terms 'graphic design' and graphic designer' are strongly linked to particular technologies. Graphic design runs the risk of not including new concepts in this term or education in this field. Concepts referred to include technological innovations, audio-visual, multimedia and video production.

Swanson (1994), states that this expansion requires that the skills and professional attributes of a graphic designer should be consulted to ensure graphic design education prepare students for this complex future. Later nearly 10 years on, according Garraway and Morkel (2014b), with the Internet explosion with Facebook, blogs, vlogs, apps, Twitter, online magazines and shopping sites, the traditional concept of 'graphic design' has limitations. The educational preparation of the next graphic designers therefore becomes more complex. How students deal with these new concepts lies in the preparation for this profession, which has expanded vastly over the last decade and continues to expand.

Heskett (2005:2) notes that the essence of design is 'the human capacity to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives'. Here the focus turns to the ability of the human capacity to navigate and form and change the environment he is in.

Heskett (2005) captures the essence of why design education is important in the above extract, as it will bring meaning to our lives when we use design solutions to serve human needs. Design knowledge is encapsulated in five main themes, namely form, technology, context, design process, and practice. These should be considered in design education, and particularly in graphic design education.

These themes became relevant to this study as the design knowledge that students would be learning at university would need to be practised. The five themes described below talk about how the first four is easier to achieve at university but the last theme, practice, is only done in simulated ways.

Design Knowledge themes according to Heskett (2005) are as follows:

FORM: Giving form to objects, environments or systems requires knowledge of the standard and fluency in formal visual language and various methods of representing these.

TECHNOLOGY: Understanding how objects, environments or systems function and are produced requires knowledge about material properties and methods of production, and their environmental impact.

CONTEXT: Conceptualising how objects and environments function and communicate meaning requires knowledge about human behaviour, social contexts, values and aesthetic preferences.

DESIGN PROCESS: Knowledge of the design process enables the integration/synthesis of this knowledge towards a productive purpose.

PRACTICE (both noun and verb): Designers work for themselves or in a practice or agency. Of importance are guiding principles, marketing, branding, budgets, costing, sourcing, deadlines, legal issues, client relations, staff relations, bread on the table issues, as well as the practice of designing.

Design education does well to teach the form, context, design process and some better than others, the technology parts of the CPUT graphic design curriculum. The practice part of the CPUT graphic curriculum is often seen as the knowledge that students will simply acquire along the way or will develop as they are submerged in the other elements of the curriculum. It is therefore assumed that they will develop the practice component automatically (Barnett, 2009).

The ultimate aim of the CPUT and the graphic design curriculum is professional education to prepare new practitioners (Billett, 2001). Many of the teaching tools and methods are geared to this goal (Jacobson et al., 2000). Reproductions, case studies and workplace learning of various sorts are used to guide students in the ways that professionals practise, by recreating practice under controlled conditions in the classroom (Garraway & Morkel, 2014). According to Eraut (2004), we recreate and anticipate conditions of the workplace and we assume that students will carry the knowledge gained at university into the workplace automatically. Given what we know about the complexity of this field, the preparation for this field is daunting.

For the CPUT as a university to respond to the complexity of this field, it would need to simulate very realistic design solutions, which are just not

possible, as some of the design problems do not yet exist. CPUT has a problem in catering for this undefined, constantly changing and developing, and shapeless profession. This difficulty can be addresses through the use of the 'ADDIE' model (Branch, 2009) and Rowe (1987) offers a problem-based option to design education.

2.4   Design Curriculum

Branch (2009) provides a comprehensive inventory of activities to be executed during the 'design' phase using the traditional ADDIE (Analysis, Design, Development, Implementation, Evaluation) model of design, first introduced in 1975. This would be a good departure point to discover the roles of design. Using the ADDIE model one could address each of the **briefs** students get in the class room as weekly projects, as a departure point to unpack and start the problem solving practice. Of course, there are other models and methods to use such as WPL, project based learning, simulated learning, service learning that could be used to give students that missing practice component as describe earlier by Heskett (2005). To some existent these are done but with little real focus on its importantance and outcome. The above mentioned ADDIE model and Problem solving methods are thus simply ways to start to address these issues better in the CPUT graphic design curriculum.

Furthermore Rowe (1987) sees design essentially as a form of problem solving: design is a process that starts with a problem, which is then analysed, designed, developed, implemented and evaluated. At the end it has solved a particular problem. These concepts lead to further questions: Do both environments, university and the workplace, offer students enough practice and knowledge to navigate effectively through these components? Are students able to move from problems to solutions from the university to the workplace?

Rowe is of the opinion that the university experience is considered a beginning (problem) and an ending (solution). Are we to then to conclude that the process in between is not design? The process of going from the problem

to the solution is more important as this is where the learning happens and where design choices are made. If the component between the problem and solution changes, does it affect the solution? These questions are significant in our assessment of whether students are adequately transitioning to the workplace, as the environment that these problems occur in might influence the solution.

When we read the many interpretations by theorists, the earlier comments about graphic design's having many components becomes clear as the industry would have different expectations of university graduates in graphic design. Barnett (2006) also suggests that the pressure of the university curriculum is to cater for these many expectations and the vast activity list that is covered under graphic design.

In addition, how do universities deal with teaching such a multi-faceted programme like graphic design with so many influences? There are many elements, such as technology, which are constantly evolving. The pressures from environmentalists about printing and the use of chemicals are growing, as an eco-friendly approach becomes increasingly important. According to Garraway and Morkel (2014b), the university also has the academic world to appease with its own set of influences.

2.5 Knowledge, Action and Self.

Learning about Graphic Design knowledge's is not enough to provide a good adjusted-to-industry Graphic Designer. The knowledge and the actions of a graphic designer in the industry and developing as a graphic designer personally is also important. As Barnett et al (2001) explain curriculum can be used to help facilitate this three-pronged activity.

To understand curriculum in graphic design in particularly at CPUT, the focus shifts slightly and investigates curriculum in general to establish what students do at university. Barnett et al. (2001) use three domains to describe curriculum, namely, 'knowledge', 'action' and 'self'; understanding these

components and their relationship with one another helps to describe the curriculum.

Barnett et al. explain in figure 2.1 that the 'knowledge' domain refers to those components of the curriculum that are based on discipline-specific competences, and those aspects of teaching and learning that develop subject specialists.

The 'action' domain includes those competences acquired through 'doing': an oral presentation in art history or presentation of the clinical practice of a student nurse.

The 'self' domain develops an educational identity in relation to the subject areas or the development of the profession in that particular subject (Barnett et al., 2001).
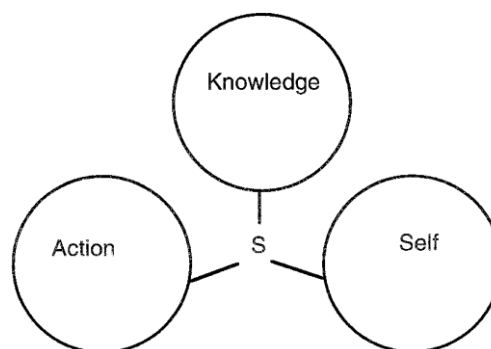
Figure 2.1: Knowledge, action and self
(Barnett et al., 2001)

There are three observations to be made about the proposed general diagram as shown in figure 2.1. The first is the weight of each of the three domains varies across curricula. The second is that the domains may be integrated or held separately. The last observation is that patterns of curricular change are dominated by epistemological differences in the knowledge field (Barnett et al., 2001)

The diagram of interest for this study, as depicted below figure 2.2, pertains to the arts and humanities curricula. As shown, the knowledge domain is predominant, but here there is more integration with the domain of the self. The action domain is held apart and constitutes a smaller component of the curricula (Figure 2.2).
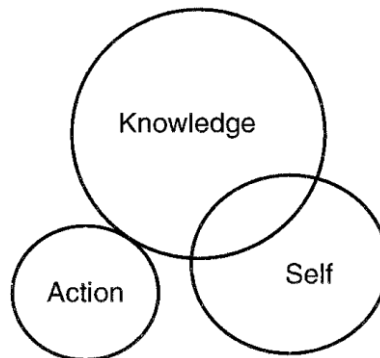
Figure 2.2: Arts and humanities
(Barnett et al., 2001)

The above diagram addresses a traditional arts and humanities curriculum where knowledge comprises the greatest part of the curriculum and interacts with the self; the action component is a smaller component and stands alone. It is attached to knowledge but does not interact with it (Barnett & Coate 2005).

A typical graphic design curriculum would have a much bigger action component – even at times the same size of the knowledge component (Billett, 2002). As the current CPUT graphic design programme is project based, the greater part of the curriculum is on "doing" and being able to create, by using computer software, drawings, manual skills, and presentations. A smaller component is spent on research and the history and theory of knowledge components. According to Dorst (2008) the lack of research and history components is a common problem with graphic design curriculum. This is evident from the subject weighting and the briefs or job sheets given to students at CPUT, graphic design. The area that is smaller with less interaction with the other two components is that of self. The

promotion and development of 'being' in your profession is hoped for through the knowledge and action components.
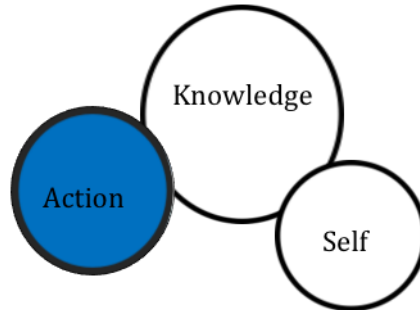
Figure 2.3: Representation of graphic design curriculum
(Adapted from Barnett & Coate, 2005)

In figure 2.3 it shows how the graphic design curriculum is visually represented, more time is spent on 'doing' the actions as seen in figure 2.3 of a graphic designer and less time on 'being' a graphic designer. Knowledge components are integrated into the action parts of the curriculum.

 In the table below, Barnett and Coate (2005) compare traditional and emerging curricula and maintain that that these should not be seen as the be-all but that they are signals to consider in the field of arts and humanities. Since then many other contributors have also made an impact. The list below is simply to draw attention to emerging factors in curricula design (Heskett, 2005).

Figure 2.4: Traditional curricula and emerging curricula Barnett and Coate (2005)

Traditional Curriculum	Emerging Curruculum
Knowing that	Knowing how
Written Communication	Oral Communication
Personal	Interpersonal
Internal	External
Disciplinary skillls	Transferable skills
Intellectual orientation	Action Orientation
Problem making	Problem solving
Knowledge as process	Knowledge as product
Understanding	infomation
Concept based	inssue based
Knowledge based	task based
Pure	applied
Proposition based learning	Experiential learning

It is clear from the above lists shown in figure 2.4 that knowing *about* something is no longer as important as knowing *how to do* something (Barnett & Coate, 2005). This list of emerging curriculum items supports the research question, namely how what is the relationship learning between university and the workplace. So we need to ask if the university and faculty accommodate these curriculum shifts or are they simply doing what they have always done? In the industry it is clear that these shifts will impact the kind of designers that will be working in the industry; designers may not necessary always know why something is done in a particular way but will know how to do tasks, with little actual knowledge about the task. Applied knowledge will also be more valued. How do universities adequately prepare students for this, is the question posed by Garraway and Morkel (2014a).

2.5 What is the relationship between university learning and the workplace?

Learning in the workplace has become an exciting opportunity for education. In today's difficult economic situation, learning in the workplace is a necessity (Barnett, 2009). There is a phenomenon of students coming from university and designers going back to university to learn new technologies after spending time in the workplace.

According to Boud and Garrick (1999), there is an in-between space that has huge learning opportunities for both sides. Being at work and learning is vital. Barnett (2000) maintains that a new focus on learning is changing how business sees education. Students who complete their studies are made aware that they will need to obtain further training in the workplace owing to the constant development of technology and improvements in the industry.

In the same way, industry cannot expect designers to stay abreast of new developments by remaining in the workplace permanently. So, as suggested by Billett (2002), there is a common relationship that exists from the need to learn from both environments.

From these inputs we learn that there may be an opportunity through curriculum development to address these shifts and changes for both environments, namely the need for workplaces to accommodate the learning of students and the need for universities to accommodate working designers.

In the figure 2.5 below, no1 the **students** are in need to jobs in the work place. No. 2 is that the **work place may offer valuable WIL practice** that would inform **university curriculum**, which in return could offer **no 3 (a better graduate) who is** able to adjust to the world of work and to changes in its industry and that of its clients.
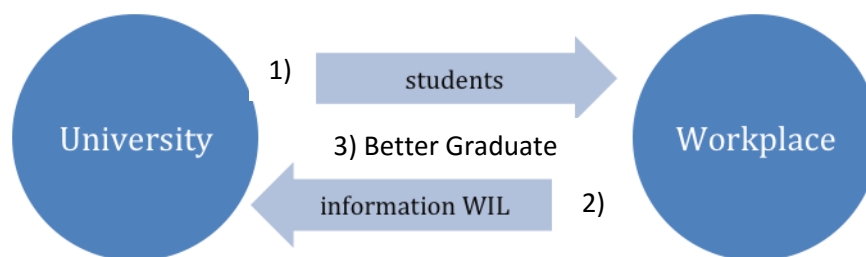
Figure 2.5: Co-existent environment
Adapted from Barnett and Coate, 2005

Figure 2.5 shows how these two environments, university and work place, need to co-exist with the aim to prepare students for the world of work, particularly in the field of graphic design at CPUT.

Learning in any form can only occur if the learner is participating. Students must be receptive to be taught. So it is important to participate in work activities if learning is to occur. Billett (1998) notes that if neither the workplace nor individuals participate, learning is stifled. It is not a one-way route of sending students to the workplace and the university does all the contribution to the students learning. Learning is a two-way relationship. Both the workplace and the university must contribute to and participate in the activity so that the student has a meaningful experience. The ability of the workplace to accommodate opportunities for individuals to be involved with work activities is important, along with support and access to direct and indirect factors to assist individuals to participate in work activities (Eraut, 2004).
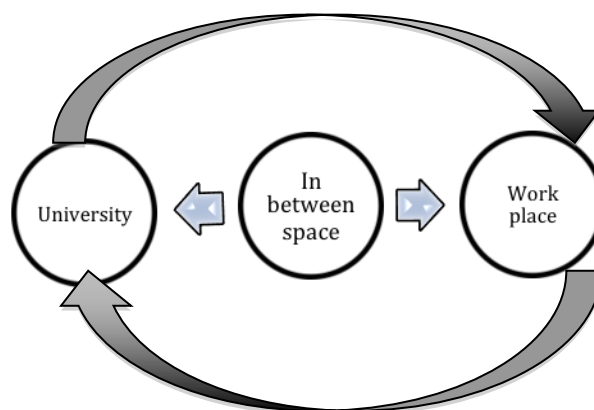
re 2.6: A visual depiction of the relationship of learning

Figure 2.6 above shows that learning in circular motion is an on-going process as new developments and technologies demand this from graphic designers (Billett, 2001). A relationship between these two environments is not just moving from university to the world of work, but is a continuous process. Furthermore, an understanding between the two environments should be created, in which a relationship of continued learning occurs. Such a relationship would provide students from university and the workplace with an authentic learning environment.

The roles and duties of graphic designers are hard to identify. Often graphic designers are doing very different things in the workplace as Schön and Wiggins (1992) reflect in their work. The relationships with regard to duties in the workplace and skills taught in university have become closer, even overlapping with and collapsing into other subjects or duties.

According to data collected in this study students reported that they were required to code websites and do video recordings for television advertisements. Some are required to do sound editing. This research therefore shows that graphic design is straddling other areas, as these were traditionally not graphic design responsibilities.

At university, sound editing, video production and coding are separate courses. In the workplace, graphic designers increasingly deal with quotations, filing and paper work, traditionally the domain of secretaries and administrators. These are normally taught in business programmes at university. So the everyday duties of the graphic designer in the workplace are those that graphic design schools did not teach in the formal curriculum.

This multi-disciplinary approach that student face while being at work is not catered for traditionally at CPUT. At CPUT these are all separate courses within often-separate qualifications (such as sound or video editing, for example). CPUT has subjects locked into programs and programs locked into faculties. At CPUT it is not possible to do a subject from another course as is sometimes done at more traditional universities.

Furthermore, skills and attributes usually needed in graphic design profession are difficult to teach at university. Schön and Wiggins (1992) says that these skills of the profession is the most difficult to teach.

Students learning how to design a poster requires more than just the software skills and layout out. Students would need to structure the information on the poster. This should not only be creatively designed but it should function, as it would be useless if people can't read it or follow the information. Graphic designers, therefore, should be:

- Capable of interpreting information and transforming it into visual objects;
- Capable of understanding in productive terms the interaction between language, graphics, sound, and music (in the dimension of time);
- Capable of using computer programs for scripting, illustration, image editing, animation and desktop video, in addition to programs for layout and letter design;
- Capable of managing the constitutive elements of the retinal space (colour, texture, size, orientation, contrast, transitions in time, transformation, rhythm, etc.);
- Conversant with the analytical tools of visual speech-making;
- Familiar with theories and techniques required to evaluate the communicative efficacy of design proposals;
- Capable of realising design studies and design research (the cognitive dimension of the design process) and present design proposals in a coherent manner; and
- Able to manage design projects and companies

This is of course an incomplete list, but we see that additional skills are needed to deal with the world of work, over and above design skills or computer skills or technology expertise; also the ability to deal with language and presentation of data may not be graphical at all. Little time is spent on language in graphic design education, based on the belief that we are dealing with type and image. Universities, especially in South Africa, are urged to motivate students in design to become entrepreneurs, start firms and agencies, and run businesses. However, a small part of the curriculum is devoted to business skills, and in some places the teaching is generic and not specific to the design business.

2.6   Learning through work experience

Even though we assume that learning occurs at university, it also occurs at work, incidentally, though not structured (Billett, 1998). One cannot separate work from learning (Billett, 1998), as both university and workplace involve activities such as listening, observing and practice as key inputs for learning. Engeström (1987) maintains that micro-generic development or moment-by

moment learning happens when individuals engage in activities in the workplace. Here they access direct guidance that is provided both physically and socially. However, it is important that the workplace supports an individual to engage in work activities and that there is access to guidance. Billett (1998) is mainly referring to employed and active designers, but the principle is the same for students in work placements.

Students must be give opportunities to participate in learning activities. However students have a responsibility towards their own learning to take up these learning opportunities and participate to make their learning meaningful.

Billett (1998) contends that work readiness is a key factor contributing to students' participation in workplace activities. In his research on learning through work, learning strategies like modelling, coaching, questioning and using analogies and diagrams increased the learning experience (Billett 1998).

Billet notes three conditions that make learning through work feasible. Through the provision of affordance, he believes that elements of work readiness emerge.

Affordance as explained by Billet (1998) is those activities or opportunities that are created for the students to participate. These activities are not simply looking and observing but require the student to be actively involved.

Workplace affordances — Individuals' participation in work

Work practice
(access and engagement)
Activities
Artefacts

Tools, aims, goals
Procedures
Values, norms

Affordances
Activities
Interactions

Degree of relatedness

Engagement
Activities
Interactions

Individuals' knowledge
(values, knowledge personal history, ways of knowing, engagement in other social practices)
Conceptions, procedures and values

Figure 2.6: Work readiness
(Billet, 1998)

In figure 2.6 Billet, shows that the degree of work readiness is related to the affordance and opportunity given to students in work practice and the level of engagement by the student or the involvement of students taking up these opportunities that leads to more meaningful learning. Thus, a more work ready student is a student who would have benefited from more opportunities and more involvement in work-related activities. The more experience gained the more confidence they to take up more learning activities.

Billet (1998) demonstrates in the diagram above that if affordance is allowed and the student engages in the activities, degrees of individual 'self' are developed. These are the kinds of knowledge that students could use to be more confident, and to enhance social practices and values among others.

Furthermore, the affordance of interactions for students to participate in work activities has certain advantages. These advantages should be considered as they offer valuable learning opportunities to prepare students for the workplace.

There are advantages of considering workplaces as setting for student learning. Workplace learning allows students and staff the opportunity to learn. Activities in the workplace are becoming more complex and specialisation in certain areas is required, but with an overall (general) knowledge base that students have from university these opportunities for specialisation is valuable. New technologies are shared and real client engagement. Opportunities for students to build up networks and develop and industry web.

There are dis-advantages also, students coming from university may learn bad habits in the workplace – this constitutes inappropriate knowledge. Students may also not be given access to authentic projects owing to security or confidentiality clauses in the workplace. Experts may be reluctant to share

knowledge and skills because of fear of being replaced, hence job security. Students may also find themselves overwhelmed by too many experts sharing knowledge and skills – information overload. Students may find that knowledge shared is unclear and hard to follow, that is, opaque. The lack of instruction media may also inhibit students from participating fully (Billett, 1994).

Workplaces are open to student learning (rather than students being 'dumped' on the workplace) because students bring in new ideas or technologies. The workplace also has to respond to students in a more flexible way, which is also seen as an important work competency (Garavan & McGuire, 2001).

Not only should students participate in work activities, but the workplace also should reciprocally provide such opportunities. Students still struggle to take up this opportunity (Garavan & McGuire, 2001). It is said that it is the level of work readiness that allows students to take up these opportunities. When they do, in spite of their level of work readiness, they often struggle to actively contribute to these activities. So not only do students struggle to transfer what they have learned at university, they are also reluctant to take up learning activities in the workplace (Garavan & McGuire, 2001).

Conditions relating to individuals' view of themselves and their relationship to others within the workplace are viewed by Le Maistre and Paré (2004) as being particularly important for individual learning.

Continuing this argument, according to Matthews (1999) there are a number of conditions that assist students in learning. These conditions describe the **self** – the individual's need for a positive feeling about him/herself as a person. Students have the need for **personal meaning** – the individual's ability to reach an understanding of him/herself and his/her learning. **Action** is needed – the ability of the individual to develop, apply, and measure the use of his own and other people's ideas in the workplace, and to learn from the experience. **Collegiality** – the individual's capacity to learn with and from colleagues in both a direct and indirect way. The need for **empowerment** –

the ability of the individual to "feel a sense of ownership, autonomy, self-control and self-direction over their decisions and actions, including over the processes and outcomes of their learning" (Matthews, 1999: 324)

Students are given work to do and are described as "good" or "hard" workers in the work place by participating agencies of this study. Moreover, it is usually the work that is structured and not the learning. A great deal of **informal learning** has been the main problem in conducting research on workplace learning as it is seen, even in the graphic design department at CPUT, as informal as Eraut (2004) has explained. Informal learning is largely invisible, because much of it is either taken for granted or not recognised as learning and documented or assessed. Students lack awareness of their own learning, and the resultant knowledge is either tacit or regarded as part of a person's general capability, rather than something that has been learned (Eraut, 2004).

Most students still compare work place learning with formal education and training, and assume that working and learning are two quite separate activities that never overlap, whereas findings have always demonstrated the opposite, that is, that most learning occurs on the job rather than off the job says (Eraut, 2004).

Working alongside others allows people to observe, listen to others at work, and participate in activities, and hence to learn some new practices and new ways of participation. Further, as Eraut (2004) states that participation in such group activities at work include teams working towards a common outcome and respond to external changes better. Perspectives change to become aware of different kinds of knowledge and expertise, and to gain some sense of other people's tacit knowledge.

2.7   Activity Theory

Activity theory (AT) was relevant to this study as it related well to Graphic Design teaching and practice. Graphic Design teaching is made up of many parts or elements, just like an AT system, which function to produce an

outcome (graduate). Similarly the practice of a graphic designer in the workplace is made up of many parts of a work AT system (rules, divisions etc.) that too produce an outcome (design job of sorts). Using Activity Theory in this study to explore the outcome of learning for the students participating in two AT systems (university and Work place) can thus be said to be a 'comfortable fit'.

In order to fully understand how was done, an explanation of activity theory follows.
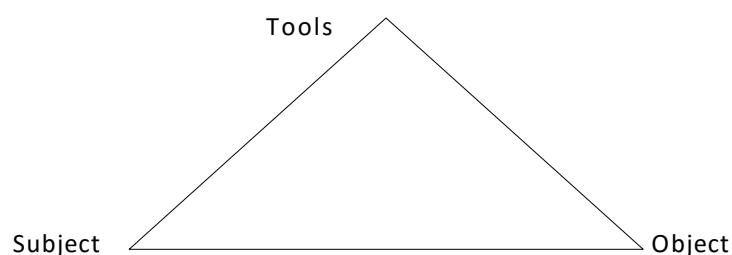
Figure 2.7: First-generation Activity Theory (Engeström, 1987)

This basic geometric shape as seen in figure 2.7 was further developed by Engeström (1987). Initially the theory first described culturally mediated, goal-orientated actions. The actions are not the same as the activity, as the activity looks at the entire system. Division of labour is taken into account within an activity, where various role players may contribute different actions. The illustration of a hunt was used by Engeström (1987) in which he explains Leontief's, demonstration of the division of labour activity compared to the action. He explained that the hunt is usually divided into two actions, firstly, those who would beat the bush to chase the animals into a particular direction and secondly those who would wait in the allocated direction to kill the fleeing animals. Therefore, one can see that each group had an action to perform but were contributing to the entire activity of hunting.

So if we had to explain this hunting scene using the figure above, the subjects would be the hunters and the tools would be the tools used to beat the bush and the tools used to kill the animals. The object of this would be to find and kill the animal (hunting).

In the same way as the "hunt" was described, one could consider the graphic design activities that are done individually but all form part of the final product, for example, the production of an illustration for an advertisement that will be published in a magazine. There are the concept team that devises the concept, and the copy team that plays with words and fonts. There are also the layout team, illustrators, rendering and colour artists, often a photographer, and finally the layout artist that puts it all together. In some agencies one person will do all these individual tasks but generally teams of people do these tasks; however it is still the activity of individual tasks that constitutes the final product.

Further developments to explain greater integration of other role players that have an impact on the entire activity become apparent. These developments added the rules, community and division of labour to the activity. The second-generation activity theory focuses on the whole activity system. Here the individual or group (subject) still has a goal (object) but now uses the tools within in a context or rules and within a community. With the influence of rules and the community, certain division of labour arise. All these factors impact on how the subjects work on the object (Engeström, 1999).

Activity theory as an approach to researching complex systems can be used at various levels of analysis. The first level figure 2.8 one of analysing the system as a whole and thus gaining a sense of the nature of the different elements that make up the system. So, for example, one could do a detailed analysis of the rules operating within a system. On its own, this is a useful analytical exercise to carry out in any system. Other levels of analysis are apprehensive where the contradictions in the activity system are sought or examined.
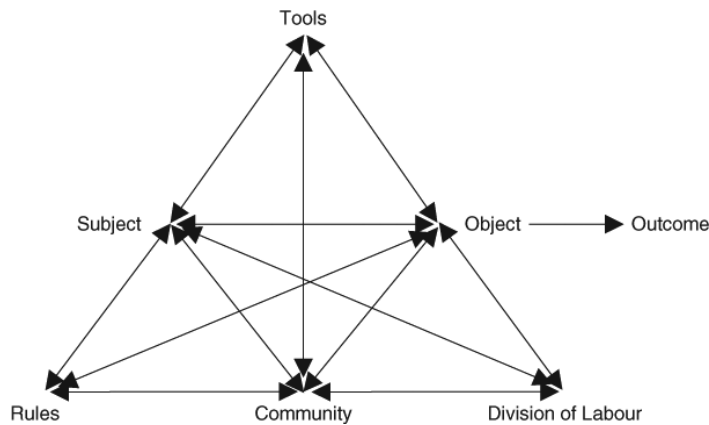
Figure 2.8: Activity System
(Engeström, 1987)

Figure 2.8 shows how the added elements (rules, community, division of labour and outcome) have an effect on the entire activity system by the direction of the arrows. It now becomes clearer that the activity is more complex than that of the former linear system of the first-generation activity system as seen in figure 2.7 compared to that of figure 2.8.

The research draws on the definition by Hardman (2008); she explains the function of each of the elements in her study on research pedagogy and identifies the various role players. The actors of this research (activity) are explained similarly.

In this research, the subject is the participating student. The assumption is that the student in the university moving to the workplace would find it difficult. The students all come from different socioeconomic and educational backgrounds but are all third-year graphic design students at CPUT. They have high expectations of passing and being successful.

Under the element tools one could describe all the resources that the subject uses in the activity. The subject would have interacted with tools. These tools could be material, for example, computers and printers, but they also include psychological tools such as problem solving and brain storming or conceptualising. In this study a distinction is made between the two and is described in detail in the following chapters.

The *object* in this research represents that problem space that the subject is working on in this activity system. This part of the activity theory system has different interpretations and for this study I draw on Engeström and Hardman's concepts of a problem space. For clarity, the word 'space' does not refer to the actual space. The focus is on the transformation of a problem (brief) or design task or on the creation of an artefact.

The *rules* in this study are those generally accepted elements within the activity. These are the social rules and rules within the system that drive the subject's actions. For example, the rules that drive students to action at university are those that will be assessed and assist the student to pass and move to the next level. In the workplace these drivers are the restrictions of the brief but also those unwritten rules about how to deal with real clients. Other interesting rules that are covered under this element are a sense of pride and praise. Here the rule of feedback was an example emerging from this research. The cultural rules and social norms are also covered under this definition of rules, as Hardman (2008) notes.

The *community* element in this research comprises all those in the community who participate in acting on the shared object but also those who have an interest in the object. The subject and the work community comprise one area and the subject and the university another. Each of these belongs to big stakeholders. For example, the university has higher education and governmental and international bodies and stakeholders with an interest in educational and related issues. In the workplace the subject forms part of the workplace community but also part of the industry as a whole, with all its many stakeholders. In this research the focus did not explore all these communities; they are simply listed. I believe the communities that students found themselves in impacted on how the rules and division of labour affected their use of tools to reach the object. The effects of the community are felt in the other elements of the activity.

Here the negotiation of responsibilities, tasks and power relations within the activity are covered. The division of labour in the university covers that of the lecturer and students. In the workplace the student or subjects and co-workers are explained under this definition.

Figure 2.8 (Engeström, 1987) shows how the subjects, the graphic design third-year students from CPUT act on the object (brief design problem) to transform it using mediation artefacts (tools, material and mental) to arrive at specific outcomes (workplace learning). In turn, the rules (university rules, workplace rules and cultural rules) of the system mediate between the subject and his/her community (university and the workplace, and division of labour (lecturers and co-workers) that mediate between his/her community and the object (Engeström, 1987; Engeström, 1991; Daniels, 2001).

2.8   Characteristics of AT (Engeström, 2001)

In using activity theory as the framework for this research, the characteristics listed by Engeström (2001) are employed. He explains the five characteristics of the activity theory system. Drawing on these, I attach the graphic design context to the further explain of how activity theory is used in this research.

There are five principles or characteristics used to explain the complexity of the two activity systems. These complexities are explained through the depiction of how each character was evident in this study.

2.8.1 Activity Theory Principle 1: Mediation

Activity Theory Principle 1 contends that there is always mediation. The activity theory system, according to Engeström (1987), has emerged as a system of social learning. As explained by Hardman (2007) no person arrives in the workplace and starts with a task. Mediation occurs first as learning requires an appropriation of tools through a process of mediation. These tools could be cultural or knowledge tools or skills: the Internet as a resource to find information, and cognitive tools required to interpret information found on the Internet. These tools would be drawn on to complete a task. Even using more experienced people as resources of knowledge can be seen as a tool of sorts.

The idea of learning from others is not a new concept and particularly in South Africa where most cultures have a social learning structure of sorts no matter how unstructured. The presence of a culturally more component other opens a unique learning space, which is called the Zone of Proximal Development (ZPD).[8] Vygotsky's work gives us a basis for understanding teaching and learning as socially and culturally situated. For example, according to Hardman (2007), the subject learns about his or her culture (object) from more knowledgeable others telling stories (tools) about ancestors. This manner of learning is familiar and common in South Africa.

In learning at university, more knowledgeable others like lecturers mediate tools like teaching design software and teaching of and guidance in responding to a design brief. The students look to the lecturer for guidance and assistance, and in a collective process, work on the object in question.

In the workplace, similarly, the student is assisted by co-workers or more knowledgeable others. The co-workers offer a collective mediated tool process to solve a design brief. Here brainstorming, collective conceptualising and procedural assistance are mediated.

2.8.2 Activity Theory Principle 2: Multi-voicedness

In Figure 2.9 below one can see that the interacting activity system is completed. It has many influencing factors that contribute to the object and the process of the activity system.

Therefore, it is no surprise that with so many factors there are multiple points of view, priorities, traditions and interests. Elements like community and division of labour create different positions of power. Areas such as historical background, education, and traditions are often problematic but also offer opportunities for change and development.

In a profession such as graphic design, a strong sense of multi-voicedness exists owing to the many role players and the nature of a shapeless career. Technological developments and the age-old argument of "this is how we

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[8] This is a unique teaching space that creates a bridge between what the student knows and what he/she needs to know.

have always done it" have complicated things. This multi-voiced component can make it difficult for a student to navigate through the task at hand. The activity system elements that offer multivioces, as rules and community and division of labour are all competing and shouting out to be the stronger element. However, students having access to workplace learning have opportunities to experience these role players and have opportunities for development.

2.8.3 Activity Theory Principle 3: Historicity

Certain systems cannot just be used as is. An understanding of a system is needed from a historical perspective, as meaning is shaped over time and transformed over years. Therefore history must be consulted.

The documentation of medical cases over time has led to a database that is consulted for cases today. This historical perspective allows for learning from the past. In the same way, civil and criminal law is based on precedent.

In other cases, the operations of an activity could be the effect of a historical event, for example, historically things were done in a particular way, for example: most designs are printed on A3 landscaped paper as the supplier has always set the printer that way; or certain long-standing agencies still prefer using design houses that they have always used; and paper or ink carriages are always bought from the same dealer because of a historical connection.

Of further historical interest is the brand loyalty to products and processes established over long periods of time. Thus, the division of labour, community and rules affect how the subject uses tools.

2.8.4 Activity Theory Principle 4: Contradictions

With the evidence of multi-voicedness and historical influence as explained in the previous text, it is assumed that contradictions will emerge.

Contradictions can result in development and change. These are not necessarily problems, but more like tensions that arise within the system. For example, when a studio starts using a new software program, operating system or printer, the first engagement of the new system is one of uneasy

tension – why could the old method not be used since it was so easy? The contradiction occurs that the new system is installed to make things easier and faster but with it is taking time for staff to learn the new system and to get through the 'tension' stage.

Activity theory refers to different levels of contradictions that exist in the AT system. Primary-level contradictions refer to contradictions within one element of the six elements of the activity system. Secondary level contradictions occur between different elements of one activity system, for example, between tools and division of labour. Third- and fourth-level contradictions refer to contradictions between the objects of the current and more advanced or improved system and between all the elements of two such systems (Engeström, 1987); this is where my research focuses.

2.8.5 Activity Theory Principle 5: Expansive transformative

Often through contradictions and multi-voicedness participants start to question and debate norms. In some cases an expansive transformation happens as a collaborative deliberate change takes place. So a wider scope of possibilities is explored. These may lead to changes and developments within the system. Graphic design as a profession has expanded, transformed and developed over time. All these expansions and devolvement's have an impact on the activity system.

2.9   Activity theory used to compare.

Le Maistre and Paré (2004) find activity theory to be a powerful tool for investigating and comparing the university curriculum and work, and for explaining the transition between the university and the workplace. Using the elements of activity theory, one can examine the differences in practices and learning between the university and workplace, using the same measuring tool. Le Maistre and Paré (2004) provide guidance for this research on how to investigate both environments.

They also expand on Eraut's and Schön's ideas by stating that systems in the workplace are different from those of the university, as social structures and practical systems are different; the communities they come from and the community they work in may also have different social structures. These

systems and structures are of interest as designers design within communities; I therefore intend to explore this in greater depth as my research unfolds.

If a graphic design student were using a state-of-the-art Apple Mac computer with an old printer, the contradiction would be between the same elements of the activity system, that is, tools. The second level of contradiction allows for the expansion of the contradiction between two elements of the same activity, for example, creating a high-end magazine layout with out-dated operating systems software. The third level of contradiction allows for expansion and includes the social or communal contradictions that exist, for example, in classrooms and workplaces. Here an overlay of objects within one activity system shows up as contradictions. For example, the design of a poster provokes debate on whether it is for digital (on screen) or for print media. This debate is often a common scenario within classrooms where many activities happen within the classroom.
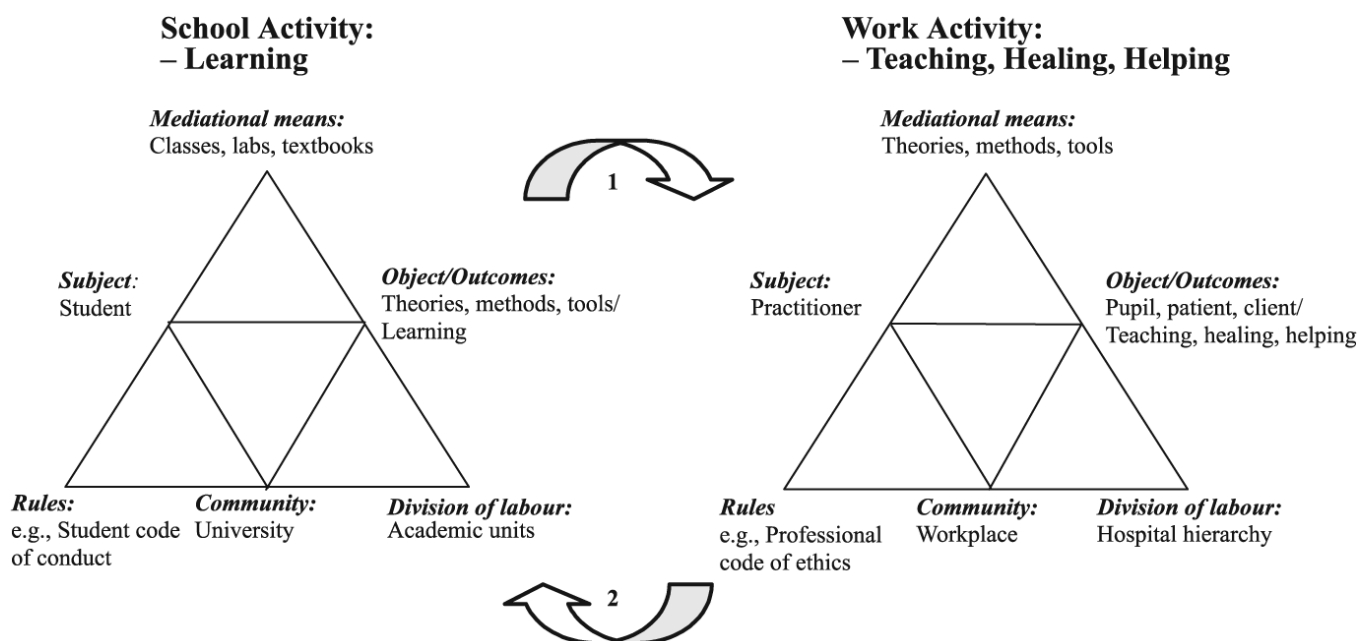
Figure 2.9: Activity Theory as comparing tool
Adapted from Engeström (1987)

This research has done just that: used activity theory to examine the two environments in this study, the workplace and the university. Students were able to use the same measuring tools and parameters to show areas of contradiction and areas of similarity. In the next chapter the research methods and processes used in this research are discussed.

CHAPTER 3
THEORETICAL FRAMEWORK & METHODOLOGY

3.1 Introduction

A comparative study between students' perceptions of the university studio and the workplace experience was done using activity theory as theoretical framework. The research instruments used to gather data were interviews, Facebook page comments, and blog entries. The advantages of using mainly social networking platforms were that they were flexible and mobile.

This chapter commences with a reiteration of the research question followed by a detailed description of how activity theory was used and the levels of the AT system. Furthermore the research process is explained in detail with regard to the data-gathering tools and instruments. Finally the data analysis and how themes emerged are explained. Ethical procedures and a summary of the chapter conclude this chapter.

3.2 Research question and sub-questions

The research aimed to explain and understand how students experience the world of work in a short two-week work placement period. This experience was compared with that of the university experience, using activity theory as framework. Ultimately it was anticipated that this would provide insight into the research question: To explore the relationship between the learning experience in the work place compared to the learning experience at university. Further sub question developed to address the research question.

1. What do students do at work?
2. How are these activities related to experiences at university?

3.3 Research design

This research was done partly within constructivist paradigms with an interpretive lens. As was outlined in Chapter 1.6, however, the research also combined interpretivism with a more structured or functional approach (Cronje, 2006) in the form of Activity Theory analysis. Interpretations of the analysis were then used to draw conclusions and offer recommendations.

Qualitative research is aimed at gathering an in-depth understanding of human behaviour and what drives or influences such behaviour. This method investigates the 'why' and 'how' of decision making, without neglecting the 'what', 'where' and 'when'. Often the samples for qualitative research are smaller and more focused (Maxwell, 2012).

This research was qualitative as the participants participated in semi-structured interviews and submitted Facebook, and blog comments to describe their experience in the workplace. These methods accord with qualitative research (Maxwell, 2012). Qualitative research categorises data into patterns and organises findings. It would not have been possible for students to fully express their experience in other research methods.

Qualitative research frequently uses a case study approach. This research can be categorised as a form of case study in that a group of related phenomena (work experiences) is examined (Case and Light, 2011). The research is also a form of collective case study (Cousins, 2009) in that a number of cases are used to shed light on an event or phenomena in general.

Qualitative research does not usually include making generalisations that would often occur in quantitative research and this has been identified as a weakness in case study research (Case and Light, 2011). However it can also provide guidance for further developments such as is made in this research in Chapter 6 for improving the Design curriculum. The number of qualitative research participants is typically too small to generalise with any accuracy in respect of all graphic designers and student interns. My goal is not to claim generalisation of different settings or groups, even though in this research two settings are compared through students' perspectives. The comparison is simply to understand the experience students had and to explain the findings (Maxwell, 2012).

The basic design was to use three sets of data; Facebook entries, Blog entries and focus group interviews. The entry data was first assigned to the most commonly occurring themes, which emerged. This was done using frequency coding (Saldana, 2013) where themes were seen to occur in three separate entries. Interviews were then used to gather even more information

about these themes. It is these commonly occurring themes drawn from the entries and interviews within the Activity Theory elements, which form the structure of data reporting in Chapter 4.

3.3.1 Activity theory

The previous chapter shows AT to be a useful theoretical framework for comparing two environments such as the university and the workplace (Le Maistre & Paré, 2004). It allows for the investigation of the activity at hand but also how elements within that activity interact. This has been the case in this research, where two different environments, university and workplace, were compared (Paré & Le Maistre, 2006). On examination, it was found that AT exposes contradictions between the elements of the different activity systems of university and work.

The AT system, and especially Mwanza and Engeström's (2002) eight-step model, were used as a guide to formulate questions to gather information. After the data had been collected, this system provided an easy way to organise data and display it visually. So it was used, for example, to both guide the interview questions and analyse the data in AT theory elements. In particular the data could be interpreted through the definitions given to each AT element.

3.3.2 Activity theory and Mwanza and Engeström's eight-step model

The eight-step model is grounded in AT methodology (Mwanza and Engestrom, 2003). In the study of Lab@Future, the eight-step model was used to gather data based on open-ended questions from interviews, where students and teachers´ activities centred on teaching and learning scenarios relevant to the targeted environment of application for the Lab@Future system. Here the model was used successfully for this research.

Table 3.1: Eight-step model (Mwanza & Engeström, 2003)

The Eight-Step Model		
Identify the:		**Questions to ask**
Step 1	Activity of interest	What sort of activity is interesting?
Step 2	Objective	Why is the activity-taking place?
Step 3	Subjects	Who is involved in carrying out this activity?
Step 4	Tools	By what means are the subjects performing this activity?
Step 5	Rules and regulations	Are there any cultural norms, rules or regulations governing the performance of the activity?
Step 6	Division of labour	Who is responsible for what, when carrying out the activity and how are the roles organised?
Step 7	Community	Who is interested in working on the object and has an interest in the outcome?
Step 8	Outcome	What is the desired outcome from carrying out this activity?

The eight-step model as seen in table 3.1 in this research had two purposes: The first was to guide and establish discussion in the Blog and on Facebook. The second was to act as a guide to the interview questions, which were already influenced by the data from the Facebook page and Blog. Once the entire interview data was transcribed, the were added to the eight-step model and attached to AT elements. The eight-step model therefore encompassed both the research design and also part of the method of gathering and organising the data.

The eight-step model was a visual tool that held all the data in one place, which helped with analysing it. See appendix H. The 8 step model also provided definitions and questions to help attach data to elements, which at times was difficult.

3.4 Research process

Data was collected using Face Book posts, Blog comments and interviews as data gathering tools. The participating students use the social media platforms during their visit to the work place. The interviews were conducted once they returned to university after the work placement. The data was mined and analysed to be classified to an Activity Theory element, based on the definitions. Once data was populated in the Activity Theory elements (like in the 8-step model) certain themes arose. The data was then further analysed using a frequency coding system; for example, if a topic came across 3 or more times it would become a theme.

These findings in turn provided some recommendations, which could be used by not just Design students but could also be adapted in other areas. Some shortcomings too were discovered and these are also elaborated on in further chapters.

Figure 3.2 shows how the data-gathering methods were used to populate the AT elements via the eight-step model. The eight-step model informed the questioning and provided the structure to house the content. This was then used to enlighten the interview process and ask more specific questions in agreement with AT to further populate the AT elements. These were then used to populate the AT system for the workplace and university after which it was possible to compare the two systems.
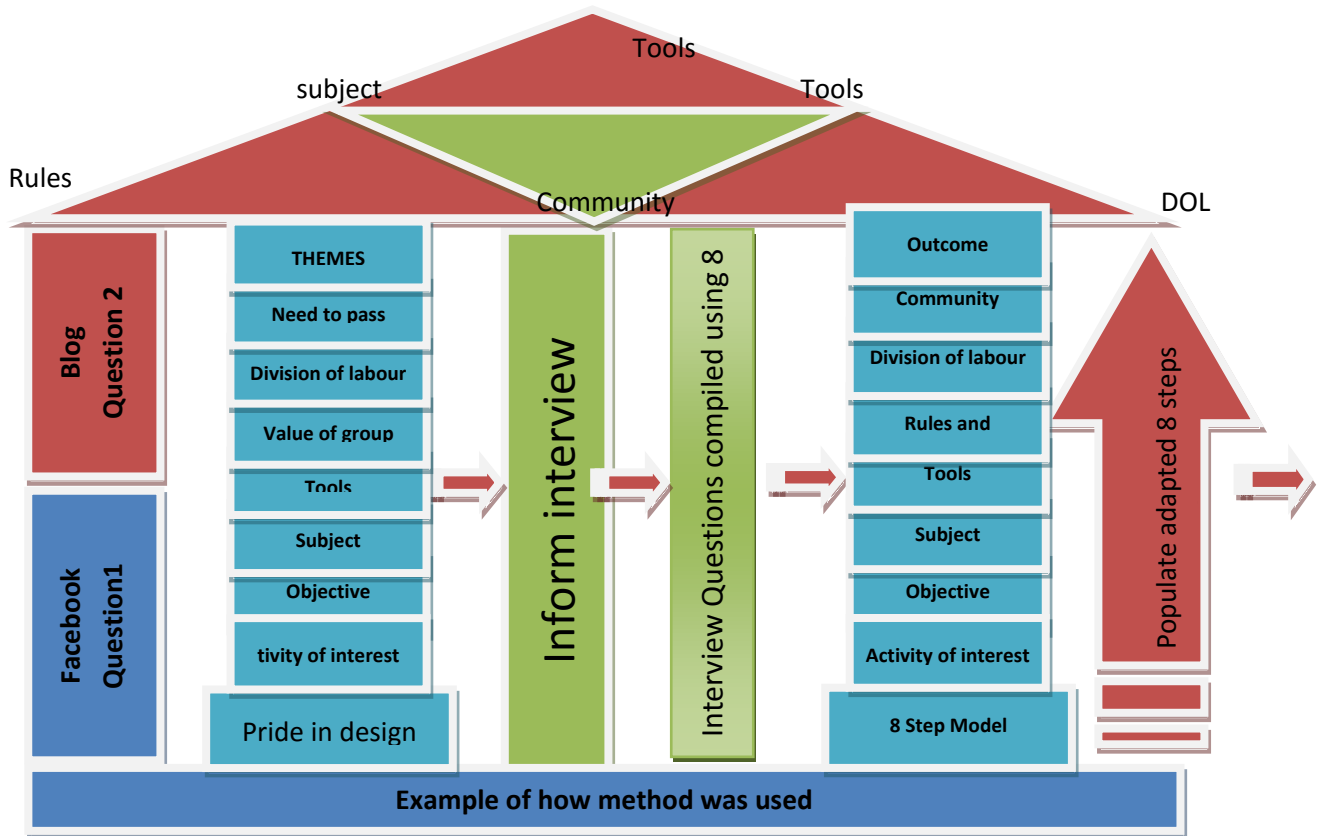
Figure 3.2: Graphic representation of how methods were used

3.4.1 Research setting and selection

Data was gathered in two consecutive years, 2011 and 2012. This was to ensure that a large enough sample set was gathered. The same methods were used in both years and there was no significant data difference between the two data sets. However my research skills improved somewhat with the second data collection set, a point made in the research literature (Maxwell, 2012). Some limations on the selection was that certain information, for example gender and ethinic groups, were not availible for the study as these questions were not recorded.

In the sampling process, research focused on the third-year graphic design students at CPUT's Faculty of Informatics and Design on the Bellville Campus in Cape Town, South Africa. These students reacted to a notice placed in their studio in which I explained that I needed to follow and document the work placement process planned for the June and July vacations.

All interested students were invited to a briefing meeting in which the documentation and their responsibilities of this research project was explained. Initially the entire class of 30 was present at the briefing. Some students declined to participate, leaving only 24 students in 2011 and 20 students in 2012.

As part of the History assignment students had to go out to industry and work for two weeks during the June/July recess. While the students were at the work place, this research project required students to be engaged with social media and take careful note of what they were experiencing and report that back through the face book posts and the blog comments and on their return to participate in interviews. Thus students did have to have access to the Internet to access the Facebook page and blog. Most students used their cell phones or work facilities to participate in the Facebook page and blog discussions.

No criteria were used to select students other than they had to be third years and they had to have found work placements successfully because without successful placement the student would have nowhere to participate from for this research. No academic requirements were needed and race, gender and culture were irrelevant. The research was not interested in these qualities at the time but simply to explore their learning experience in general. As stated before this may be a limitation to this research as it is not able to accurately say what the effects of students being female or male were nor which ethic groups had a better or worse experience of learning in the work place

During my discussions with students when they signed up for the study, it was clear that they used Facebook and blogs mostly to communicate. This became an intricate part of my research tools, and structures around these tools were designed. Investigations were done to ascertain how I could use these tools that students were already familiar with, in the research. On signing up to the projects, students attended a briefing workshop where they were asked which means of communication they were familiar with and use the most. It was clear by the number of students who left the briefing

workshop that all were familiar with Facebook and second choice was blogs. Platforms that students were already using, like Facebook and blogs seemed the most feasible option to conduct the project data gathering tools.

Other tools like interviews were also used as some topics on the social media platforms needed more clarity and explanations from students.

The Facebook page would have daily questions posted by the researcher, to which students needed to respond. The blogs were used to post discussion questions to encourage student participation. Students were interviewed in the first week of returning from the work placement vacation period. This week was important because they were still unpolluted from other factors like class room activities. Also all the students were available to attend the interviews during this week. These were semi-structured interviews. The interviews were recorded, transcribed and analysed using the AT system elements and the eight-step model to organise the data, and later to analyse created themes and populate the activity system triangles. All data from Facebook pages, blogs and interviews were organised into the eight-step model and analysed into themes.

3.5 Data-gathering methods
3.5.1 Facebook

The Facebook platform was mostly used to ask questions to the students with regard to what tasks were done in the workplace and allocation of such tasks. (See appendix A). These questions were inspired by the 8-step model and posted by the lecturer. Here students would post short, quick answers between or during tasks and at breaks. Students used the same page as Facebook updates. Students were most active on this platform and many interactions occurred on this platform. Students were adept at using this platform and knew their way around it well; they had access to Facebook and participated on this platform in varying degrees.

This question was posted to the participating students who responded by adding comments or posts. Students went on work placement during the June recess this means that students had been in the 3thd or 4th year of studying

their National Diploma in Graphic Design. (See appendix A). Here a general, overall picture was clear; students were involved in graphic design tasks at different levels during the work placement. Students were involved in every part of graphic design business; some were involved in complex projects and others in simpler procedural tasks.

Where three or more students made reference to similar issues this was coded as an emerging theme. The coding was thus done inductively (Cousins, 2009). This is shown in Appendix H.

Examples of Facebook questions, posts and comments:
- *What kinds of graphic design activities did you participate in today?*
- *What was your main task today?*
- *What was interesting for you today?*

Students used the platform daily for their personal socialising and had no problems interacting with and using it for this research. Students posted daily. However Facebook was open to all students to see one another's comments and some students just choose to comment on other students' posts, without posting their own.

This research used Facebook in the same way as Ivala and Gachago (2012), and a closed group was established. Having a closed Face book group meant that only the member of that group could see the comments. Facebook was already familiar to the students and they knew their way around this social media platform. Ivala and Gachago used Facebook to improve communication between students and lecturers while students were on work placements. We used the same method, but also to gather data. Using Facebook is a challenge, especially in the case of academics, as they don't want to be 'friends' with students on Facebook (Ivala & Gachago, 2012), where they have access to personal information. So creating a closed group is perfect as it allows for communication and sharing of content by friends on Facebook (Ivala & Gachago, 2012).

Distinguishing between formal and informal conversation in using research tools such as Facebook is a challenge for the researcher, according to Gabriel and Maher (1999). This research has in part addressed this challenge of distinguishing between formal and informal conversation by mediating the conversation with questions.

Similarly to Ivala and Gachago (2012), I found that Facebook offered a source of peer support, collaboration, and interaction beyond the classroom for the students participating in this research. Facebook facilitated social community and learning, so students were able to learn and interact on a social platform. Ivala and Gachago (2012) found that more personal interactions between lecturer and students were possible; and in this research the supervising lecturer was able to assist, together with other students, in a personal manner too. Ivala and Gachago (2012) were also able to ask educational questions during conversations, just as we did via a social platform.

The Facebook posts and comments as data were not as immediate as those of the interviews. However the data was posted in real time in the workplace. This meant that the data-gathering tool was recording the research activity in details and with relevant examples that would be useful later in the data-gathering process through interviews. Facebook enabled students to revisit these posts during the interviews and this facilitated further explanations. Facebook allowed students instant access to fellow students in the workplace doing this research and gave help and assistance. Facebook was able to record the data immediately and keep it for analysis (Ivala & Gachago, 2012).

3.5.2 Blog

Blogs allowed students a private platform to reflect on (see appendix B). The private blog space was important as it was could only be accessed by the participating students and myself as the researcher. So the public, other students and the workplaces involved had no access to the blog. The privacy of the blog gave students a safe place to discuss topics; as a result the quality of the data was richer.

Every second day, questions regarding the research question were asked to guide the discussion towards the research topics. They were posted and blogged about by the researcher and commented on by students. These blogging entries then sparked off discussion topics that students were encouraged to participate in (see appendix B). These research topics were guided by the eight-step model in Activity Theory (Mwanza & Engeström, 2003) element headings. Here the students were less exposed than in the Facebook page and opportunities for lengthier discussions were possible.

Students who otherwise would not have interacted in the discussion on Facebook were active in discussions on the blog platforms. The blog post offered assistance with tasks, helped calm overwhelmed students, and created a cyber environment or community (Ivala & Gachago, 2012) which students could tap into for advice, complaints and assistance and to simply feel part of a larger group in the same situation. All students used the same blog page and commented on older discussions, or on other comments from participating students.

However, the blog environment was not as popular or as regularly interacted with as the Facebook page. It was also responded to less frequently in comparison with the Facebook page. Despite this, discussions would get heated and would be in-depth when a discussion was taking place. Students would disagree and defend certain practices. The blog posts needed encouraging from the researcher as students did not often make contributions spontaneously, as on the Facebook page.

The group agreed to meet on the blog at 6pm every evening to have live discussions about the day's activities and the experience of being in the workplace. This set time was over and above random posts by students. The set time helped to monitor students in the workplace, redirect questions, gather data and design ways to maximise this opportunity.

However, some students found the set times intrusive. The blog offered valuable insights into students´ experience and was able to show some students their weaknesses. This made some students uncomfortable.

The blog post was used to allow students to reflect on their learning experiences and to elaborate on discussions about topics.

The blog was rich in data but not as frequent and immediate as the Facebook comments and interviews. In the researcher's reading the blog, themes started to emerge.

The responses to research questions posted on the blog were departure points for deeper discussions. However, encouragement was needed to steer discussions towards more research-related themes and topics.

As with the Facebook entries recurring themes, which emerged inductively, approximately three times in the blog entries were assigned to themes. This is referred to by Saldana (2013|) as frequency coding **(**see Appendix H). In doing the research it was found that the emerging themes were similar across Facebook and the blogs.

Examples of the blog discussion questions

The discussion questions more clearly relate to the elements of the AT system (e.g. rules and tools).

- Who is doing what part of the job in the workplace? Compare this to the university environment.
- In the logo design, were the rules similar to those used at university?
- How are the tools used differently in the workplace compared with their use in the university?

This kind of questioning created comparative data that would be used later to compare the two activities.

3.5.3 Interviews

Individual interviews were semi-structured (Cousins, 2009) and students were interviewed after the first week of returning from the work placement period

during the June–July recess. Students were asked a set of questions designed using the eight-step Mwanza model. The activity theory elements were used as headings to target questions, zooming into that particular element.

However, the individual interview process didn't reveal sufficient additional information to the themes, which emerged, from Facebook and blogs. Students struggled to focus on the activity of being at work/university, which was the focus of my research. They also struggled to understand what the different activity theory elements of the system meant (e.g. 'tools' and 'rules'). Thus it was decided to use more open-ended focus group interviews.

Focus group interviews, because they can be more interactive can sometimes provide richer, more focussed data for the researcher (Cousins, 2009) than individual interviews. The interviewees are able to listen to others, share what they believe and compare experiences.

Five focus group interviews were therefore conducted with groups of five students. As students would not necessarily understand the Activity Theory elements (my experience with the individual interviews) the questions were around the themes that emerged from the previous data in the Facebook and blogs. For example, the theme 'space' could be further explored in the interview (Appendix E).

However, even though questions to investigate a particular theme were asked in these interviews, these themes were initially already assigned to Activity Theory elements based on the definitions in Chapter 2.7 and in the 8-step model in this Chapter.

3.6 Activity theory elements and themes

At this stage there was additional information on the themes already established. The activity theory elements (tools, rules, DOL, object and community) provided the structure to organise the themes gathered through Facebook, blogs and interviews.

This process was a reiterative process of trying to allocate data to Activity Theory elements; allocating and re-allocating happened multiple times to try to obtain the best fit, based on the definitions of the activity elements and the rich data. This sort of reflective reiterative process towards refining data is not unusual in qualitative approaches to analysis (Cousins, 2009).

The themes under the Activity elements are described in Chapter 4 and comparisons are made between students' experiences of work and university. In Chapter 5 the more prominent differences within the Activity Theory elements that emerged in Chapter 4 are discussed further.

3.7 Ethics

The Research Committee of the Faculty of Informatics and Design at CPUT approved the ethics submission. A presentation was made to a research board and the details of the research and its ethical methods were explained. Certain suggestions were made and the research design was adapted to accommodate these concerns.

All students were given consent forms and a memorandum of understanding (MOU) to give to the workplace. Other ethical considerations with regards to the workplaces were addressed by consultations with work place supervisor in which, details about the work place including clients and jobs and names would not be mentioned. The researcher and students, agencies understood the importance of research ethics and not naming or providing specific detail on all social platforms protected the university interest. The research ensured that participants were protected and secure. The research intentions were explained in detail to all participating students during the pre-interviews. Students completed a consent form and letters requesting their participation and thanking them for their contribution to the research were distributed. Students were given copies of these forms and letters and were assured that they were free to withdraw from the research at any time.

Students were not chosen based on academic results or class participation. Students were in no way forced or coerced. Students simply responded to a

notice on the noticeboard asking them to participate while in the workplace. Students were fully aware that the contribution to the research would not impact on their assessment nor would they receive any credit or payment. All participation was done voluntarily. Nothing students contributed would be held against them academically or personally. All procedures required by the Faculty of Informatics and Design was fulfilled and permission was obtained for this study.

The participating agencies were informed telephonically, electronically via email, and per letter that students would be participating in the research study. The objectives were explained and their involvement, as well as that of the students, was explained. The agencies´ identities would not be disclosed in this research, on the Facebook pages or in the blogs. Students were briefed not to name the agency. The research was not focused on the agency and its practices but on the student's ability to cope in the workplace. A numbering system was used in which I refer to Student 1 and Agency 1 from time to time. The research spoke generally, and not specifically to a student or an agency.

The blog and Facebook page were set up as closed pages so that only the students participating could contribute and see comments made. However on request, companies could have a look at the Facebook page or blog if they felt they wanted to see what the research was about. No agencies made any such requests. However, this option was always available. Agencies' projects and clients were confidential. The students and agencies obtained permission for images used in this research.

All the participating parties consented to the research and granted permission for this research to use their input. This research sought to investigate how students cope and manage in the workplace compared with at the university.

3.   Summary

In this chapter the three sources of data gathering were explained. The chapter showed how these sources were analysed by using activity theory.

Sub-themes under the activity theory elements were outlined under each heading.

The coding process and how data was further reduced to reveal the main findings were explained. The data-gathering process was outlined in detail and the questions that relate to this research were linked. In the next chapter the findings are given, using the activity theory elements and the sub-themes.

CHAPTER 4
FINDINGS

4.1 Introduction to Findings

As indicated in the previous chapter, this chapter illustrates students' perceptions of being at work and their relationship to university studies. This section is written in a narrative essay style, and each of the activity theory (AT) system elements is explained, using direct quotations from the transcription data and interpreted according to activity theory system definitions. This was done to compare students' experiences in both the university and the workplace graphic design studios, based on the participating students' perceptions.

The activity of interest studies "what "is being investigated": 'what' is of interest and 'what' activity is taking place. In this study, the relationship between the learning at university and the workplace is examined through the experiences of third-year graphic design students. The workplace and the classroom studio were investigated and compared; therefore there were two activities. The two activities are the AT system at the work place and the second was the AT system of the university. As explained in Chapter two under the Activity Theory section, activity theory has been used as tool for measuring two environments using the same specification such as the activity theory elements. This study interrogates what happened to the participating students in moving from one to the other.

The most important elements of the activity theory system are discussed first, as revealed by the data. The level of AT elements follows in order of importance (see Appendix F, a visual depiction of the data as it was collected). The 3 or more rule was applied to establish the order of importance from the data collected. The flow shows how students experienced and navigated the activity investigated (work placement period). The students compared this with their experience in the university studio to help answer the research question.

4.2 Discussion of findings

The data revealed findings that show a clear difference in AT systems for the university and the workplace. These findings are reported by the use of AT elements. The findings from the workplace are compared with those of the university experience of students participating in the research. Finally the entire AT system for both environments is compared and certain prominent themes are explained in detail. Highlighted themes are further discussed Chapter 5.

This process starts with the 'subject' as explained under activity theory to provide insight into "who" was involved in the research and continues to the rest of the AT elements as described in Chapter 3, where the methods of arriving at this order are explained.

4.3 Subjects

The 'subjects' in the AT system refers to the 'who' doing these tasks and what drives them to do them. 'Who" is participating in the activity? In this study the following criteria applied:

- The students came from different backgrounds and upbringing.
- They had different educational levels and came from all over the country. The subjects had certain aspirations, hopes and dreams.
- They came to these settings (university and workplace) with different worldviews.
- They had varying levels of design knowledge.

4.3.1 Educational background

The participants in this study were all third-year graphic design students. These students had three to four years' experience in studying graphic design. Some were fourth-year students since they might have done the extended curriculum programme (ECP).

In terms of their background, some were from good schools and were well educated. Others were from less privileged educational backgrounds. A large number of students were from rural areas, outside of town, and had moved closer while studying.

The students were all computer literate and could use the Internet well for social use and as a resource. Based on interviews, they could use computer software on an above-average level.

4.3.2 Aspirations

All participants provided strong evidence of ties to family and cultural and community richness. They were enthusiastic and had big dreams for graduation and were aware of its significance. They were mainly motivated by money and the status of being a university student and graphic designer. Some were first- generation[9] students, and family expectations were high.

The students were concerned about others' opinions. They were talkative and comfortable in speaking. The students displayed confidence when spoken to. They spoke their minds and were strongly opinionated.

Visual depiction of where these Subject themes are positioned on the activity theory system.

UNIVERSITY   WORKPLACE

Subject   **Subject**
Educational   Educational
background   background
Aspirations   Aspirations
Technology   Technology
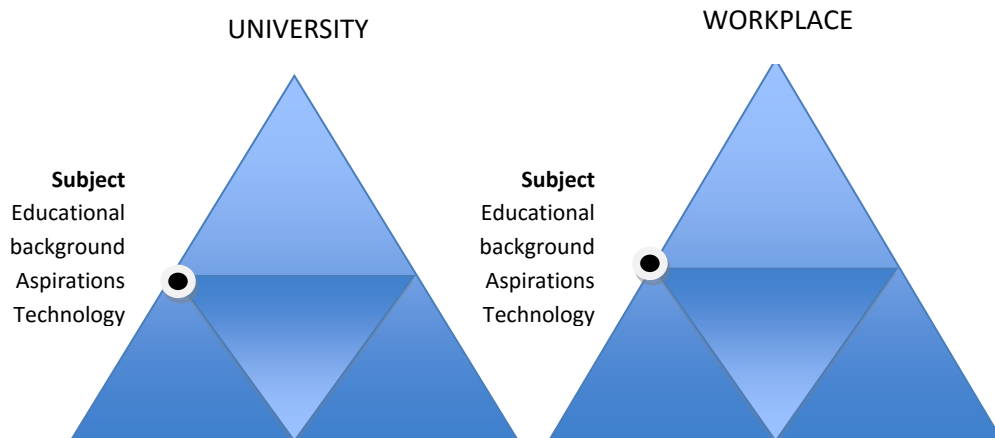
Figure 4.1: Subjects compared between university and workplace
(Adapted from Engeström & Kerosuo, 2007)

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[9] First-generation students are those who are the first in the family to attend a higher education institution.

4.4 Community

The term 'community' in this research refers simply to a list of entities that are involved in this activity, directly and indirectly. The environment refers to the area in which you deal directly and indirectly with stakeholders, both at university and in the workplace. This constitutes a list of people who have an interest in the activity studied. Here I attempt to explain how the data depicts all the stakeholders in this study. This is less data driven, other than investigating who in the data has an interest in this activity. This is how Hardman (2005b) has used and defined communities in her research.

A list of relevant stakeholders in the communities that students were exposed too during the study is:

- Student designers at university
- Lecturers at university
- Design students in the workplace
- Co-workers in the workplace
- Clients in the workplace
- General public
- University community
- Graphic design industry
- Printers
- Student cultural communities
- Government

The list above shows all the parties who would have an interested in the work activity system and the university system. These are all the relevant parties and interest that the students would need to encounter either at the work place. As discussed in chapter 3 the definition of the "Community" element of the activity system is to list all the relevant stakeholders that form the community. The above list is these parties from this research study.

Visual depiction of where these community themes are positioned on the activity theory system.

UNIVERSITY

WORKPLACE

Community
Student Designers
Lecturers
University
Community

Community
Design Students
Co-Worker
Clients
General Public
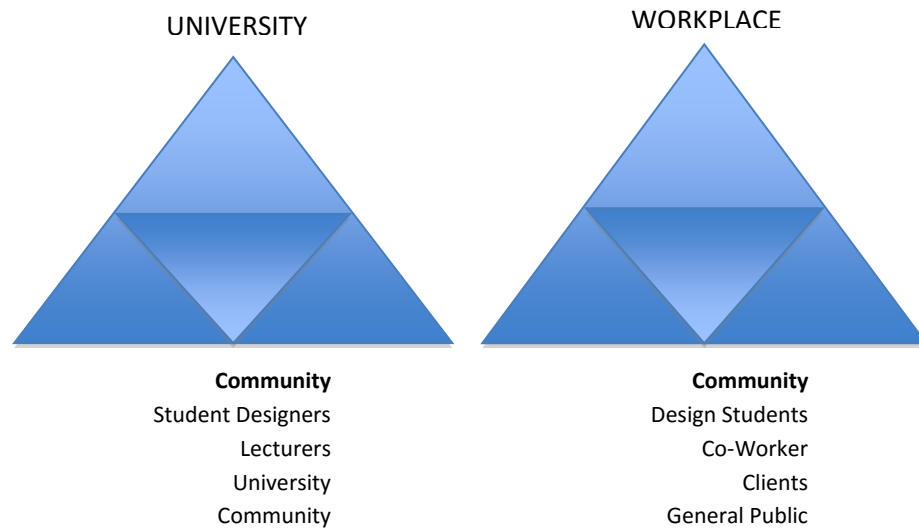
**Figure 4.2: Community compared between university and workplace
(Adapted from AT Engeström (2004)**

4.5   Object

The object' in the AT system is the understanding of 'why' things are done (Mwanza, 2002). A subheading could be the 'drivers' that push and pull, the 'why', as stated by Eraut (2004) in his work. In this study the focus is on those things that drive, pull or push students to use the 'tools' in the activity of interest to reach their goals says (Hardman, 2007).

4.5.1 Need to pass

Firstly, at university often students don't produce their best work or present design solutions that they believe in; they simply do the minimum to pass. So a large driving factor for the 'subjects' was the need to pass. Their university experience is boxed in by this factor. Students do not waste their time on activities, no matter how educational, if they are not for marks. At university students are also not bothered about cutting corners to pass or doing the minimum to pass. Submitting sub-standard work to achieve the minimum pass rate is acceptable to them in the hope that they will get another opportunity to

redo it later. So activities at university are geared at getting students closer to the goal of passing.

Here is an example of a student's drive to do what he must to simply pass, namely, by working out what each lecturer likes and dislikes. The student solved the design problem by tapping into that knowledge … what the lecturer likes. The student does not particularly believe in his design; it is simply a design to please the lecturer in order to pass.

> I get mad that all the lecturers like different things; now I just design for that lecturer. I know that one likes min. colour and clean min. design, so I just do that so I can pass. (Facebook, 2012).

> I just please the lecturer, I just want to pass. (Interview, 2012)

At work the driver is more about doing a good job for you and your colleagues. This shows the beginnings of a young professional and fits in with the 'self' section explained under the curriculum section of the literature review. In which the students ability to learn about being a professional with in the field while being a student. (Billett 2009). At the workplace, the need to pass does not exist. Students find themselves free from that pressure. What is also interesting is that students mention that they no longer have to figure things out alone. The idea that everyone is working towards a common goal is popular with students as in the work place every one work on one job or part of one job.

> I just like how we all are designing one thing for the client. At university I must figure out by myself what each lecturer likes to pass. (Blog, 2012)

In the workplace students also experienced being free to just design, be creative, explore and express them. The pressure of passing was non-existent for students. This makes me wonder if assessment is a true representation of a student's abilities. The freedom to be able to do your tasks in the workplace without the weight of passing holding you down was beginning to look like a more authentic academic activity.

However, students in the workplace were able to learn and participate in the work place activities had larger educational value. This educational value is often difficult to assess and therefore seen as having less value.

> In the workplace I was free to just design, no worries about passing or failing. I just designed. (Interview, 2012)

But they found that they had other problems in the workplace. At university, if the student fails, it is between him and the lecturer. In the workplace, if something goes wrong, many more people are affected and there are real implications and ramifications, things that could affect profit and other factors. The student feels that they were driven to do better, as he is not the only one affected by his actions. This was experienced as being more important than passing.

Here is evidence of a shift in attitude and behaviour.

> There is a lot more at risk in the workplace if something goes wrong. At university it's just you and the lecturer that know you failed. So the drive to do well in the workplace is bigger (Interview, 2012).

The students reported as seen in the above example that the sense to do well is greater as there is more at stake than simply failing if something goes wrong like in the case of the university experience. The students are drawn to this bigger community compared to the individual situation at university.

4.5.2 The value of the group

The second biggest factor that emerged from the data was the finding of the "value of the work group". Students felt the need to protect themselves by producing good work. At university they would consider only themselves. Once in the workplace, a strong driver was that the students wanted to do good work. What other designers thought of them and their work was important to them.

The students did not want to disappoint their working group. Here is an example of a student who felt that his work group depended on his

contribution to the workload. He was concerned that he would be the one holding others up in the work place.

> At work others depend on me to do my part as I can hold up the production. (Interview, 2012)

4.5.3 Pride in the design

Students want to earn the respect of fellow designers in the workplace and enjoy the teamwork that occurs very naturally in the workplace. The feeling of being part of this larger group all working on the same project with the same goal was reassuring and comforting to the students, compared with the university setting where each student is responsible for all the parts of the project and individually responsible for the success of the project. Also all the students in the class compete with one another to demonstrate their superior interpretations of the brief. They compete with one another to impress the lecturer and to do well.

The work group´s input, participating and collaboration allowed students to feel that this experience as more valuable, as there were a variety of specialists in more than one field. At university the lecturer has to be more of a generalist and needs to advise 40 students on different topics, depending on the design solution. In the workplace the group is diverse in experience, knowledge and skills. So to be accepted and valued by this group had stronger meaning for the students.

This leads me to believe that the value of belonging and finding one´s fit within a group is a strong driver that university does not necessary educate for, but drives students to do better none the less.

4.5.4 Opinions of others in the workplace

Students were concerned with what others in the workplace would think of them and their work. We see how the perceptions of others motivate students to do better work. Another example is of a student who is going to attempt to do a good job the first time around. It is no longer the attitude of someone who

would have submitted work in the hope of being able to redo it. At university students often have the opportunity to redo parts of a project. Reflection and improvement are common learning activities at university. There is no shame in repeating a task.

The pressure that students experienced that they would want their family to be proud of his poster, or design, so the latter serves as a motivation to deliver good work. The student in question is experiencing stress as his first attempt has to be good, and there would be no time to do it over; also that his family would see that he had made something substandard.

> I normally just hand in anything; then when it is redo time I will do a good job. In the workplace I was so stressed that the poster was going to go in a magazine ad and on the poles around Cape Town, that I had to make it good first time; just now my family see that I made that. There is no time to do a better one; it had to be right first time. (Interview, 2012)

The data revealed through the themes that what the work group thought of their abilities and creativity was very important to the students. They wanted others to think of them as capable and able. They want to be trusted with design jobs. This would reflect the work group´s belief in their abilities.

In the cases where students felt that the work group did not think very much of them, they felt it affected their work. They compared this feeling with that experienced at university, where the lecturer clearly has his favourites and has already established an opinion of their work. In some cases students felt demotivated once they believed a lecturer did not believe in their abilities. They felt the same about their families´ perceptions and attitudes.

4.5.5 Where design lives outside the classroom

The third factor that arose from the data as being an important driver for the students was that they cared where the design was going. The fact that the public would see it or that it would be used as a poster or billboard was meaningful to students in the workplace. The idea that work would go into a

portfolio bag or just be up for marking by the lecturer at university was a let-down for students. In the workplace they are driven by the fact that their designs will be used and seen by the public.

One student explained the wonderful feeling he had after seeing a taxi with the advertisement he had designed on it at the local taxi rank. The pride of seeing one´s design in public is a morale booster. The drive that students get from knowing that their designs are going to be used and seen by the public has proved to be a potent force that drives them to participate in the activity and also to try to do well. Their participation elicited admiration from peers and the public, but mostly from other designers congratulating and praising them.

Figure 4.3: Where design lives
An example of one of the participants´ designs while in the work placement
Zoom Advertising
Vehicle advertisement for Pep Cell, circa 2010

The student in question commented that he felt a sense of reward when his designs came to life, or ´lived´ so to speak, compared with the feeling that at university the finished work goes up on the wall for marking but mostly lives in your portfolio bag, often at great expense. No one sees it or uses it.

> At work I really enjoyed seeing where design will live once they are done; at CPUT it's all about the brief and getting an idea and getting [it] produced and approved but there is no real emphasis on where the design will live once it's done – it mostly goes to your portfolio bag. At the workplace there is a sense of reward in seeing something you helped create in a store or on a billboard. (Interview, 2012)

The drive that the public would see their work and designs drove students to improve the quality of their work. After all, if the designs were going to be seen by others, one would want to showcase one´s best work. The motivator was to do good work because others would see the work.

> Other people would see the billboard and I had to make it good. (Interview, 2012)

Students generally improved their quality of work in the workplace, as the driver was that others would see their design and that the design would live somewhere other than in a portfolio bag. This drove students to produce good work, even in this limited work placement time period.

Exposure of the students and their work and the ability to evaluate the responses of those interacting with the design, or using it, is something that the university is not adequately able to do; therefore losing a valuable driver to push students to do better in university projects presents a problem.

Figure 4.4: Examples of students' work in the workplace
Photographs taken by Cheri Hugo unpublished.

Students who helped create these 3 designs during their work placement photographed these examples. These photographs were taken after the work placement, when students happened to see their work in a public space, for example, in a restaurant. They were able to show others and enjoy their designs in the environment they were created for.

Visual depiction of where these themes are positioned on the activity theory system.
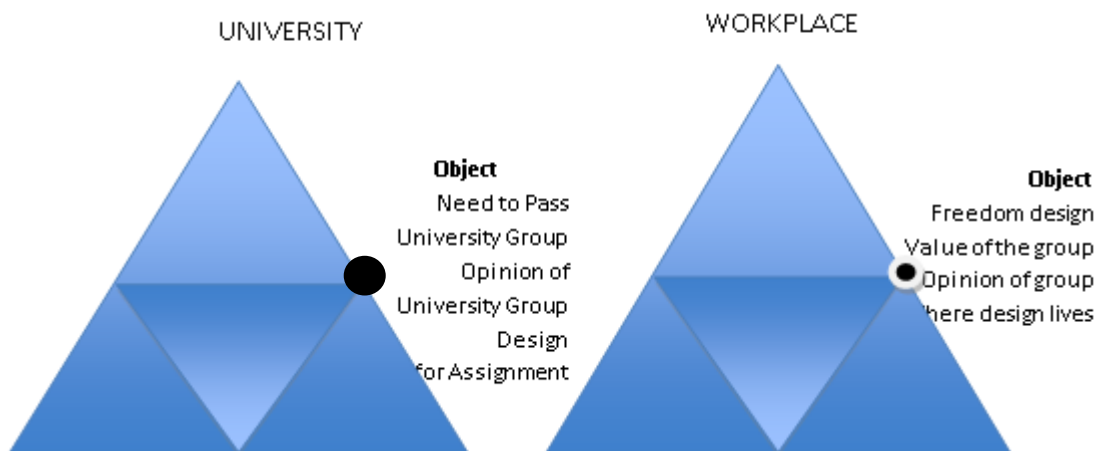
**Figure 4.5: Object compared between university and workplace
(Adapted from AT (Engestrom 1999)**

4.6   Tools

The research investigated 'with what' subjects were able to reach the object in this activity of interest. These 'with what's' are culturally linked and have physical examples that can be facilitated and meditated, according to Hardman (2007) difinition and use in her own work. In this research study the use of 'tool' also referred to all those things that students accessed or used to realise their goals. These included the software tools, and those less obvious, like tools such as problem solving (Hardman 2007). This heading also made provision for inexplicit tools, as Hardman did in her work.

4.6.1 Material tools

It was interesting that a student had problems doing a certain task and used the Facebook platform as a 'social communication tool' to find help. On the Facebook page another student offered help on this platform by suggesting Google as research 'tool'. The students in the workplace were able to use the tool of Facebook to reach out and help another student. This is also an example of how another student offered help by providing Google as a tool

to find information to solve the task at hand. The students here are also acting as a 'resource tool' of sorts as he is mediating and offering help. This is an example of the 'psychological tools' and 'physical tools' used by students to solve problems and to identify and provide possible solutions. This speaks to higher-order thinking skills.

> Does anyone know how to do make a spilt column in InDesign?
> I had to Google my way through this. (Facebook, 2012)

This could also be an example of a mixture of tools being used by students; it also shows that often tools are not used in isolation like in the workplace as taught at university. In the work place students are prompted or told to follow a set of steps that are the tools to accomplish the task. In the workplace tools are not used in a set order, but rather instinctively.

This example is difficult to pinpoint under a particular tool as there is evidence of more than one tool being used by the student. Further interpretation leads to even more tools. This was one of those samples of data that did not match any of the themes. So I chose to place it under 'bended tools', which describes how tools are used in the workplace.

In the quotation below we find that the student in the workplace was asked to use a tool that he did not know. Here the student expressed limited knowledge of the physical tools needed in the workplace. The software tools needed to do the task were not sufficiently familiar to the student for him to use them effectively.

> This [*sic*] people expect me to know how to use InDesign. I've only been a third year [for] 5 months and we did not do InDesign yet, and only got one week in Photoshop training in second year. I want to do well, but [am] so stressed ... (Facebook, 2011)

This student is expressing his concern about not having sufficient software skills to be comfortable in doing a task in the workplace. Often the university structures the body of knowledge according to availability of resources. The creators of the general unstructured curriculum of the third-year graphic

design course may not be aware of the software needed by students and at which level it is needed. Their sequencing of knowledge may not accord with the expectations of the workplace.

4.6.2 Environment as a tool

Students experience the 'physical tools' of the environment to be helpful in the workplace. The physical space had an impact on how they were able to draw from tools needed to do the task at hand. The use of design-friendly cool walls, brainstorming spots, and places to find inspiration were physical tools that the students could use to activate their creativity. Here the physical spaces were seen as 'physical tools'.

> [The] workplace has cool walls and brainstorming spots and places to seek inspiration from our own ideas at CPUT. I'm often so under pressure with all the other students doing the same thing and we [are] competing that I just seek the Internet. (Interview, 2012)

Students raised the point that physical space had an impact on their ability to be creative. They noted that at university they only used the Internet for inspiration, while at work they were surrounded by designs, friendly spaces and places to brainstorm. Thus the university should keep in mind the impact of the design space on learning and creativity.

> The workplace environment was more design friendly. [The] CPUT studio …
> is a classroom – we just look into computer screens all day. (Interview, 2011)

The university space looks more like a classroom and it is difficult for students to be creative on demand, especially when everyone in class is doing the same brief and using the same research. Here I identify the lack of creative spaces needed by students to react creatively to a brief. In the workplace the creative spaces are 'physical tools' to springboard creativity. University spaces are learning places and have to accommodate different functions.

4.6.3 Design thinking tools

The data also revealed that students struggled to obtain the creative 'tools' needed to cope in the workplace. In the statement below, we see that the student struggled with creativity, concepts and ideas as needed in a design studio. These are considered 'thinking tools' which are important as students draw from these to find design solutions to design problems. The lack of these 'thinking tools' makes it difficult to do the task at hand. The student also says that he had the technical knowhow but lacked the 'creative tools'.

> I could do the stuff they wanted but I was struggling with concepts and coming up with ideas; my creativity was low. I am normally so good in class but out here I had the technical skills but no creativity. (Interview, 2012)

The changing environment from university to workplace could be a factor in making students feel less creative in the workplace. The safety net of the lecturer who could guide and advise or suggest options was absent in the workplace, and students had to rely on their own abilities.

Creative tools are thinking tools that students need to be exposed to more often in the university setting.

This next example talks to the lack of 'tools', as the student admits to his panic. This is an important finding, as it shows that students in the workplace have the ability to evaluate their work and realise they are not doing well. This is often the first step to improving a situation. The student also uses the members of the work group as a 'tool' to gather information. This talks to his 'psychological ability' to seek advice as interpreted from the data.

> I panicked when I was given a job but could not come up with a concept. After talking to all the people around me I realised I'm in another level here. Their thinking is just so high in creativity. But I felt good I could do all that they asked of me on that job. (Facebook, 2012)

4.6.4 Interactive thinking tool

Feedback has been categorised as a 'psychological tool' as the literature and users of activity theory has done (Eraut 2004) (Hardman 2005) (Garraway & Morkel 2015). Feedback is a mental tool that students can use to improve design assignments. The feedback can be internalised and analysed, and then interpreted. In this excerpt the timing of when the 'tool' of feedback is used, is an interesting finding. The student expresses that getting feedback after the project at university is less helpful as the project is over. The comments from the feedback are lost as the project window is over.

> The way they do feedback here is so cool; they give actual stuff to change the work and feedback does not happen like at tech after the project, when you don't need it; it happens while you're busy. (Facebook, 2012)

Often students have moved on to the next project and that project is interrupted by an older project's feedback. This interrupts the current project's flow and it is too late to do anything about the past project.

> At CPUT there is no reflective time offering feedback about a past project; feedback happens while we are busy with the next project so we are not focused on what we could learn from the reflection of an old project. (Facebook, 2012)

At work the feedback is during the project window. The project is continually evaluated and feedback given. This feedback is able to make a difference to the project immediately.

> We're not going to redo it now; we simply focus on the project at hand. At work I loved that during every job they reflect on what was well done and what the team can improve on. (Blog, 2012)

This tool is interesting, as it highlights that when in an activity a 'psychological tool' such as feedback is used, it can have different outcomes. The students

explained that how the feedback is used, depends on its timing. In the workplace the feedback is relevant and leads to adjustments immediately.

Below is another example of how the students felt that an unwritten rule of the community they were in was different from that of the university. The unwritten rule of being taken seriously and being able to talk about uncertainties in the workplace was important to them.

> From just talking during tea times about the simplest thing or a bad feeling about a job or being uncertain of what to do … it was all taken seriously and help and guidance [were] at your fingertips … Not have to wait till the lecturer gets to me. (Interview, 2012)

The collaborative efforts of the work community to assist students during the work placement with creative tasks can be seen as an unwritten rule of that community. These collaborative encounters gave students confidence.

> What I liked best was how they constantly come around and look at how far you are and will tell you, you're spending too much time on that section, move on to a more important part or constantly ask if you are ok or do you need help. (Interview, 2012)

The university setting has set time frames during assessment and evaluation when projects are marked and assessed. Thereafter feedback is provided. The university contends this is a learning opportunity for the next project. However in some cases feedback is too late.

Feedback is an important tool for a discipline like graphic design, as there are no textbooks and the curriculum comprises a set of outcomes where students at each level must demonstrate competence to progress to the next level. These outcomes are achieved by a set of projects/briefs that students need to interrogate and present a possible solution. A tool available to them is feedback. Often this tool is not given its rightful time slot on timetables and it is not as meaningful and helpful as that experienced during work placements.

What is more interesting is that the timing of the feedback is important if it is to have any impact.

Visual depiction of where these themes are positioned on the activity theory system.
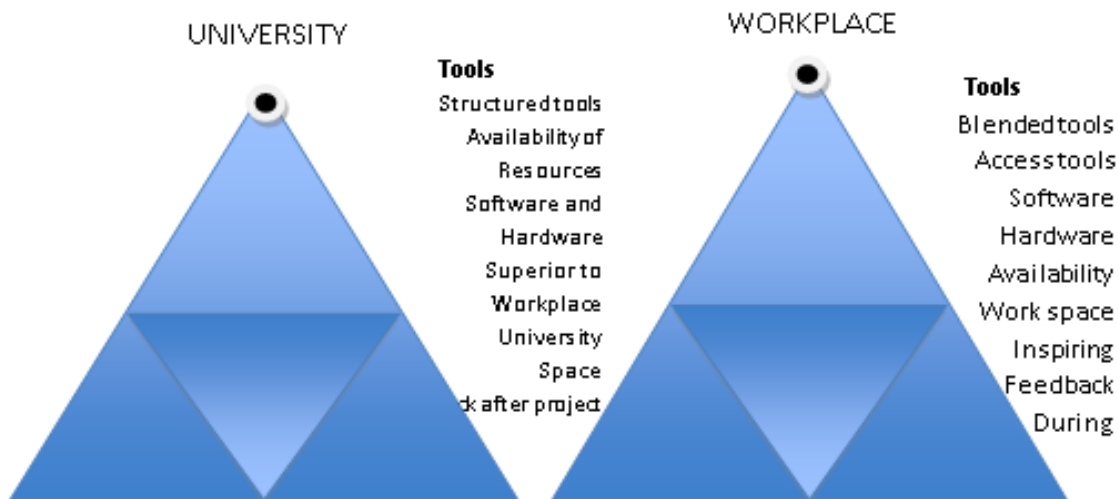
Figure 4.6: Tools compared between university and workplace
(Adapted from AT (Engestrom 1999)

4.7 Rules

Rules are the processes and procedures that are followed in a community. These are written rules and explicit rules, as well as unwritten rules such as the things that are just done, not taught, the things you are just supposed to know or learn in the community of an activity is how Engeström (2001) explains his understanding of rules.

Another way to understand rules is those things students use to navigate through these communities in using the tools to reach the object. The data highlights a few strong rules that emerged.

4.7.1 Time and subjects

At university students juggle different projects for different subjects in one week. Students at university attend lectures and studio classes during the day and often have to do projects at home or after hours. The designers in the workplace may also work on multiple projects but understand that students work on one thing at a time.

> At university we have 3 different deadlines for 3 different subjects in one week; at work they know you're busy with one thing at a time. And there is no taking work home, you work your set hours and go home. (Facebook, 2012)

The rules in the workplace with regard to 'time' are set, compared with those of the university, where the activities of the learning day may extend over the entire day. At university an academic structure of subjects constitutes a set rule, and timetables are set structures needed at university.

Interestingly, there is an unwritten rule that in the workplace one does one thing at a time. The academic rule about 'meeting deadlines' is a rule that is shared with that of the workplace. Here is a common rule, even if it plays out differently in the different activity systems.

4.7.2 Creative culture

The unwritten rules of the community that students find themselves in at work are those of sharing ideas and drawings, and talking to people in a relaxed manner. There is a rule that creativity needs to be nurtured (Heskett, 2005). This example from students highlights the unwritten rules of the community of the workplace.

> The workplace was so cool; everywhere around the place you would see people chatting, around the water cooler or tearoom. Sharing ideas and explaining concepts and drawings – all like just so by the way. And if you feel overwhelmed or stressed, they just say relax and take a walk or do something creative to pull you back. They understand creativity doesn't just come like that … (Interview, 2012)

However, at the university students experience unwritten rules with regards to competing against each other for the better result. Also, the individual process of getting a project complete and the unwritten rules that some students are better then other because they are liked by the lecturer or design for the lectures approval.

4.7.3 Workable solutions in the workplace

The workplace, according to the data, offered more practicable solutions to get the job done quickly and effectively. The university tends to have less

focus on the specific solutions or task. Many ways are explored and this leaves the solutions fuzzy for students to clearly identify what are workable options.

The quotation highlights some of the teaching and learning rules that students encounter at university. It is the core business of university to teach, often allowing students to investigate more than what is needed. These activities are the teaching and learning rules that universities follow. They may not always be entirely explicit to students.

> Industry was more helpful, with actual workable solutions to have you do 10 different things only to find out only two can actually work. Advice and guidance were time saving at university. You are told to make 5 different scamps, read this article, go Google this, go look at blogs, but little that can actually really help solve them. In the workplace they just tell you if you make this blue this is what will happen to green. (Interview, 2012)

4.7.4 Assessment rules

At university, student results are an indication of student achievement. As graphic designers, it is difficult to measure good design students based on academic results only. Creativity is difficult to measure. It is subjective and varies from student to student and task to task. (Cross 2004). Academic results are not always a true reflection of a student's ability. It is, however, university practice to evaluate student progress by assessment. This practice is an academic rule (Barnett, 2006). The university (CPUT) has gone to great lengths to ensure assessment practice criteria that are reliable and valid. These rules for assessment can be crippling to students' creativity and limit their exploration of solutions. Often they go for safer options, as this will ensure their academic success.

> I felt so free to just design, no worries about the lecturer or rubric or anything like that. In the workplace I took design risks I would not take in class – I'm just so worried about passing all the time. (Facebook 2012)

In the workplace, where students are free from this 'rule' of passing or failing, they experience a sense of freedom to be more creative and take more risks.

This allows them to push themselves and obtain better results, in spite of the aftereffects.

4.7.5 Operational procedures

Routine tasks are typically operational; here students seem to be confident and in control. The rules of design and the creation of artwork in terms of the technical procedures (rules) were, according to students, easy to accomplish in the workplace.

Routine tasks included taking notes, setting up proper files, using keyboard shortcuts, and searching for more meaningful visual imagery; creative tasks included information gathering, identifying constraints of the problem, understanding the requirements of the design problem, sketching, and working towards the end result from the inception of the assignment. Operational requirements like CMYK and RGB (colour models) are standard and the knowledge of how to set images for print and for screen resolution were all standard practice.

> I was so happy to find that I could easily do the task given; I could work the Mac, save correctly, use the software properly and get everything print ready. It was just like we were taught. (Interview, 2012)

Here is an example of how the rules of creating graphic design and the technical processes (rules of designing) were carried from university to the workplace with ease.

Students were able to manage this task adequately. However, the task of communication with the client seemed more challenging.

The extract below shows how students were able to bring the procedural rules taught at university to the workplace. The rules of file formats for design documents were handled in similar fashion as at university. The use of design terms and language was familiar to the students.

> I was happy that file formats as I was taught were the same in the workplace. I could understand other designers when they used design terms and did things, like step-up docs and get images colour ready. (Facebook, 2012)

4.7.6 Designer and client interactions

This extract indicates students were not aware of the unwritten rules of meeting with clients. He says, no one told him to let the client do all the talking. The student also adds that 'they' later told him about how things are done when meeting with clients. This is a further example of an unwritten rule of the community that the student found himself in during his work placement.

> We went to meet the client, and I talked all the time. Later they told me … when we meet the client … we let him talk. No one told me that. (Interview, 2011)

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Visual depiction of where these themes are positioned on the activity theory system.
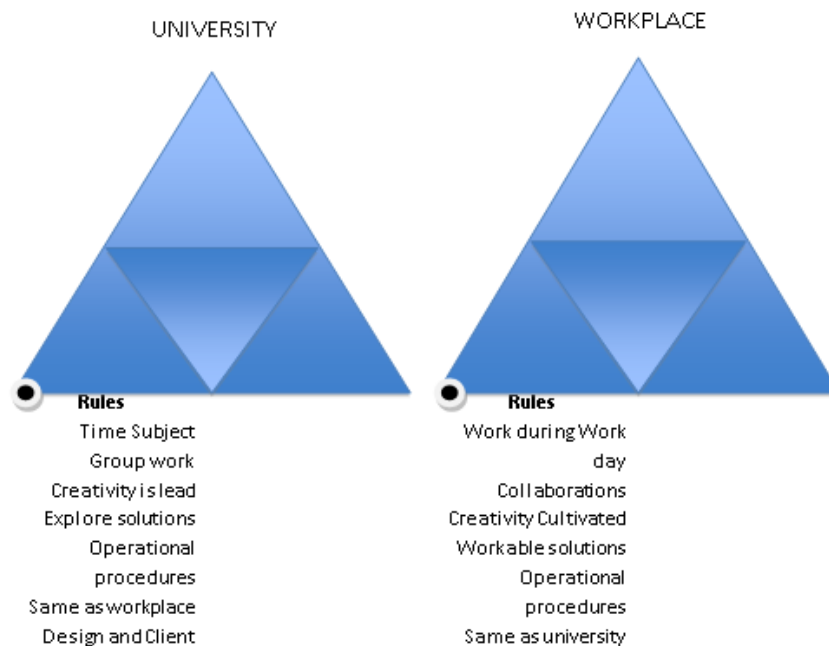
Figure 4.7: Rules compared between university and workplace
(Adapted from AT (Engestrom 1999)

4.8   Division of labour

Division of labour (DOL) refers to people in different roles of authority and the power play between peers and equals (Engestrom 1987). It constitutes the hierarchical levels of those participating in the activity. There are horizontal and vertical divisions of labour and power tensions that were of interest to this research study.

Division of labour can be seen as the script (Eraut 2004) that actors in this activity follow. Some divisions are strong and others weak. Some of the roles are clear, as per the script, and other roles appear as the activity develops. The DOL helps us understand how the subject used the tools and the rules of a community in an activity that is being researched to reach the object.

4.8.1 Collaboration in the workplace

The extract below is an example of how the rule of working as a group is more natural than in the university studio, where students are told when to work in groups. In the workplace the rule of teamwork seems less controlled but is understood by all in the workplace.

> [There is a] lot more teamwork in the workplace, a sense of everyone wins if it works. (Facebook, 2012)

The extract above is an example of how student perceives certain lecturers as more important than others. They sense that certain lecturers are 'higher up' and have more power than others. The hierarchy that students create for different lecturers helps them navigate which one to watch out for or whom to work hard for. A particular lecturer enjoys the student's attention and hard work ethic more than another. Even though this lecturer´s subject counts less in weighting, the students attach the same value to the subject as they do to the lecturer. At university there is also a sense that the power shift between lecturers and the subjects they teach is non-transferable (Eraut 2004). Students see the lecturer and their subject as one, for example, an older white lecturer with a stern demeanour and many years' experience in teaching in higher education. However she teaches the lowest weighted subject, because

of her other duties. Students seem to do well and are mindful of being class and 'knowing your stuff'.

> You know if Miss _____ is teaching you must know your stuff and attend. (Interview, 2012)

The statement above one can see that students are unaware that the subject counts less than other subjects. It is the authority of the lecturer that inspires them to want to do well as impetrated from the data. In the extract, students find themselves in a shifting position of power. They were treated in a particular way at university and that gave them confidence. They were 'looked up to' by lower levels of students or even by students in other programmes. These students had certain advantages over lower levels of students; they had greater access to lecturers, as they had known them for longer and better than the newer students did. They had their own Mac lab which lower level students were not allowed to enter. They had certain skills that lower levels admired.

> We were confused, as at CPUT we are treated like top dogs, we are third years and have some respect; at the workplace we seemed over confident and arrogant at times. (Facebook, 2011)

In the workplace, their confidence was seen as arrogance. Here the student is expressing his confusion in respect of his role in the work environment. Going from being 'top dog' to being seen as arrogant … The shift in personal power can be emotionally troubling for those ill prepared (Billett 1994). This power shift can be seen as DOL, as the students shift from being elements of power and authority at university to the workplace where they come across as over confident and are viewed as arrogant. This shift of personal power (Billett 2001) may have an impact on how students use tools and apply rules within this working community.

Lastly, the fact that students perceive that lecturers do not communicate with one another, leaves them to draw their own conclusions as to what is more important, from projects to subjects to lectures, and so on. It is clear that from the student's perspective the university structures seem inflexible and set, and that little communication between subjects and lecturers occurs. Students

perceive that DOL is set, as well as the powers and authorities that govern all things; they try to establish who is who in the play.

> Ï feel sometimes the lecturers don't talk to each other, they don't know what the other one is doing, especially part-time lecturers. (Facebook, 2012)

This extract also illustrates how different levels of power and authority are seen 'to not know what the other is doing (Eraut 2004) (Garraway, Hugo & Waal 2014) (Hardman 2007) which creates tension between people and leaves people to push or pull towards an authority or a power of some sort.

In this research the two environments, university and workplace, can be described as 'not knowing what the other is doing', thereby leaving students to draw a comparison between the two experiences. It also makes both environments less able to adequately train designers.

However, at the workplace, other compartments are found, such as one job's being divided into many tasks in which all staff members play a role. This is different from the university setting, where in most cases the student is required to do all the work. The workplace also has other compartments that the university could not feasibly expose students to, such as the finance department and administration, but could do so superficially (Garraway & Morkel 2014) (Hardman 2008).

Collaboration was placed under the DOL AT element; however it can also be used as a tool. In the next chapter 5, some of the limitations of using the AT element is explained and some of the problems in assigning data to AT elements are further discussed.

4.8.2 Compartmentalisation

The data under this AT element refers to students who know that the curricula and how lecturers plan projects are inter-subject related. However students do not experience this as intentional. They simply still see individual subjects and worry about how to pass them. Here the DOL is about individual subjects and

their requirements that outrank their importance to the students and not the intended learning activity. Students shift the power of the learning activity around and reject the idea that the project requires subject integration. The student works out for himself that he would still need to pass all the subjects that are involved, and will rather shift the power back to the individual subjects, to ensure that students passes all of them individually

> At work it was so easy to put all the subjects together; at university I know the lecturers want us to integrate subjects in the projects, but how will I pass the different subjects? (Blog, 2012)

At university, subjects are taught individually and assessed individually. The five subjects (graphic design) have weights attached to them that comprise the year mark. Certain subjects 'weigh' more than others with more time allocated to them on the timetable. This creates a hierarchal order of importance to the students. The one that weighs the most is more important. Subjects of lecturers that appear to be more superior are treated differently from other subjects and projects. Students place subjects, projects and assessments into compartments and deal with them in a singular method, whereas in the workplace there are other compartments. The ability of how to do the task in the work place is a mixture of all the knowledge gained while at university.

4.8.3 Need to please authorities

The extract below indicates students turning into an entity that 'pleases' or wants to please. The working group had offered the student a reward by making students believe they trusted him and believed in his abilities. Such rewards turn the student's view of himself to that of a smaller power – one that from the student's perspective has more experience and thus more power. The shift in authority and power is hierarchical and vertical (Eraut 2004) (Eraut 2010). As the work group is hierarchical, the vertical shift is that which they offer the student that makes him wants to 'please'.

> Who is pleasing whom? At work I felt like pleasing the team as I could feel their trust and belief in me. (Facebook, 2012)

The above extract demonstrates the student's wanting to 'impress', as though the student feels that he is not impressing. This talks to the power that the student perceives the manager has over him. The manager is an authority figure, and makes the student aware of his position in the workplace. The need for the student to 'impress' the manger clearly talks to DOL as students recognise the power players in the work group.

> I really wanted to impress the client and the manager. (Interview, 2012)

> I just loved it when the lady next to me said, 'Wow, that is a good drawing … you do that and I'll do this for you' (Interview, 2012)

The extracts highlight the concerns students had about simply pleasing people. Their perception of their role is made smaller and they try to please the work group, client or manager, and the lecturer. There is almost a sense of hopelessness in the statement. The student feels that the lecturer does not believe in his abilities and he just aims to keep the lecturer happy. Students do not always trust the lecturer's feedback, but will comply to please the lecturer. Through interpretation of the data, the student has tapped into the areas he is unaware of, showing the power play of the lecturer and the level at which the student sees himself.

> There were so many more role players to try and keep happy, but it seemed so aligned. At CPUT I must keep the lecturer happy even if I don't believe in his advice of choices, as I want to simply pass so I simply give him what he wants. He does not believe in me anyway. (Interview 2012)

The student goes against what he believes to be better, choosing advice or feedback that he does not trust. Because it comes from an authority figure, he will comply, simply to pass.

4.8.4 Flexibility of the workplace

While at work, the positive support from the work group allows students to do what they are good at. In the university setting it is less easy to divide the workload, as each student must do his entire project from beginning to end.

This show far less flexibility compared with the workplace (Swanson 1994). At university the DOL is set and certain elements do not matter. In the workplace the DOL can easily be shifted to accommodate those who do certain tasks better or enjoy other tasks. The workplace allows for that flexibility. However, some traditional work environments are also set in their ways and the switch in roles to younger students can unsettle the DOL in the workplace, leaving experienced workers feeling threatened as (Eraut, 2004) exsplains in his work about the flexability of the work place.

Visual depiction of where these themes sit on the activity theory system

UNIVERSITY

WORKPLACE

Division of Labour
Flexibility of work place
- Work group has trust and believe in student ability.
Knowledge is used interchangeable
- All in community work on a project

Division of Labour
in flexible nature of operations
- need to pass
- Strict order of subjects
- Lecturer holder of

Figure 4.8: Division of labour

DOL compared between university and workplace
(Adapted from AT (Engestrom 1999)

COMPARING UNIVERSITY AND WORKPLACE ACTIVITY SYSTEM

UNIVERSITY ACTIVITY SYSTEM

WORKPLACE ACTIVITY SYSTEM

University Activity System

Tools
- Single structure of tool use
- Availability of resources
- Limited design friendly general use
- Lecturer guided approach needs less creativity
- Less meaningful feedback, often too late.

Subject
- Variety of backgrounds
- Variety of education
- Different interest
- Different talents
- Difficult to transition

Object
- Need to pass
- Individual process
- Final design out put
- Established relationships

Rules
- Timetable and subjects
- Homework after hours
- Full curriculum not always clear.
- Deadlines are the same as Work place.
- Teamwork bad experience
- Creativity is limited.
- Input is not better then Lecturer knowledge
- Lots of options
- Lack of clear specifics
- Assessment rules may hinder creativity
- Operational GD basics is the same
- Simulated client and design student interactions.

Community
- Student
- Lecturer
- University community
-

DOL
- Flexible nature of operations
- Need to pass
- Struck order of subjects
- Lecturer holder of knowledge
- Student input based on academic achievement

Workplace Activity System

Tools
- Blended use of tools
- Limited software skills

Subject
- Less confident
- Wants to learn
- Obtain work experience
- Find a job make money
- Open to new

Object:
- Doing a good job
- Value of the work group
- Where design lives
- Option of other matter

Rules
- Work gets done in the work day
- Work on one thing at a time
- Entire project is insight
- Deadline
- Team work is an pleasant experience
- Creativity is nurtured
- Student input matters

Community
- Designer student
- Work group
- Client

DOL
- Flexibility of work place
- Work group has trust and believe in student ability.

Figure 4.9: Data Comparison University and Workplace

4.9   Summary of findings

The findings regarding feedback raised some important points. Feedback itself is a tool with in the AT system that can be used to medicate with, but what was interesting here was that student spoke about when the feedback happened in the work placement project window as being an enabling factor. Thus it speaks to the DOL of the project. An important part of the project at university sits outside of the project window. At university feedback is given after the submission of the project.

Another point to draw from this quotation mention under DOL is that the 'who' providing the feedback is often the person in authority and here may be an opportunity to allow students to change their position of power.

Secondly, the findings with regard to collaboration prompted the idea that the university should try to simulate these collaborative efforts; however students still find them too engineered. In the workplace the collab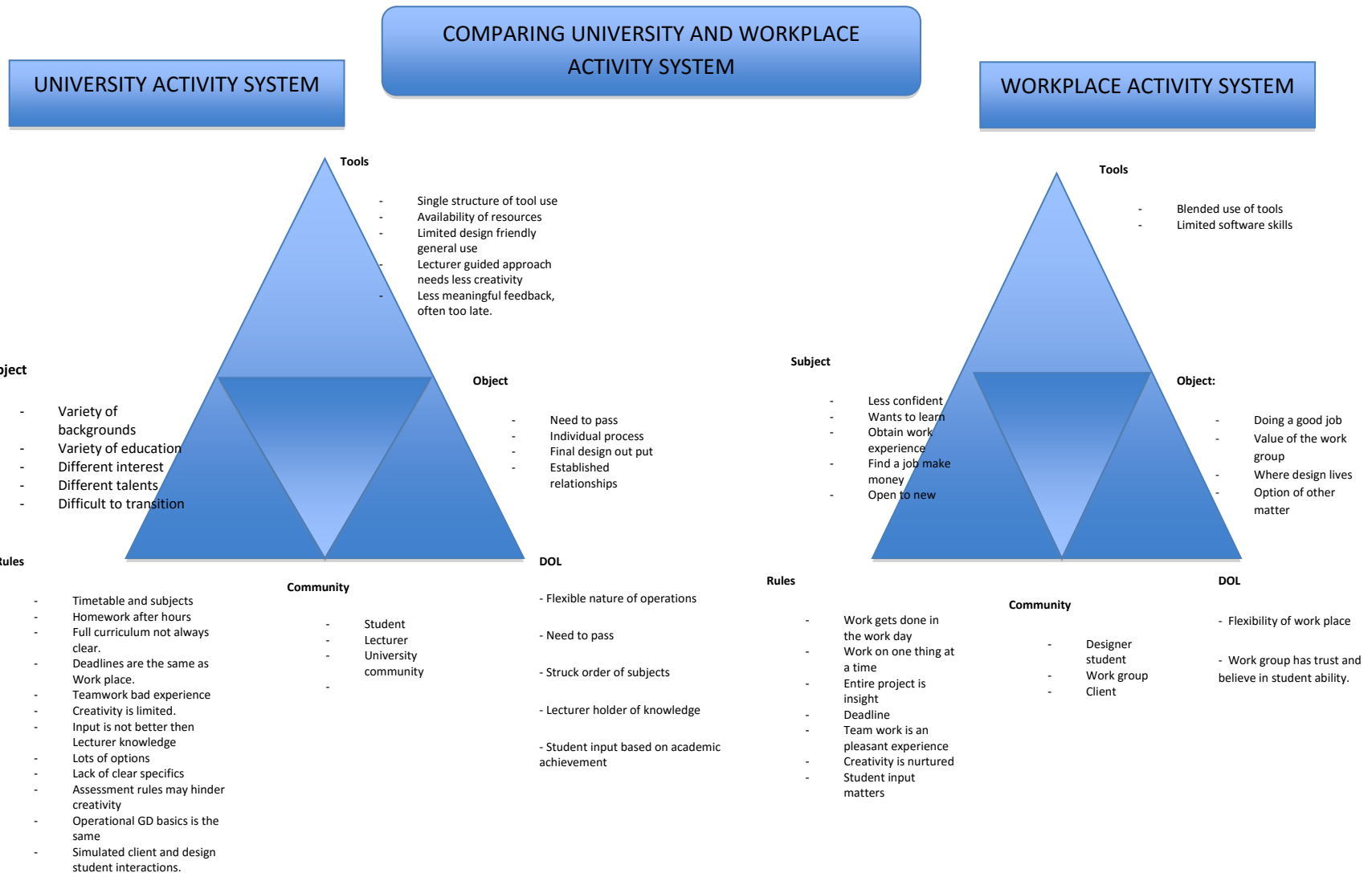orative element happens spontaneously, and students view the collaboration as valuable as the co-workers have something more to contribute to the project. At university the students are rather equal and contribute to the workload, but often bring nothing more than the students could not access previously. The university collaboration is still individually driven compared with that of the workplace, where the contribution is shared.

Lastly, the students found the work environment creatively stimulating. The workplace offered spaces for different activities and allowed student movement both physically and mentally to be creative in different spaces. At university the environment is geared to accommodate learning in general.

There were more findings, but owing to the limitations of this thesis, I choose to underscore only a few of these. They are discussed in detail in the next chapter.

CHAPTER 5

DIFFERENCES BETWEEN UNIVERSITY AND WORKPLACE

5.1 Introduction

This chapter reports on the findings as detailed in the previous chapter. Further interpretations and discussions are expanded on in this chapter. With the use of AT elements of object, DOL rules and tools, the most important differences between university and workplace are highlighted in this chapter. Furthermore, the chapter then examines why some of these differences may have arisen and, given the differences, how short internships may aid the transition from university to work. This is discussed in greater depth in the following chapter 6. .

5.2 Comparison of university and work systems from an activity theory perspective

Activity theory was used as the theoretical framework. AT elements was used as anchor points to attach the data themes to. In this way it was possible to compare university and work from a theoretical perspective.

5.2.1 Object

The biggest difference between what motivates students at university and in work placements was that at university there is the requirement to pass, and all reactions had a direct bearing on this. Students did everything with this in mind. University is results driven and has created a culture where students do nothing more than that required for marks (Swanson, 2010). So it comes as no surprise when students leave with this same mind-set of reward-driven culture (Schön, 1987).

On the other hand, in the workplace, how they reacted and the decisions they made based on how the work group felt about them and thought of them was thought provoking in that students saw themselves as worthy to be designers and worked for this respect (Billet & Boud, 2001). Although students are in groups at university, in the workplace it is about more than just being part of a group, it is about working collaboratively and supportively towards the

common purpose of producing a good product or design acceptable to the public. This collective pride was a strong motivator to do well in the workplace. How others feel about you is not assessed or taught and cannot be cultivated at university, although is it clear from this research that it is a strong driver for students to do well. At best the university can try to be student centred, encourage students and create positive reinforcement.

Secondly, the finding that students found that designing real work that was going to be used was meaningful. This is easy for the workplace, as they do not deal with the number of artefacts that the university has to deal with from each student enrolled for this graphic design course. It would be a giant directive to arrange the curriculum in such a way that all the work that students produce is exhibited or comes from real clients. The workplace only deals with one or two jobs and deals with a smaller workforce. Thus they are able to expose students to this more meaningfully. This is one reason why the work placement is so important, since there are situations that the university cannot adequately simulate (Billett 2001).

Lastly, changing from being students of design at university to design students in the workplace, they were seen as designers first and second as students, whereas at university they were viewed as students enrolled for a graphic design course. The process of interpreting the data revealed that students started behaving like designers in the workplace and started adopting the culture of that work group through their concerns about "not letting the work group down", that students field the need to "produce good work" and "through the value of group work and collaboration".

5.2.2 Rules

Time at university will remain a problem, as the university year comprises only 13 weeks a term. So fitting in the entire academic programme in a year remains problematic. Conversely, in the workplace there are fewer time constraints and greater flexibility with regard to time. Student's only work on one project at a time and the workplace is flexible about when during the workday you can finish the task. You are not constraint to a timetable time. There are no resources divided between projects for different subjects and

thus a division in how to spread time to complete all the projects for all the subjects.

The university cannot operate without some kind of timetabling system, as there are too many logistical issues to manage. The university has to cater to too many students and subjects, ensure the smooth running of day-to-day activities and make space and equipment available; timetables are thus a necessary rule. In the workplace it is easier to make adjustments as the need arises, as there are fewer people and equipment requirements to consider. The university is understandably less flexible as it does not just have to see to the graphic design programme but many other programs and departments, each with their own needs. So the university takes on a more general role in an attempt to ensure a valuable learning experience for all its students.

Teaching and learning activities at university have the goal to assist students to pass and progress to through their studies and finally to prepare them for their caress. However, the activities are not as straightforward as in the workplace, where the goal is to land and complete the job. Often these activities of learning at university allow students to display less creativity and freedom in their designs as they might have in the workplace where assessment for promotion to the next level of study is not an issue. The rule of assessment can be seen as a creative oppressor in the workplace, where every brief is different and each design seen like a creative processor. However, without this method (assessment), students would not be able to progress to further studies. Perhaps, the work placement option could be redesigned to allow for the creative freedom students mention but also be used to assess students in a more natural manner.

Secondly are the findings of collaboration, which according to students happened so naturally in the workplace. Students found that one of the less obvious rules in the workplace was one of natural collaboration, where everyone helps and 'chips in', all working for the good of that one project. In the curriculum some activities are designed with group work and collaboration; however this remains artificial, as assessment needs to happen individually.

Students view and experience this as engineered, and not as natural as in the workplace.

At university, even group work is not driven around a single job or design problem as in the workplace.

So even as these rules of both university and the workplace are noted and student experiences are unpleasant, these are not able to change as both these environments need rules to function effectively.

Lastly, two positive findings were that the workplace regards the rule of deadlines as important as does the university. The university may show some lenience towards late submissions; however generally students were well prepared to meet deadlines in the workplace. Also, students were able to do all the required operational tasks, such as the rules of design, well. Students were well prepared to deal with the rules of designing and of operating software and rules regarding print-ready documents and files. This shows that students understood and could demonstrate these graphic design rules with ease.

5.2.3 Division of labour

The university is inflexible in that lecturers cannot become involved with projects as the line managers and art directors do in the workplace. The university cannot move around parts of the job to suit the student's skills and whims. At university, the student must do all the elements of the work. In the workplace, tasks are divided according to skills and knowledge and what you enjoy doing. The workplace is flexible, allowing the division of labour to be adjusted and assigned as seen fit.

At university, all subjects, projects and learning activities must be done, regardless of whether students enjoy them or not. Students however gravitate towards doing the ones they like or enjoy doing naturally, and so create their own division of labour; however, all the tasks still have to be done. So students create a hierarchal order of the subjects, projects and even lectures that they choose to enjoy and do well try hard in, but in the end all the tasks must be done.

Secondly, in the workplace the holder of knowledge is not just one person who is seen as superior, compared with university where students view the lecturer as the holder of knowledge. In the workplace, designers have experience that students can learn from, and there are more sources to tap into for knowledge and advice, but at university the lecturer is the only source students have. Students do have access to the internet and libraries but the experience from this research is that students seek the lecture as it is he that has to approve a design. The findings reveal that the shared knowledge in the workplace had more impact on students in terms of learning more new things.

At university, students initially need to be taught a general curriculum to specialise later. The university does not have the capacity to train all students to be specialists in a topic or field, even though it would benefit the workplace, as employers would be getting students who could do specific tasks really well. At university, tools are structured, one on top of the other, allowing students to build their knowledge and skills (Billet & Boud, 2001). The university is a learning environment and thus the curriculum is structured in a way most suited to teaching students. Often this structure does not make sense to the workplace, but is essential to the learning process (Billet & Boud, 2001). Students are taught to be generalists, as the university wants to expose them to as many tools as possible; however the academic year is only so long, and is constricted by timetables and periods, while all subjects must be adequately covered. Students therefore do not leave leave the university qualified as experts. In the workplace they have opportunities to become specialists in a field so that they may concentrate on doing one task brilliantly all day, every day.

5.2.4 Tools

The two areas resorting under tools and particularly prominent in the research are those of feedback and of physical space; these had considerable impact on students in the workplace. Firstly, feedback is not just important for its content, but also in terms of timing – that to me was an important discovery. As the university practice is one of a checkbox, feedback is not always expected. Not only do designers learn from the learning activity, but also from

intervention, follow-up and feedback. Feedback as a tool is an important one and is often neglected. After all, talking and communicating constitute how communities naturally learn (Meggs & Purvis, 2006). Learning through interacting with the community is also raised by Le Maistre & Paré (2004).

Secondly, the other pertinent discovery was that of space as a creative tool that students in the workplace found so helpful. I could debate that the university is just not able to create spaces like these as it is an institution of learning and cannot afford to provide spaces like those of the workplace for a small group of students; however, it should. When one considers private universities and other institutions of learning, there is evidence that the provision of creative space has been a decisive factor in their planning. The workplace is able to do this with ease but traditional educational institutions may need some convincing. This research could provide the impetus for the establishment of creative space for graphic design students at CPUT.

5.3 Differences between work and university

The objectives and purpose of each environment are different and therefore there are different rules, tools and DOL in each activity system. It was clear from the data that students understood and experienced these differences ~~naturally~~.

Findings from the data under the 'rules' elements revealed that the workplace and university have different rules that apply. The university has assessment rules and results, timetables and deadlines, and the workplace has rules with regard to briefs, clients and labour issues. Furthermore, the DOL is different in each environment, so it is unsurprising that they are different activity systems with different objectives (Le Maistre & Paré, 2004). They describe at length how the university and workplace differ. This research has conclusively demonstrated this, and thus concurs with their findings.

They further believe that transitioning between university and workplace is difficult for students because of the transformation of objects into artefacts, whereby the focus of learning becomes the means of practice. This is the critical distinction between university and work, and why the transition between the two contexts is frequently difficult.

So the need for generalists becomes more evident, as we cannot adequately predict what graphic design will look like in the future as Swanson (2010) suggests. Producing students that know a little about many topics, allowing them to grow into those topics as specialists outside of university, is therefore important.

Design (as synthetic) exists as a practice only in relation to the requirements of a given project, according to Swanson (2010). So the more opportunities students get to practise using different requirements and projects, in particular live projects, the better they are prepared to deal with "design as synthetic" in the workplace.

However, Billet (2004) maintains that the separation of subjects at university is derived from the refusal of administrators to commit to new programmes in design history or design studies. The dragging of heels to change and adopt new curricula (Billet, 2004) is problematic for the industry and for students, as education practices still adhere to traditional forms of education, in spite of research evidence that curricula should be revamped from time to time.

A subject like history of art for design has never been criticised in respect of its importance or relevance to current design education. In developing countries, the emphasis is on training graphic designers for the market only says (Meggs 2006). I agree that history of art is a limited design tool in industry but argue that there is a rationale for the study of this subject. There is much we can learn from history that will furnish solutions to current problems, but students are frequently led to believe that history is less important than originality and novelty. I believe there is a place for all of these; however the university must create more educational opportunities for students to use knowledge in this way.

In summation, in design education systems it is both difficult to simulate real work and to integrate subjects, whereas in the industry it happens very naturally (Swanson, 1994). The university therefore has the added task to not only educate, but also to provide a simulated experience, and this is difficult without having a relashionship with the world of work.

## 5.4 Making transitions between university and work

The professional workplace and the university are very different and it is this disjuncture that may cause students difficulty in transitioning from one learning environment to the other (Eraut, 2004). For these reasons, opportunities such as work placements and WIL projects allow students to deal with this transitioning process in a protected environment. The relationship between industry and university must be maintained to ensure that students have opportunities to move into the workplace for brief visits to experience becoming a better designer.

The ultimate aim of the university and the graphic design curriculum is professional education and to prepare new practitioners. Many of the teaching tools and methods are geared towards this goal (Jacobson et al., 2000). Replications, case studies and workplace learning of various sorts are used to guide students in the way professionals practise by recreating practice under controlled conditions in the classroom. We recreate and anticipate conditions of the workplace and we assume that students will carry the knowledge gained at university into the workplace automatically. Peter Rowe (1987) sees design essentially as a form of problem solving. Design is a process that starts with a problem, which is analysed, designed, developed, implemented and evaluated. At the end, it has solved a particular problem. These concepts raise the question: Do learning environments, that is, the university and the workplace, offer students enough practice and knowledge to navigate effectively and meaningfully through these design components? The research suggests that work can drive the more realistic experiences identified in this research, more effectively.

The educational preparation of the next generation of graphic designers is more complex. How students deal with these new concepts lies in their preparation for this profession. It has expanded vastly over the last decade and continues to expand. This expansion requires that the skills and professional attributes of a graphic designer must be considered to ensure graphic design education prepares students for this complex future (Swanson, 1994). My findings with regard to being a graphic designer concur that students should not be prepared only for the knowledge and skills required to

be a graphic designer. Students should also have the attributes required by the workplace, such as collaboration, pride in product, and so on.

Knowledge of something is no longer as important as *knowledge of how to do something,* according to Barnett & Coate (2005). The findings of this research show that becoming a professional is even more important. Students were driven to do better because the work group saw them as designers and respected their skills and abilities.
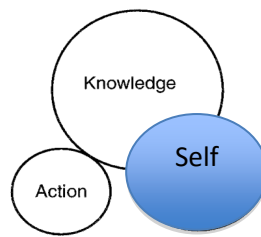
Figure 5.1: Knowledge, action and self
(Barnett et al., 2001)

The findings from this research support the statement by Barnett et al. (2001) that becoming part of the profession one is studying for is as important as learning the knowledge and actions of the profession. Acting and behaving like graphic designers made a huge difference in the students´ sense of professional identity (Barnett, 2000). At university, students acted like students, but at the workplace they acted like designers and made decisions based on being in the profession. Although both university and workplace are geared to develop the 'self' within the curriculum (Barnett et al., 2001), it was real experience in the workplace that enabled students to experience themselves as designers.

In Chapter 6 this is explored in greater detail.

5.4.1 Findings to improve the curriculum

Even though there are differences between the two environments, there is a strong relationship between the graphic design industry and graphic design department at CPUT. The industry requires skilled designers able to adjust easily to the workplace. In the same way, the university needs the industry to

prepare students adequately for the world of work. So modules like WIL (work- integrated learning) are helpful to do this.

However this relationship needs constant support; it needs nurturing and involvement. The present situation is that each environment is independent of the other and only meets when students go for work placement. There is also an annual meeting when industry is invited to an end-of-year exhibition of students' work at the university. The issue of nurturing this relationship is explored further in Chapter 6.

Each environment has its own role to play and is driven by different motives and drivers. These environments have different outcomes, one being education driven and the other product driven. These environments operate under different rules and use different tools to reach their goals. The communities are different and operate as different cultures; for example the workplace is more flexible and able to adjust to the needs of clients and industry with ease.

In spite of the many differences of each environments they need one another. Changing practices of these environments to better fit the student, and the student experience, is not what this research has found. Rather, because of this research, we can understand the other environment and its practices from a student's perspective. In so doing we are able to enhance the student experience in both environments. Thus improving the relationship between the workplace and university should enhance the student experience. The question arises how to work with these differences to create a better learning environment? Even though this is not the focus of this research, the findings can be used to work on this goal to improve the curriculum. This is described in Chapter 6.

5.4.2 Concluding statements

The data reveals that students´ perceptions of the workplace compared with university studios were that the workplace provided a better learning environment. This may or may not be the case, but it reveals that the students experienced and documented, through perception, as Billett (2009) has

explained, the value of work experience. Billett (2009) describes in detail the value of workplace experience for student learning and identity formation in the field. Major findings extrapolated from the data are how time is used in the workplace, how design is real and lives in the workplace, how and when feedback happens, that the work group offers more meaningful advice, and students feel more valued as designers in the workplace.

5.5 Summary

In this chapter I have described the differences between the university and workplace, and provided findings from this research. The research has shown, firstly, that university experience is different from that of the workplace. Secondly, students experience the workplace as beneficial and strongly supportive of learning.

In other words, the workplace has benefited student learning, through, for example, the provision of opportunities to work as designers, with feedback and the support of a creative environment.

Given that student experience at the workplace was a good learning experience, what can we learn from the workplace that may be used to enrich the university curriculum? This is discussed in further detail in Chapter 6.

CHAPTER 6
RESEARCH SUMMARY

6.1   General conclusions

The most significant difference found between university and work was, firstly, that at work students were given feedback all the time or whenever they needed it. Feedback and support are less prominent in university activities.

Secondly, and related to feedback and support, was the general culture of collaboration. In the workplace, people worked collaboratively, whereas in university activities, each student works on his/her own project. The lecturer oversees many different projects and has to consult the entire class. Feedback during and after the project window in the workplace allowed for adjustments that were doable and workable. Feedback was positive and encouraged the sense of 'self' of young designers.

Also added to the feedback and collaboration was the creative workspace. A sense of identity as young designers helped fuel a sense of pride in their work while in the workplace. The workplace offers spaces in which to process information, brief requirements, and share ideas. University activities are confined to classrooms, studios and lecturers' offices for consultation.

Feedback, collaboration and creative spaces helped to buffer the transition from university to workplace and to enable students to take on new ways of thinking and doing. Learning in the workplace enables students to develop their sense of 'self'. The UOT has considered workplace readiness as part of the curriculum and thus has WIL practices to help simulate the 'self' experience at university. However, more should be done for students to really benefit from these WIL modules.

The university and workplace constitute different but related systems, with different purposes and even different outcomes, according to Le Maistre and Paré (2004) and Paré and Le Maistre (2006). These may be used to assist and guide the development of new approaches to the curriculum. The last principle of AT difference should not be seen as a barrier, but as Engeström (2001) explains, can be used to expand and contribute to a learning environment.

## 6.2 Two different systems have different purposes

The objects or purpose of each environment are different and so there are different rules, tools and DOL in each activity system. It was clear from the data that students understood and experienced these differences naturally.

Findings from the data under the 'rules' elements revealed that the workplace and university have different rules that apply. The university has results or assessment rules, timetables, and deadlines, and the workplace has rules with regard to briefs, clients and labour issues. Furthermore the DOL has differences in the two environments, so it is no surprise that they are different activity systems with different objectives. Le Maistre and Paré (2004) concur, and go to great lengths to describe and explain how university and workplace are different. This research demonstrates this, and supports their findings.

Le Maistre and Paré (2004) believe that his is why transitioning from university to workplace is so difficult for students. The transformation of objects into artefacts, whereby the focus of learning becomes the means of practice, is the critical distinction between university and work, and the reason that transition between the two contexts is frequently difficult (Eraut 2004).

6.3   Using difference as source for developing university practices

Given the findings that work really provides a strong learning experience, what can be done in the curriculum to afford these sorts of experiences? The university is a respected educational institution and cannot simply cater to every creative need as the industry can. However I feel small changes to the curriculum and the space where design is offered can be made. Even small changes could allow for creativity to be cultivated. The Vega School of Brand Leadership in Cape Town has such an area, as seen in the picture below. Here a space to be creative has been created for students to participate in. The data reveals that students cannot create on demand; they need to process information and brief requirements and need the physical space to be creative in. Here the curriculum can make small changes that do not impact the larger body.
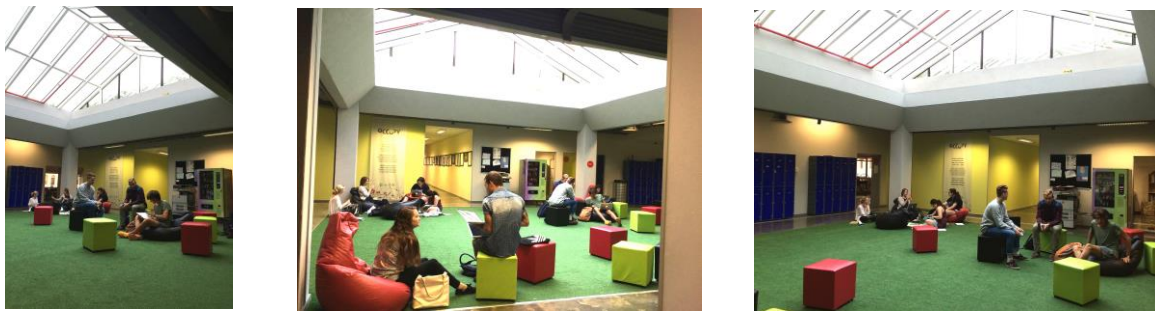
Figure 6.1: Vega School of Brand Leadership in Cape Town
Photo taken on site at Vega, Cape Town, by C. Hugo (unpublished)

The discovery of so many students in this research study driven to do good work in the hope that their work would be seen by the general public and would live outside of a portfolio bag was indeed noteworthy.

The curriculum could use this information and consider more frequent exhibitions. Every year an exhibition of student work at all levels of study is held. It is mostly targeted at level 3, it does not count towards assessment. Over the years it has lost its impact. If students are exposed to more exhibitions, where they only display one or two pieces of design, this would not only help prepare them for the final-year exhibition but also feed their need to have their designs showcased (Schon 1987).

The WIL modules are powerful ways to allow students to experience learning. Billett (1994, 2009) and Eraut (2004a) all agree that affording students work opportunities contributes greatly to their learning. An important point is that both environments are particular contributors to students' learning. Billett (2009) contends that we should not change the practices of either the university or the workplace. I don't believe in changing their practices either, as each has its rightful place; however we could understand how to harvest the learning experience in each for better learning opportunities for young designers.

My research adds to this body of knowledge: using the two activity systems to examine the activity to show that the difference is the outcome of the activity drives the objects and then affects the use of tools and rules, community and DOL. The subject all had certain aspirations, but they all found the experience of being at work meaningful and educational.

More WIL modules should be implemented from lower to higher levels, as these projects are the creation of live briefs that will be both functional and practicable. CPUT has a strong WIL culture but not all faculties are actively involved. The service-learning project, which is a modality within WIL, is a good way to commence in the lower levels to expose students to the world of work. I am aware that these projects are far more work than normal briefs, but as the data reveals, furnish a very strong drive for students to do well. The university, too, desires all students to do well.

The findings under the 'tools' heading revealed problems with students' use of tools with which they were well equipped. One of the prominent themes is the timing of tools, and how they can be less effective, depending at what point in a project they are used. The curriculum can revisit the scaffolding of the use of tools in the programme and alignment between the two could be improved.

Feedback was identified as a valuable tool in the workplace as it was given during the project window compared with after the project in the university. Here the graphic design curriculum is able to make an easy adjustment by offering the feedback session during the project window. Here the lecturer

would be able to have check-in points in terms of deadlines that could be assessed for a continuous assessment mark.

In the findings, students pointed out how technology was a helpful research tool; this is illustrated by the comments of students using Google. Therefore I recommend that the use of online research tools should be introduced at lower levels to ensure skilled use of technology-based research skills at higher levels of study. Software tools should be carefully considered in respect of where they are addressed in the curriculum and on which knowledge bases they are built. Software training should not be done according to availability within the university but according to its appropriateness for the level of study.

The projects should not only be seen at the final, completed design stage; the process and development of the solution of the design problem have many valuable learning opportunities that should be harvested. The skills of generating ideas and concepts and techniques of how to achieve these should be inculcated in students earlier than level 3. These should be reinforced as they progress to the next level of study. These will allow students to access and blend the tools that are needed for a project with an easier transition (Eraut 2004).

Given what has been said about collaboration, it has to be noted that students were more motivated to participate in workplace activities than in university activities. It is clear from the data that students thrived in the workplace. It is therefore the prerogative of students, who participate in and learn within these two environments, to be actively engaged in learning and wanting to learn, although their teachers or mentors can mediate that learning. They must be the ones wanting to learn, as Billet (2001, 2009) explains.

The findings clearly show that all activities in the workplace are done collaboratively. This happens naturally as everyone in the workplace works towards one project. Thus I suggest that more group work should be implemented in lower levels of study, earlier than at level 3. There is too much emphasis on individual projects; fewer projects per person and more parts to

a project might be more fruitful. In this way, students are able to pool resources. This would lessen individual assessment of projects and provide more time for lecturer involvement; however Billett (2001) warns that a balance is needed as individual learning and acessment is valueble too.

This also has an added dimension: if students all participate in a project, whom does it belong to and who gets to use it in a portfolio? I believe that employers would much rather see what one can do well, even if it is part of a bigger project, than many projects. The data reveals students simply do the minimum to pass and then move on to the next project. Industry should also be aware that the final project in a portfolio might not adequately represent what a student can do. All the processes, developmental work and learning are not present in the portfolio.

At university, where group work is required, it is virtually engineered, and often students dislike group work as not everyone in the group shares the same goals for the project. The university group values student work less, since they feel they are all on the same level, with only the lecturer as the holder of knowledge. As explained by Barnett (2000), collaboration in the workplace offers students more than that provided by one holder of knowledge and at different levels.

6.5   Reflections on the use of activity theory

Activity theory was indeed helpful to be able to compare two environments with the same measuring tool, and to be able to populate the two different systems investigated with data. There are criticisms of activity theory's being too structured and imposing a structure on the social world. However, when the question was posed to Engeström at a workshop in Cape Town, South Africa, he replied that this may be the case, but that AT does elucidate and simplify data so that patterns and relationships can be better understood (Engeström, July 2015). This is how this research has used AT in this study, as the overwhelming amounts of data were simplified and themes were able to emerge.

Activity theory is a well-structured and well-known theory and this made it easy for a first-time researcher to use. It is well documented and information was freely available and easy to access. Understanding its uses and definitions helped in understanding how to apply this theory in my own work.

The activity theory system is structured and contained. It was easy to use once the basics of the definitions were understood. It was well suited to comparing two environments with the same measuring tool. The models are simple to understand and its vocabulary is easy to relate to, which makes explaining the research more meaningful and detailed in its description.

It is a suitable tool for organising, categorising and visually displaying data. Analysed data could be themed and populated against the activity theory system elements with ease. Activity theory elements facilitated writing the thesis as the headings helped to structure the argument. The activity theory system was not reinvented or adjusted, since the model's core concepts were sufficient.

However activity theory did hold some problems for this research. As the research unfolded, the activity theory model presented difficulties. Firstly, it was overwhelming to deal with all the data and understand the theory.

Secondly, activity theory proved to be difficult in assigning of data from the outset. Student comments were difficult to assign to the correct activity elements; however this become easier as themes started emerging. One possible answer to this could be that this research focused on two environments and the relationship of an activity between them. The problem was all participants were engaged in their own activities and this research could not accommodate individual activity systems, however fascinating. The research could at best only accommodate the group collectively. However the individual activity was not the focus of the study.

The model also proved difficult in social activities. For example, the sharing of ideas and drawings in the workplace happened very naturally through conversation. Communication tools were used and a rule of social order applied, such as waiting one's turn to speak. The DOL was present, as the art director would join in the conversation; this was an example of the hierarchal order participating in the activity of sharing. These were difficult to place on the activity system, as all the elements were not necessarily present.

The eight-step Mwanza model was a great help in setting up the kinds of questions needed to answer that particular AT element. This model was adapted with ease to accommodate the research needs. The Mwanza eight-step model needed some adaptation as I found it difficult to populate the data from both environments without adjusting the table. The model was also too limited to deal with the activities of a large group, all doing similar activities, but individually. The eight-step model worked best when one activity between two environments was investigated.

6.6   Final word

The kind of work experience described by students is very useful for enhancing learning about graphic design but it is also a way that students can learn to adapt and change to the changing field of practice of graphic design, something which is difficult to do in the classroom.

The university thus has a difficult task in preparing students for the world of work, since the world of work is a complex place with constant technological growth (Meggs & Purvis, 2006; Dorst, 2008). All agree that the world of design and particularly graphic design is evolving and changing. However, my research suggests that students may be better able to adapt to this constantly changing environment through the affordance of work experience opportunities. The importance of work experience is supported by the research of Stephen Billett (2009), in which he explains that work experience assists students to adapt to these changing work environments. This research shows that through collaboration and feedback in the work group, students are able to develop a better sense of 'self' as Barnett (2009) describes it, as

they deal more with the complexities that the real world of work has to offer compared with the simulated experience at university.

The final point is that learning was afforded to students because of the work community in this research. Students were part of and participated in this community that allowed for opportunities to learn from each other.

The findings of this thesis have shown the differences between university and workplace learning. Furthermore, through these differences, it has offered opportunities to improve the current curriculum. Therefore possibilities for improving the curriculum have suggested that work experience through collaboration, feedback, and work-integrated learning have been enabling factors that assist students in learning about the ever-changing field of graphic design.

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APPENDICES

APPENDIX A: An example of the Facebook Page

Facebook Image

The above is an extraction from a Facebook page, in which 3 or more students all comment on their experience with the work community. These comments are grouped to form a Theme " the value of the work group" this theme is assigned to an activity theory element heading.

APPENDIX B: An example of the blog page
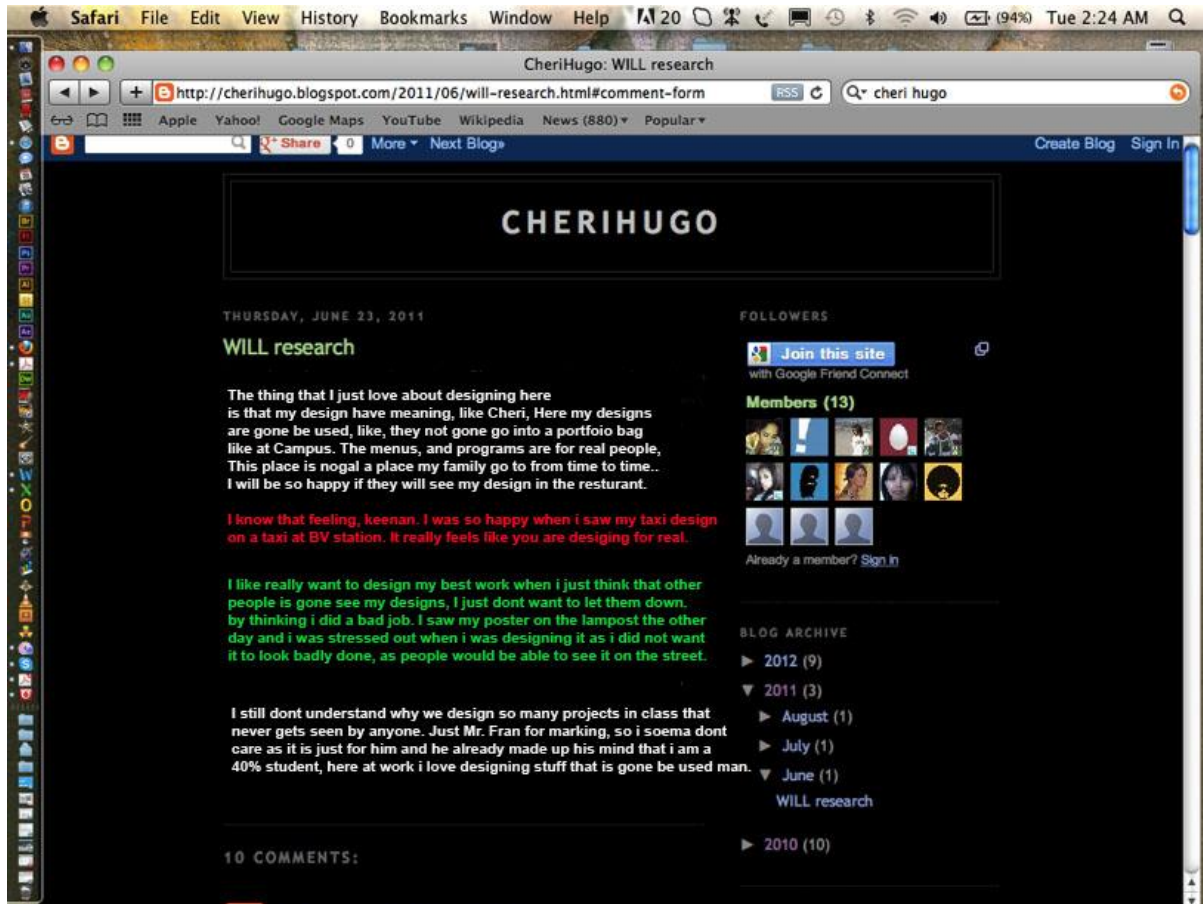
Here is an example of an extract from the blog, in which 3 students talk about how designing for the real world has more meaning to them. This was a theme called designing for environment.

APPENDIX C: PLAGIARISM DECLARATION

Cape Peninsula
University of Technology

Work-Integrated Research:

Student Name

Course Name: Graphic Design III

Campus: Bellville

Lecturer Name: Cheri Hugo

Plagiarism Declaration

N.B: Please ensure that this declaration is signed. This Declaration is to ensure that the information given in this research is true and reflects your own personal viewpoint and is not necessarily the viewpoint of your programme or of the University.

The work attached is my own, original work. I acknowledge that copying someone else's information, or part of it, is wrong, and declares that the attached constitutes my own writings and ideas. All sources used in this work have been correctly referenced, using the Harvard system of in-text referencing. The work does not contain any sections that can be regarded as either a cut-and-paste technique, a mere translation, or 'mono-phrasing' (work taken from a single source). I realise that a design research argument has to be constructed, and declare that my text is a reflection of the integration of relevant sources. Further, I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is one's own. Additionally, I have not allowed, and will not allow, anyone to copy my work with the intention of passing it off as his or her own work.

Signature**……………………………**

Date 23 July 2012

APPENDIX D:INTERVIEW QUESTIONS

Focus Group Questions:

Theme 1: What do students do at work?

A: Activity of interest: What kinds of activities are of interest?

1. What kind of activities did you do at work?

2. Were they the same activities taught at university?

3. Were they done in the same way? Explain your answer.

4. How would you describe the transition from university to the workplace?

5. Were there things that you were not prepared for at work?

B: Object: Why is the activity taking place (importance and relevance of activity?

1. What was the reason for doing the activity at work?

2. For what purpose was the same activity done in q1 done at university?

3. Do you consider these activities to be important? Explain.

C: Subject: Who is actively involved in doing the activities?

1. Do you think doing these activities in the workplace has been educational?

2. Do you think that doing these activities was educational during your studies at university?

3. Were teachers adequate in teaching you these activities? Explain.

4. Were staff members supportive of your doing these activities?

5. Did you feel that you were adequate in completing these tasks at (a) university and (b) workplace?

D. Tools (means the activities taking place):

1. Did you feel you had all the tools (including metal tools) needed to complete the task at work?

2. Were the environments in terms of tools needed similar to those of the classroom? Explain.

APPENDIX E: INTERVIEW TRANSCRIPTIONS

I n t e r v i e w   t r a n s c r i p t s **Theme: Collaboration at work**

CHERI: Ok, everyone. What did you find in the work place with regards to group work? Did you have to work the same as you do in class? Where you all working on different things?

JERRY: It was a billboard. CHERI: at work everyone works on the same project together

Cheri: tell us more about this, what do you mean?

JERRY: Even though everyone has his own job to do, it all makes up to the big project,

GERARD: yes, it was super cool; no one was worried that some one would copy their idea. We all work on one big project. We were not up against each other like at campus. Were we must compete with each other on the same

SHAUN: I felt so good to have everyone at work all chip in, with their skills and know how, it was lless pressure for me as everything was not all on me. I soema had more confidance and when I do something wrong the other designers quickly help and assist me. Not hours trying to figure out what I did wrong like at campus.

Theme: Collaboration at work

Focus group 3.

Students (Jerry, Gerard and Shaun) talk about how they work at the work place with every one on the same project, compared to at university where each student does his own project. There is a sense of a big project with smaller parts. The idea of not competing with each other for a better design that answers one brief stands out. I comments by Shaun, about being more confidant as all the pressure is not on him and a sense of safety as other designers are able to assist if things go wrong.

APPENDIX F: DATA REDUCTION DIAGRAMS
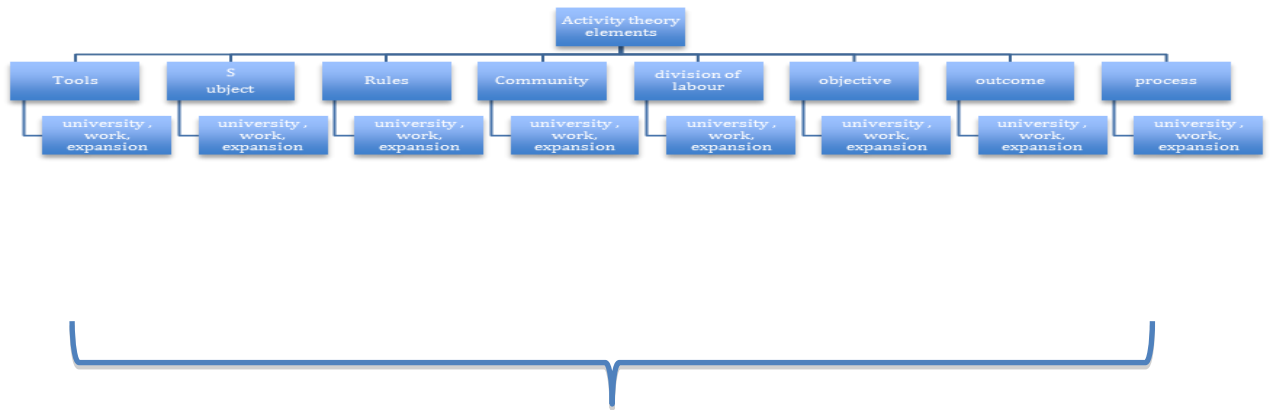
Activity theory elements each compared in university and workplace
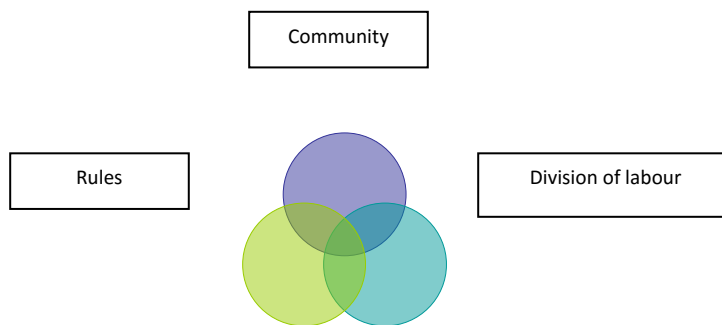
Data compared (University and Workplace)

University   Workplace

124

APPENDIX G: THREE MAIN Themes

AT element	CPUT		Explanation	Workplace	
Tools	**Subjects**	Inflexible Partitioned Integration	Necessary for learning the field. Authenticity Professional identity Facilities, staffing, wait on equipment at university. Many subject deadlines. Professional environment.	**Subject**	Flexible Holistic Task orientated
	Time tables	Locked in Times wasted Deadline		**Time**	Free moving One deadline Valuable
Community	Group /students	Less value in group Peer judgement Same group Academic labelling Lecturer favourites Competing	There are many students to accommodate Assessment basis Course runs over a set time, locked in. Assignments determine results. Lecturers must see 34 different project ideas. Different role players involved.	Group/work	More value the work group Support Judgement Peer judgement valued Doing good job Help Guidance
	Lecturers	Pleasing the lecturer		Client	Please the client
	Self	Eccentric motivation		Self	Intrinsic motivation good
Division of Labour	Generalist	Little of everything Little specialisation compared to generalist.	Have to be general to be specific. Wrong idea of groups not working. Lecturer not involved but guides. Collaboration as the focus is different. Different motivators	Specialist	Work well alone on section of the brief. Know little of everything Flexible
	Hierarchy	Lecturer and student Projects and sections in project		Hierarchy	Clear structure All work involved Team/group work Many checks/ Projects
				Collaboration	Work distinctively Relatively
	Collaboration	Do all elements yourself			

APPENDIX H: Themes compared with expansions

AT	University	Differences /Expansions	Workplace
Object	Need to pass	Different outcomes	Value of the group
	Individual process	Individual needs/group needs	Where design lives
	Work is assessed and filed	Education/profit driven	Workable options
	Only lecturer's opinion matters	Design lives	Value the work group more feel part of the community
	Less value in group	Lectures/collective input	
	All about passing	There are many students to accommodate	Please the client and public
	Pleasing the lecturer	Assessment bases	New clients and staff
	The same students for 3 to 4 years	Course runs over a set time, locked in	Chance to start over
	Know who is good	Assignments determines results	
Tools	Structured tool use	Tools educational	Blended tools used
	Sequence of tools used	Tools are blended in WP	Physiological tools used
	Conceptual tools	Tools are uses as required	Physical tools used
	Physical tools	Tools are structured/sequenced	
Rules	Timetables	Educational rules	Creativity is cultured
	Subjects	Industry rules	Collaboration
	Engineered collaboration	Rules of collaboration/natural	Natural learning
	Teaching learning	Creativity fostered	Operational procedures
	Inflexible	Necessary for learning the field	Flexible
	Partitioned	Authenticity	Holistic
	Labelling	Professional identity	Task orientated judgement
	Peer judgement		Peer judgement valued
	Eccentric motivation		Intrinsic motivation good job
DOL	Hierarchal order	University is inflexible	Hierarchal order that gets involved
	Compartmentalisation	Workplace flexible	Need to please work group, client, public and self
	Need to please lecturer only	Holder of knowledge shared	Flexible
	Structures less flexible	Have to be general to be specific	Work distinctively
	Work on everything		Relatively
	Jack of all trades	Wrong idea of groups not working	Specialisation
	Flexible groups and roles		Flexible smaller groups

APPENDIX I: EXAMPLE OF DATA FROM FACEBOOK AND BLOG

Cape Peninsula
University of Technology

Raw data from Facebook, blogs and focus interviews

Student A: Carmen, 20 July 2012 @ 13:00pm. Facebook

1. "I was so accepted I was able to show a designer a short cut in Illustrator." (Carmen)
2. "I just loved how they had different spaces for different things" (Carmen)
3. "I prepared art work to go on packaging" (Carmen)

Student B: Keenan, 27 July 2012 @ 3:40pm blog

1. Arrived early, and just hang out in the creative room.
2. The brain storming room was so cool it makes you want to be involved, colourful and creative.
3. The document list for the job description listed advanced InDesign skills; we only did one week in second year. But at work they have a lab where new trail software is and you can mess around and learn and play.
4. They told me 3 months is the minimum for interns as in one week I would learn nothing.

Student C: Thomas, 2 July 2012 @ 10:03am focus group

1. The environment was clean, corporate, and [a] serious work environment.
2. Other spaces on that same foor were creative and colourful.
3. The design space was different from the front foyer, it was open, communal with vibrant colours; the atmosphere was busy, with people rushing around but still friendly and helpful.

Theme: Creative spaces.
Students talk about the different spaces at work that allow for different activities and how they enjoy learning in them, at university space is shared and general for all kind of learning.